Utah History Learning Activity Modules that Enhance Positive Affective Behavior and Develop Critical and Creative Thinking

Katherine A. Young

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UTAH HISTORY LEARNING ACTIVITY MODULES THAT ENHANCE
POSITIVE AFFECTIVE BEHAVIOR AND DEVELOP
CRITICAL AND CREATIVE THINKING

by
Katherine Ann Young

A dissertation submitted in partial fulfillment
of the requirements for the degree
of
DOCTOR OF EDUCATION
in
Curriculum Development and Supervision
With Emphasis in Elementary Education

Approved:

UTAH STATE UNIVERSITY
Logan, Utah
1979
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Special thanks is extended to the members of my graduate committee at Utah State University for permitting me the freedom to undertake this most unusual project. Thanks is due also for each member's individual assistance: Dr. Jay Monson for his encouragement and editorial assistance, Dr. George Ellsworth for his scrutiny of the material for historical accuracy, Dr. Arthur Jackson for his personal interest and support, and Dr. Donald Daugs and Dr. Richard Knight for their encouragement and advice.

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ABSTRACT

Utah History Learning Activity Modules that Enhance Positive Affective Behavior and Develop Critical and Creative Thinking

by

Katherine A. Young, Doctor of Education
Utah State University, 1979

Major Professor: Dr. Jay A. Monson
Department: Elementary Education

The purpose of this paper was to produce supplementary curriculum materials which would provide junior high school Utah history students with growth experiences in critical thinking, creative thinking, and positive affective values. These materials were produced in the form of forty separate, self-contained learning activity modules using the study of present day Utah or Utah history as a focus of study.

Each Utah history learning activity module consists of two parts: (1) information, and (2) learning activities. The activities engage students to work with factual data to solve problems; to explore moral, ethical, or other controversial issues; or to otherwise develop hypotheses useful in developing critical thinking, creative thinking, or positive affective behavior. Individual differences are met within most modules by alternative activities for students with differing interests and abilities.
PART I

RESEARCH DESIGN
INTRODUCTION

Background of the Problem

Throughout this writer's considerable number of university courses and other university experiences, certain recurring themes have persisted. Of these, three have been identified repeatedly as educational needs. These three themes are the professed need (1) to teach children to think critically, (2) to teach children to think creatively, and (3) to instill in children positive attitudes toward the subject matter of the school.

In evaluating these ideas, this writer concluded that these worthy objectives are seldom carried out in the schools. This conclusion comes both from personal experience in the public schools and from broad professional reading. Of these three objectives, it has been observed that more teachers succeed in developing positive attitudes than succeed in achieving the other two objectives, but that all three are in need of considerable improvement. It has been further observed that very few curriculum materials are designed to meet these objectives, especially in the areas of teaching critical thinking and creative thinking.

Upon coming to Utah, this writer became interested in the status of curriculum materials used to teach Utah history. A survey soon revealed that none of the materials currently available for teaching Utah history were designed to meet the objectives stated above. A textbook was available, but there were no supplemental materials designed to broaden the curriculum into other social studies objectives.
except for materials produced by local teachers for their own use. Especially lacking were materials which could be used by teachers to teach critical thinking and creative thinking as applied to Utah history, and materials which might help develop positive attitudes toward the students' native (or adopted) state.

Statement of the Problem

Current educational thought places great importance on students' developing the higher cognitive skills of critical thinking and creative thinking, and their developing positive affective behavior. A review of recent educational literature related to these areas suggests strongly that both teachers and students need help to attain competence in these areas (Osborn, 1963; Skinner, 1976; Skretting and Sundeen, 1969; Torrance, 1972).

Utah history is no exception to the above generalization. The Utah history book currently used most often at the junior high school level in the state is Utah's Heritage by Ellsworth (Ellsworth, 1977). At present there are no related curriculum materials designed to give students of Utah history experiences in critical thinking, creative thinking, and positive affective behavior, with the possible exception of individual teacher-made materials. The teachers and students of Utah history need appropriate and available curriculum materials which can give them growth experiences in these important areas.

Purpose of the Study

The purpose of this study is to develop supplementary curriculum materials in the form of learning activity modules for junior high school Utah history to use in conjunction with the textbook Utah's
Heritage by Ellsworth. These modules will dovetail with the textbook and will give students growth experiences in critical thinking, creative thinking, and positive affective values.
REVIEW OF THE LITERATURE

The following is a brief review of recent professional literature in the areas of critical thinking, creative thinking, positive affective behavior, and learning activity modules.

Critical Thinking

Critical Thinking has been defined in several ways and has been applied to diverse fields of study ranging from the sciences to the social sciences. Good's definition may be sufficiently broad to encompass all fields:

Thinking that proceeds on the basis of careful evaluation of premises and evidence and comes to conclusions as objectively as possible through the consideration of all pertinent factors and the use of valid procedures from logic. (Good, 1973, p. 608)

Other educators have described critical thinking in more specific terms. Dewey described critical thinking when he declared:

The conception underlying the school is that of a laboratory. It bears the same relation to the work in pedagogy that a laboratory bears to biology, physics, or chemistry. Like any such laboratory it has two main purposes: (1) to exhibit, test, verify, and criticize theoretical statements and principles; and (2) to add to the sum of facts and principles in its special line. (Dewey, 1896, p. 417)

The President's Commission on Higher Education (1947) stated that one of the objectives of science was to stress critical thinking. The Educational Policies Commission of the National Education Association (1961) dealt exclusively with the development of critical thinking in students. These are only a few of many such authoritative statements on critical thinking that can be found in the professional literature
of education.

According to Skinner (1976, p. 294) the steps in critical thinking most often listed in the literature are:

1. Recognizing the problem
2. Formulating a hypothesis
3. Designing an experience or experiment to test the hypothesis
4. Gathering pertinent facts or data
5. Analyzing facts or data
6. Rejecting or accepting the hypothesis
7. Drawing conclusions

Although critical thinking is widely held to be a prime objective of educators, one sees little evidence of critical thinking being taught in the schools. Some writers believe this is because teachers do not know how to design activities which would develop critical thinking in the classroom (Skinner, 1976).

Educational writers treat critical thinking using a variety of terminologies which are closely related. Three of these terms are problem-focused education, reflective thinking, and higher mental processes (Skretting and Sundeen, 1969; Texas Association for Supervision and Curriculum Development, 1974).

Members of the Texas Association for Supervision and Curriculum Development (1974) believed so strongly in the need for this kind of teaching, they proposed legislation requiring a problem-focused curriculum and the teaching of humanistic values.

Skretting and Sundeen, writing in the Encyclopedia of Educational Research, reported that the trends in social studies research are to investigate the reflective methods for teaching social studies. They reported:

In actual practice, far too little innovation in instructional approach can be found, with the traditional teacher-led discussion based on textbook assignments being the dominant mode. (Skretting
They state further that although material is increasing in the social studies curriculum, a considerable amount is not based on research relative to the learning process. Objectives reflected in textbooks have not changed with new situations, important social issues are ignored, and there is a lack of adequate scholarship. They note, however, that supplementary materials seem to be meeting many important needs that textbooks fail to meet.

These writers note that there is a new emphasis in the curriculum on methods of research, the thinking process, the nature of evidence, and the drawing of conclusions in the subject field. This new emphasis is likely the result of the frequently stated assumption that methods of inquiry into a subject are more stable and transferable than specific knowledge in that field (Skretting and Sundeen, 1969).

Walker (1973) has identified one important problem in effecting change in the type of teaching that children receive as related to critical thinking. In a study of junior high school teachers, he found that they were not prepared to cope with stimulating critical thinking, providing enrichment experiences, or encouraging students to do independent study. The teachers were also hindered in their teaching by several other factors including a lack of materials and equipment.

Researchers have found that critical thinking can indeed be taught. Results of an academic and cultural enrichment project in Washington, D. C., indicate that high school students can be taught to analyze and verbalize problems and issues in a logical, consistent frame of thought. Students in grades ten through twelve showed marked improvement in academic achievement in art, music, literature, social studies, and
history (District of Columbia Public Schools, 1976).

Poel (1970) found that critical thinking skills were increased when a student could actively participate in the teaching-learning process. Lipman (1973) studied logical thinking in a pilot group of fifth graders. Posttesting showed the pilot group to gain over the control group in both logical thinking and mental maturity. Long-lasting effects of this teaching were suggested by a follow-up study two-and-a-half years later in which the pilot group showed higher reading scores than the control group.

Oliver and Shaver (1966, p. 246) directed their attention to the need for teaching critical thinking in the areas of social values and public issues. They concluded that critical thinking and reflective analysis "are not likely to be accomplished indirectly through the study of conventional social studies content."

In working with the Harvard Social Studies Project, Oliver and Shaver developed materials and procedures for teaching specific critical thinking skills. One of their chief concerns was to teach critical thinking in the "ethical-legal" aspects of social studies. From the results of their work they concluded that junior high school students could be taught a conceptual framework which would enable them to apply critical thinking to controversial issues of an ethical or legal nature (Oliver and Shaver, 1966).

Creative Thinking

Many educational writers have expressed their concerns about the importance of creative thinking, and their writings reveal a broad range of application. Good has defined creative thinking as follows:
Thinking that is inventive, that explores novel situations, that reaches new solutions to old problems, or that results in thoughts original with the thinker. (Good, 1973, p. 608)

The development of creative thinking in children has been seen by many educators and psychologists as generally neglected in the educational process. In his inaugural speech as President of the American Psychological Association almost thirty years ago, Guilford decried "education's appalling neglect of creativity." During the same era, Harvard's President Pusy urged that colleges and universities should "nurture that all-important spark that is the difference between first and third rate." In the years since, others have spoken out on this important subject. Conant stressed the importance of imagination to science. In so doing, he echoed Einstein who held that "imagination is more important than knowledge" (Osborn, 1963, p. ix-4).

Toffler (1970, p. 29), writing in Future Shock, expressed his belief that creative thinking has become a human necessity. He wrote: "To survive. . .the individual must become infinitely more adaptable and capable than before."

In recent years, other educators have worked to develop ways to teach creative thinking. Nova University (Finkel, 1975) implemented an in-service program for teachers to learn how to improve creativity among children in the fourth, fifth, and sixth grades. The techniques used included brainstorming, role playing, and stimulating creative expression in writing, drama, play, and art. It was reported the students demonstrated increased involvement in the creative aspects of learning as measured by such instruments as the Torrance Tests of Creative Thinking. Torrance (1972), creator of these tests, suggested that parents and teachers can follow specific principles which will
encourage creativity in their children.

Suchman (1967) promoted the discovery method as a means to increase creative thinking. According to Suchman, this allows the student a choice in obtaining and processing data where new relationships can be drawn and new principles formulated.

Osborn (1963) advocated that the most direct way to develop creativity is by practicing creativity--by actually thinking up solutions to specific problems. Osborn carried out his beliefs by founding the Creative Education Foundation. This foundation now conducts creative problem-solving courses on several university campuses across the United States.

Belasco (1973) studied the effects of a planned program in divergent thinking for fifth and eleventh grade students. He reported that students working in the planned program showed an increase in originality of written expression. The increases were greater among the older students.

Zimmerman (1972) studied the influence of a model on the creative behavior of fifth grade children. He observed that high fluency on the part of the model (the teacher) resulted in a significant increase in fluency and flexibility in children when performing a parallel task. Surprisingly, increased model flexibility produced significant decreases in children's fluency and flexibility on both parallel and generalization tasks.

The research of Meadow and Parnes (Osborn, 1963, p. xii) supported the idea that creative behavior can be effectively taught. College students were tested after taking a course in creative problem-solving. Students taking the course averaged ninety-four percent better in
production of good ideas than did the control group which did not take the course.

Positive Affective Behavior

Affective educational goals have received renewed attention in recent years, and many educators have come to believe that cognitive and affective elements are inseparable in the learning process. Good (1973) defined affective behavior as that which deals with feelings or emotions. Skinner (1976) described affective behavior in terms of attitudes, values, motivations, interest, effort, dignity, and self-awareness. Skinner and other educators believe that these factors make up an inseparable part of the learning process—as do the knowledge and skills of the cognitive domain—and that education cannot effectively transmit one part without the other.

Campbell stated the view of those favoring the teaching of positive affective behavior:

Our schools must begin producing students who are not only capable of inquiry and the problem-solving process, but who also have developed the emotional stability and interpersonal skills necessary for a humanized existence. Schools must serve both purposes where the student learns literally to think himself into another person's position. We need schools that provide an appropriate interaction of the cognitive and affective domains. (Campbell, 1974, p. 13-13)

Others also have called for the teaching of affective behavior. The proposed legislation (previously noted) of the Texas Association for Supervision and Curriculum Development (1974) supported the concept of affective education. It called for "humanistic values" to be taught in conjunction with the problem-focused curriculum.

Olmo (1974) reported that a number of high school principals, social studies teachers, and department heads felt that specific values,
morals, and attitudes should be part of the social studies curriculum. Relatively few of them, however, felt that there was an increase in attention to the affective domain in the classroom during the ten-year period ending in 1974.

Rogers (1974, p. 103-104) expressed concern about the absence of affective teaching in American education. He noted that teaching has focused intently on ideas--being limited to "education from the neck up." Rogers believes that this narrowness is having "serious social consequences." It has resulted in the absence of excitement in contemporary education, and an important aspect of learning is thus avoided. Rogers quoted Archibald MacLeish: "We do not feel our knowledge. . . . Knowledge without feeling is not knowledge and can lead only to public irresponsibility and indifference and conceivable ruin."

Bruner (1971, p. 21), after years of studying cognitive behavior, declared that "education is not a neutral subject." He stated that education should find a means to "bring society back to its sense of values and priorities in life."

The power of teaching positive affective behavior has been demonstrated by Aspy and Roebuck (1974) in work with 550 elementary and high school teachers. Their study showed that "person centered" teaching resulted in pupils showing (1) greater gains in learning conventional subjects, (2) greater skill in using the higher cognitive processes such as problem solving, (3) more positive self-concepts, (4) more pupil-initiated behavior in the classroom, (5) fewer discipline problems, (6) a lower rate of absence, and (7) an increase in I. Q. scores.
Learning Activity Modules

Learning activity modules are relatively new on the educational scene. The module concept has grown out of the broader concept of individualized instruction, and prior to 1945, the Education Index did not include a separate heading for "individualized instruction" (Kozak, 1975).

Definitions for the module concept are almost too broad to be useful, largely because of the wide variety of instructional materials which are categorized as learning activity modules. Kozak defined an instructional module as follows:

A structural sequence of learning events designed to accommodate the attainment, on the part of the learner, of a wide range of behavioral objectives. (Kozak, 1975, p. 40)

Such a definition is useful only when supplemented by further discussion.

The module concept has been expressed in a variety of other names such as learning activity packages, learning-in-packages, and instructional modules, as well as in an endless array of alphabetical combinations such as BIP, GDU, LSB, OTS, UNIPAC, and countless others (Kozak, 1975; Herschbach and Pytlik, 1975).

Kozak (1975) surveyed fifteen different kinds of modules, and Kapfer and Kapfer (1972) surveyed an even greater number. Each of the modules reviewed reflected its author's own concepts of learner needs and appropriate learner activities. Most modules were developed to teach precise technical skills and knowledge as opposed to the more generalized educational objectives common to history and social studies.

Herschbach and Pytlik (1975, p. 48) noted some basic components which comprise learning activity modules. Two of these components which
have specific application to this study are content (or information) and learning activities. They stressed that a module must be "easy to understand, easy to follow, motivating, and most importantly, complete."

Herschbach and Pytlik described the learning activity module as being very flexible. It can be designed for use in individualized, small group, or large group instruction. The learning activities can be highly variable, including such possibilities as the following:

Technical experiments, word games, field trips, model building, listening to tapes, viewing slides or films, small group instruction, investigations and other multidimensional learning activities [that] provide diversity for accommodating slow, average, and fast students. (Herschbach and Pytlik, 1975, p. 49-50)

Kapfer and Kapfer (1972, p. 3-6) referred to learning activity modules as "learning packages" and defined them broadly as "systematized ways of delivering content and process to learners." They studied a broad selection of modules developed by a variety of other authors. The modules presented a "confusing array of alternate approaches." Most were designed to be used for individualized instruction, although some were specifically designed for teacher-oriented group instruction.

According to Kapfer and Kapfer, individualized instruction commonly includes one or more of the following elements:

1. Provision for variability among students in the rate at which they are able to achieve a desired degree of mastery of a given behavior.

2. Provision for variability among students in the "skills" (e.g., reading, writing, using audio-visual equipment, etc.) that they possess at a given point in time and, therefore, their readiness for employing these skills as tools for using various learning materials and activities.

3. Provision for variability among students in their knowledge, understanding, and attitude development along a continuum ranging from simple perception to the highest levels of understanding and value development (choice of action),
4. Provision for variability among students in their verbal development (e.g., ranging from "show and tell" to understandably communicating complex ideas).

5. Provision for variability among students in their motor skill development (e.g., ranging from random movement to using precision, control, grace or speed of movement).

6. Provision for variability among students in responsibility development (e.g., self-direction, self-initiative, self-discipline, willingness to put forth effort, or willingness to follow oral or written instructions and standard operating procedures) along a continuum from external (teacher) shaping of these behaviors to conscious (student) valuing and choosing these behaviors.

7. Provision for variability among students in readiness for self-motivated learning (e.g., based on immediate academic, in-life or career goals that each student wants). (Kapfer and Kapfer, 1972, p. 5-6)

After studying their "confusing array" of instructional modules, Kapfer and Kapfer concluded that these modules commonly demonstrated one or more of the following elements:

1. Provision for variability in societal, parental and student expectations concerning the subject matter and behaviors to be learned.

2. Provision for variability in interactions among students, between students and teachers, and between students and materials.

3. Provision for variability of subject matter in forms (from concrete to abstract) and in formats (books, films, objects, discussions, etc.) that most efficiently and effectively support the behaviors being sought.

4. Provision for variability in instructional settings (whether for individual students or for groups of students) in which interactions can take place, subject matter can be learned, and behaviors can be practiced.

5. Provision for motivational appeal of the interactions, materials, and settings. (Kapfer and Kapfer, 1972, p. 5-6)

Existing Supplementary Materials for Utah History

A survey (by this writer) of supplemental instructional materials for Utah history has failed to find any of the type described in this
study. This finding was confirmed on November 30, 1977, by a telephone call to the offices of the Utah State Board of Education in Salt Lake City, Utah. Mr. Boone Colgrove, Social Studies Specialist in that office, told this writer that to the best of his knowledge there were no such materials except for those made by individual teachers for their own use.
METHODOLOGY

Description of the Utah History Learning Activity Modules

For the purposes of this study, it was necessary to create a module design that met the specific goals of this study. Each Utah history learning activity module consists of two parts: (1) information, and (2) learning activities. The information—descriptive, pictorial, or both—extends or expands ideas presented in the textbook Utah's Heritage (Ellsworth, 1977). The learning activities were designed to give experiences in critical thinking and/or positive affective behavior. These activities engage the students to work with factual data to solve problems; to explore moral, ethical, or other controversial issues; or to otherwise develop hypotheses useful in developing critical thinking, creative thinking, or positive affective behavior. Individual differences are met within most modules by providing alternative activities for students with differing interests and abilities.

Outcomes resulting from these modules are illustrated in the Dynamic Processes Education Model (developed by this writer) found in Figure 1 on the following page. The three outcomes are dynamic processes rather than static learning outcomes.

Procedures for Developing the Utah History Learning Activity Modules

This writer has developed forty learning activity modules for Utah's Heritage. Each module is written at the seventh grade level of
The Tree of Dynamic Processes

PROCESSES EDUCATION MODEL

Branches: Learner Growth

The growth is open ended, limited only by the quality of the roots and the richness of the soil.

Soil: Subject Matter Input and Teacher Nurture

Reading, Thinking, Observing, Manipulating, Communicating

Roots: Process Experiences from the Home, School, and Community

Figure 1. Dynamic Processes Education Model
readability so that it will be understandable to most junior high school students. The readability level was determined by applying the Fry Readability Scale as a guide while the modules were being written.

In some modules the subject matter was taken mainly from Utah's Heritage, while in other modules related historical or current information was added which dovetailed with the specific chapter being treated. The additional information was drawn from current and historical source materials.

The following steps were used in developing the Utah history learning activity modules:

1. The material in each chapter of Utah's Heritage was examined.
2. Possible concepts were identified which could be adapted to modules.
3. Research was done on Utah subject matter, current and/or historical, related to the concepts previously identified.
4. Appropriate descriptive and/or pictorial information was developed.
5. Activities were developed which will lead students to engage this information to produce critical thinking, creative thinking, positive affective behavior, or a combination of any of these.
6. Other pictorial illustrations were added.
7. Source materials useful to students and teachers were listed.
LIMITATIONS

This study has been restricted to the production of learning activity modules for Utah history at the junior high school level. These modules have been designed primarily to produce student growth experiences in the areas of critical thinking, creative thinking, and positive affective behavior with Utah history as the focus of interest. The study does not include field testing to determine the effectiveness of the modules.
DEFINITION OF TERMS

In this study, the following key terms are used according to the definitions shown below.

Critical Thinking

Critical thinking is defined as thinking that proceeds on the basis of careful evaluation of premises and evidence and draws conclusions as objectively as possible by applying logic to all available facts and evidence.

Creative Thinking

Creative thinking is defined as thinking that is imaginative or inventive, that reaches new solutions to old problems, that explores new situations, that explores beyond conventional parameters, or that otherwise results in thoughts that are original with the thinker.

Positive Affective Behavior

Positive affective behavior is defined as behavior that demonstrates positive attitudes, values, interests, effort, or any other aspect of intrinsic motivation, applied in this instance to the study of Utah and Utah history.

Learning Activity Module

A learning activity module is defined as a structured segment of instructional materials, at least part of which is printed, that presents information to the teacher and/or student(s), and then engages the
student(s) in meaningful activity which will move the learner(s) toward predetermined goals. The modules prepared in this study use Utah history and social studies subject matter to engage the student(s) in critical thinking and creative thinking and to develop positive affective behavior toward the study of Utah and Utah history.
PART II

THE MODULES
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PREFACE FOR THE TEACHER

You will find a wide variety of activities and content in this book. It contains forty different learning activity modules designed to motivate students by actively involving them in the subject matter. Various modules can be used in the following ways:

1. There are teacher-coordinated projects for the entire class.
2. Some modules can be used for either committee or class projects.
3. Some modules promote inquiry learning through outside reading and other kinds of research.
4. Many modules require students to think, write, and discuss.
5. Most modules are flexible in their use. They can be used (a) by the teacher to present material and follow it up with discussion, or (b) independently by individual students or groups of students.
6. The modules are ideal for use in learning centers. A learning center is an area in some part of the classroom where students may go to work with enrichment materials when their other work is finished or during other free time. The key to a successful learning center is having appropriate and interesting materials for the students to work with. Most of the modules in this book are well-suited to this purpose.

Content. The content is designed to supplement, enrich, and extend Utah history textbook materials. Whenever appropriate, the activities bring the subject matter to focus upon the student's own experiences in an effort to relate them to broader aspects of our state and culture. Each module promotes student thinking at the higher levels of Bloom's
cognitive taxonomy (application, analysis, synthesis, and evaluation).

Other resources. There are at least three standard references that should always be available for the study of Utah. These are a map, a history book, and an encyclopedia.

1. A map of Utah should always be displayed prominently in the room (preferably near the learning center). In addition, several Utah highway maps should be available to the students. Copies of the Official Highway Map can be obtained free of charge by writing to the Utah State Department of Highways in Salt Lake City.

2. It goes without saying that it is difficult to study history without a history book. These modules can be used in conjunction with any history textbook. However, they have been keyed specifically to Utah's Heritage by Ellsworth. The upper left-hand corner of each module shows the chapter reference in Utah's Heritage. Some of the modules apply more broadly to the study of Utah, and these have been designated "General Use" and "Present-day Utah."

3. A good classroom encyclopedia is an indespensable teaching and learning tool. This writer prefers World Book Encyclopedia, though you or your school may favor a different set. Inquiry learning is very much aided when a good encyclopedia is close at hand.

4. A variety of miscellaneous materials are needed as students work with different modules. These materials are listed where appropriate.
Have you ever read Ripley's *Believe-It-Or-Not*? It is an almanac of unusual and amazing facts. It is both interesting and fun to read. (If you have not read it, you should. There are several different editions in paperback.)

It would be interesting for you to make your own Utah Believe-It-Or-Not. A spiral notebook works well for this kind of project. Besides writing in your almanac, you may want to include drawings, photographs, pictures from magazines and newspapers, and picture postcards.

You can begin your Utah Believe-It-Or-Not by copying the interesting facts included in this module. You can then add to it all through the school year as you discover more interesting facts about Utah.

**Believe-It-Or-Not**

Utah was in Mexico when the first Mormon settlers arrived! No, the land didn't move. Mexico did. Utah was Mexican territory when the first Mormon settlers arrived in 1847, and they were happy to be leaving the United States. However, after the war between the United States and Mexico was settled by the Treaty of Guadalupe on February 2, 1848, the Mormons found themselves back in the United States. At least it was an easy trip and no one had to move anywhere!

**Believe-It-Or-Not**

Utah's oldest buildings are at least 900 years old! In Hovenweep National Monument in southeastern Utah, there are six groups of pueblo
buildings that were built at least 900 years ago—then abandoned in the
thirteenth century by their Indian occupants. Hovenweep is a Ute word
meaning "deserted valley."

Believe-It-Or-Not

Utah is the home of the world's oldest living things—Bristlecone Pines. Growth rings in these ancient and extremely rare trees show some
of them to be at least 4,600 years old! They grow in high, windswept
places—on isolated ridges and plateau rims—and are gnarled and
twisted by the wind and thousands of harsh winters. In Utah, these
remarkable trees are found in the Cedar Breaks National Monument and the
Dixie National Forest.

Believe-It-Or-Not

A 3,000-year-old Red Juniper tree is alive and well in Logan Canyon,
Utah. The juniper stands 44½ feet tall and measures 26 feet 8 inches
in circumference. Though the center of the tree is hollow and there are
many dead branches, the tree is healthy and still growing—at about one
inch in diameter each 100 years. It is called the "Old Juniper
Jardine," named after William Jardine. William Jardine was United
States Secretary of Agriculture the year the tree was discovered—1923.

Believe-It-Or-Not

Gold coins were once minted in Salt Lake City. From 1849 until
1861, Brigham Young had Mormon men mine gold which was then brought to
Utah and minted into coins.
Believe-It-Or-Not

Pine Valley Church, built in 1868, is still in use. Located in the village of Pine Valley, Utah, (in the mountains between St. George and Cedar City) this two-story wooden frame building is believed to be the oldest Mormon church still in use.

Believe-It-Or-Not

America's famous Pony Express lasted less than 19 months! The source of many romantic stories in history and legend, the Pony Express was a system of horseback riders carrying mail between St. Joseph, Missouri, and Sacramento, California, passing through Salt Lake City on the way. The fastest time ever made on the 1,966-mile trip was 7 days, 17 hours. (That mail carried President Lincoln's inauguration and address.) The Pony Express Company lost money from the beginning. It went out of business when the transcontinental telegraph line was completed on October 24, 1861—which, incidentally, occurred in Salt Lake City, Utah.

Believe-It-Or-Not

The Golden Spike still lives at Promontory, Utah. The famous Golden Spike Ceremony was performed at Promontory, Utah, as the rails of the Central Pacific and the Union Pacific were joined on May 10, 1869. This event completed America's first transcontinental railroad. Today a permanent visitors' center stands at Promontory with interesting displays that highlight the historic event. Two exact reproductions of the original steam locomotives run along the track daily to add to the realism. It is fun to watch—and it is free!
Believe-It-Or-Not

Utah has the world's largest open-pit copper mine. The famous Kennecott copper mine in Bingham Canyon is a tremendous open pit, 2½ miles in diameter and half a mile deep. This Utah copper mine produces about 20 percent of America's copper. It operates 24 hours a day, and since 1904 has produced 9 million tons of copper.

Believe-It-Or-Not

Utah is the home of America's only wild, unfenced, free-roaming buffalo outside of Yellowstone Park. A small herd of buffalo (American bison) lives in the Henry Mountain area of southeastern Utah. It is isolated and protected by the natural barriers that surround the region: abrupt cliffs, deep canyons, high mesas, and uninviting deserts.

The herd began from 18 animals released in 1941 and 5 more animals released in 1942. By the 1960s, the herd had increased to approximately 90 animals in spite of natural diseases, poachers, and several controlled hunts.

Another small herd of buffalo lives on Antelope Island, an island in Great Salt Lake.

Believe-It-Or-Not

You can take a sleigh ride among wild elk! The Hardware Ranch, 17 miles east of Hyrum, feeds several hundred wild elk each winter. During the winter, visitors to the ranch can take rides on a horse-drawn sleigh to get a close-hand look at these majestic wild animals.

Believe-It-Or-Not

Utah has the world's largest private university--Brigham Young
University at Provo. It enrolls more than 24,000 students.
UTAH'S PLACE NAMES

How did your town get its name? Maybe you know, but more likely you have no idea. There is a story to explain the naming of anything that has a name. Usually it is hard to separate the truth from local folklore. This module gives the reasons for a few of the many place names in Utah. It is a very small list. When you have finished reading it, there are some interesting activities at the end.

Cache Valley. This valley, once named Willow Valley, was a favorite place for mountain men to cache (store) their furs before taking them to the rendezvous. Though Cache Valley is usually associated with Jim Bridger, it was probably named Cache Valley by Jim Beckwourth, another mountain man, in 1825 or 1826.

Cedar City. The name comes from the many "cedar" trees growing in the area. Actually, the trees are juniper and were mistakenly called cedar by the early Mormons. Cedar City is located near the Cedar Breaks National Monument. "Breaks" is the name given to the monument's eroded cliffs.

Green River. Father Escalante first named the river Rio Buenaventura, Spanish for Good Fortune River. Later it was known as Rio Verde, Spanish for Green River. The mountain men called it the Spanish River because of its association with the Spanish explorers.

Juab County. The name comes from the Ute word meaning flat or level.
Malad River. Malad comes from the French word malade, meaning sick. French-Canadian fur trappers named the stream after becoming sick from eating beaver they trapped there. The beaver had eaten poisonous roots.

Ogden. The name comes from Peter Skene Ogden, a Hudson's Bay Company fur trapper who began trapping in the region beginning in 1825. The name Ogden has been given to a city, a river, a valley, a mountain peak, and Ogdens Hole.

Ouray. Chief Ouray was a Ute Indian chief.

Panguitch. The name is a Paiute word meaning "place where the fish are."

Salina. Salina is a Spanish word for a salt marsh or pond. The area was named by the Spanish because of the rock salt and nearby salt seeps. The name Salina is now shared by a town, a creek, and a canyon.

Inquiry Activities

1. Below is a list of other Utah place names. Try to find how each place got its name. Some of them are listed in Utah's Heritage, pages 76, 91, 113, and 183.

American Fork
Avon
Bear (river, lake)
Beaver (town, county, river)
Bountiful
Brigham City
Coalville
Carbon County

Crossing of the Fathers
Deseret
Dixie
Escalante (town, river, desert)
Fremont
Glendale
Gosiute
Iron County
Jordan River  
Kanab  
Logan  
Manti  
Parowan  
Portage  
Promontory (town, mountains)  
Provo  
Rich County  
Salt Lake City

Santa Clara River  
Spanish Fork  
St. George  
Uintah (town, county)  
Utah  
Venice  
Vernal  
Wasatch Mountains  
Washington County  
Weber (river, canyon, county)

2. Create an imaginary state.

(a) Draw a map of your imaginary state, including its natural features. Then choose a name for your state. What reason do you have for choosing that particular name?

(b) Decide where towns should be settled. Study carefully where to locate them. Towns must have a reason to exist. No town will develop unless people are attracted to a place. People are attracted by natural resources and personal opportunities such as farming, mining, lumbering, fishing, and recreation.

(c) Make up names for the towns and print them on your map. Why did you choose those names?

(d) Compare your map's towns and names with those made by another student. Did the other person choose similar names? What reasons did he or she have for choosing those names? Were they the same as your reasons?

3. Make a list of reasons or ways that towns and other places are given their names.
4. If the name of your town was not given in this module, have some fun trying to find out how it got its name. Ask several old-timers and see whether their stories agree. Keep a record of their answers. Also look in books—Utah history books or reference books in your library.
1. Clue: I am the longest in Utah. Who am I?
Scrambled Words: erba iervr

2. Clue: In Utah my names are Uinta and Wasatch. Who am I?
Scrambled Words: eht ledimd cyrko ummosnita

3. Clue: I am salty, too. Who am I?
Scrambled Words: veeris kael

4. Clue: My sisters are the Middle Rocky Mountains and the Great Basin and Range. Who am I?
Scrambled Words: dlcroaoe lapetua

5. Clue: My number is 13,498. Who am I?
Scrambled Words: gnski akpe
6. Clue: I am not at all what I used to be. Who am I?
Scrambled Words: elka livenloben

7. Use the circled letters from your answers above to find the answer to the following scrambled words.

Clue: Four buckets of water will give you one bucket of salt. Who am I?

Special Note: The answers are given in module number 41.
UTAH'S BOUNDARIES

A boundary is a line that separates one state or nation from another. When we drive across Utah's boundary line into a neighboring state, we usually refer to it as the "state line." Boundaries may be based on (a) grid lines, (b) natural geographic features, or (c) both. In this module we will study these two types of boundaries as they relate to Utah and our neighboring states.

Identifying State Boundaries

Study a map of the United States. You will find straight lines that crisscross the map. These are grid lines. Grid line boundaries are always straight lines that are usually (but not always) parallel to the grid lines shown on the map.

Study the map again. This time look for mountains, lakes, rivers, and oceans. These are examples of natural geographic features. You will see that these features do not form straight lines. Therefore, boundaries based on natural features are not straight lines.

Inquiry Activities

1. Identify several states that are formed entirely by grid line boundaries.
2. Identify several states that have at least one natural feature boundary.
3. What kind of boundaries does Utah have?
4. How many grid lines are used to form the state of Utah?
5. Our neighboring states share these grid line boundaries with us. Learn the names of all our neighboring states and be able to tell their direction from Utah (east, south, northwest, etc.).

6. Look at the boundary between Montana and Idaho. What geographic feature forms this boundary?

7. Why do you think this natural feature was used for the boundary rather than making a straight line and squaring off the corners of these two states? (Hint: When Idaho first became a territory in 1863, it included all of present-day Montana. Think of possible problems caused by this rugged mountain range. A year later, Montana was cut off and made a separate territory.)

8. At least one state is formed entirely by natural features. Which one(s)?

9. Look at Utah's boundaries and natural geographic features. Look also at the geographic features of its neighbors. Do you think it would have been better if some of Utah's boundaries had been placed on natural geographic features rather than on the existing grid lines? Be specific and explain the where and why of your answer.

10. It is possible for a state to change its boundaries. Read to find out how this can be done. Has any state ever changed its boundaries, or tried to and failed? If so, which one(s)?

11. Without using the names of other states, describe where Utah is located.

12. Utah is located in (a) which region of the United States? (b) which time zone? (c) which continent? (d) which hemisphere?
Making A Scenic Map

You can make a scenic map of Utah using picture postcards. First you must collect about 25 picture postcards which show typical scenes (natural or man-made) from different parts of the state. Motels, airports, bus stations, and gift shops are good places to look for picture postcards. If you know someone who travels to other parts of Utah, he or she might be glad to buy you some picture postcards in other parts of the state.

To make your scenic map, put a Utah highway map on the bulletin board. Surround the map with picture postcards. Stick a pin (preferably a colored one) in each postcard--and on the map at each place represented by a picture postcard. Then run a ribbon or string from the pin in each picture postcard to the pin that represents it on the map. Finally, stand back and let other people admire your work!
MAKE A 3-D UTAH MAP

Making a map can be great fun, and making a 3-D (three-dimensional) map of Utah can be even more fun. A 3-D map is one made so the surface has high and low places similar to the actual land. Mountains are high, valleys low, and canyons and rivers can be plainly seen.

A plastic 3-D map makes a good mold or model. If you can't find a 3-D map of Utah, you will have to build your 3-D map the "hard" way.

You can use any of the following materials for your map:
(a) plaster of paris, (b) modeling clay, (c) papier-mache, or (d) flour-salt paste.

The "Easy" Way With Plaster Of Paris

Materials:
1. Plaster of paris. (Approximately 1 pound for each finished map.)
2. Airid. (This is the brand name for a liquid used to prevent the plaster from sticking to the plastic mold.)
3. Water colors.
4. Plastic 3-D maps of Utah. (It is suggested that you use at least 3 to speed the project along.)
5. Containers for mixing the plaster of paris. (Use something disposable. Plaster of paris sets up rather quickly, and it may be impossible to clean your container afterward.)
6. Large spatula(s) for stirring and spreading the plaster of paris.
Procedure:

1. Place the plastic 3-D map with the hollow side up. This is your mold. (Use plenty of newspapers to protect the table and floor.)

2. Spray the inside of the mold with Airid to prevent sticking.

3. Mix the plaster of paris using approximately 5 cups of powder to 1 quart of warm water. Stir quickly because the plaster of paris sets quickly.

4. Smooth the wet plaster into the hollow side of the map. Work it thoroughly into the mold to prevent air bubbles. The hollow side of the mold should be completely filled and finished to a flat, smooth surface. This is the back side of the plaster of paris map.

5. Insert 2 bent paper clips into the wet plaster 3 or 4 inches from the north edge of Utah. These can be used as hooks for hanging the finished map. (They may be omitted if desired.)

6. After 3 or 4 minutes, the student can scratch his name on the plaster. This will greatly help with identification later on.

7. Allow the plaster to cool. It should be hard by that time.

8. When the map is cool, turn it right side up. Then--carefully--start at one corner and pop the mold away from the plaster of paris. Care and caution are needed so as not to break the plastic mold.

9. Paint your map with water colors. It can be painted 2 or 3 hours after being poured.

   On a map, water is usually blue, forests green, and deserts tan. Mountain peaks can be left white to show snow. It is best to keep the colors medium to light. Lettering is hard to read if the map colors are too dark.

10. Mark and label the most important towns. Don't forget to
mark the location of your school!

The "Hard" Way With Modeling Clay, Papier-Mache, Or Flour-Salt Paste

Materials:

1. Modeling clay or materials for making papier-mache or flour-salt paste. (Decide which materials you wish to use, then see your art teacher for instructions for making it.)

2. A piece of cardboard the size your finished map is to be.

3. A Utah map. (Preferably a 3-D map; otherwise, a highway map.)

4. A gallon can for mixing papier-mache or flour-salt paste.

5. Tempera paints (assorted colors).

Procedure:

1. On the cardboard, draw the outline and main features of Utah. Be sure to include the mountains, valleys, plateaus, rivers, and lakes.

2. Using the 3-D or highway map as a guide, build up the geographic features of your map using the material you have chosen. Try to make the map high and low in the proper places. Kings Peak will be the highest point on your map. The Dixie region of southwest Utah will be the lowest.

3. Let your map dry overnight. (Modeling clay does not need to dry. It can be painted immediately.)

4. Paint your map with tempera paint. On a map, water is usually blue, forests green, and deserts tan. Mountain peaks can be made white to show snow. It is best to keep the colors medium to light. Lettering is hard to read if the map colors are too dark.

5. Mark and label the most important towns. Don't forget to mark the location of your school!
UTAH'S GEMS

Utah has a greater variety of metals and other minerals than any other state in the United States. Most of these minerals are industrial: gold, silver, copper, lead, uranium, iron, coal, phosphate, salt, petroleum, natural gas, and many others.

A few of Utah's minerals are precious and semi-precious stones--gems! Among the more common are agate, garnet, jasper, jet, opal, and topaz.

Topaz is Utah's State Gem. It is a beautiful stone found in several colors: blue, yellow, brown, pink, and colorless. The brown and pink shades are the most highly valued.

Make Your Own Utah Gem Jewelry

It is fun to make personal jewelry using Utah gem stones. A pin or bolo tie can be made in the shape of Utah--or in the shape of a beehive if you prefer. You will need the following:

1. Polished Utah gem stones (\( \frac{1}{4} \) inch or smaller).
2. Base piece material: leather (best), masonite, 1/8 inch thick (second choice), or thin smooth wood (third choice). (It should be about 2 inches square.)
3. Bolo tie materials or a large safety pin.
5. Varnish or lacquer.

Polished Utah gem stones should be easy to find at a nearby rock shop. The pieces you buy for jewelry should not be more than \( \frac{1}{4} \) inch in
diameter. Such stones are not expensive.

Make a paper pattern in the shape of Utah or a beehive. Use the pattern to cut the base piece into that shape (leather, masonite, or wood). If you use wood or masonite, sand it smooth after cutting. Then apply two or three coats of varnish or lacquer, following the directions printed on the container. Let the base piece dry thoroughly.

Place your gem stones on the base piece, which has now become Utah or a beehive. Arrange them in a pleasing design, then cement each stone carefully in place.

If you jewelry is to be a pin, cement the safety pin to the back of the base piece.

If you are making a bolo tie, you can buy the bolo materials at the rock shop. Cement your finished base piece to the metal face of the bolo tie. If you prefer, you can shape your base piece so it can be fitted into the metal clasps of the bolo face piece. (Do this before varnishing the material.) If you choose the second method, you will have to make the outline of Utah or the beehive with small stones.

Do you remember the name(s) of the stones you bought? Be sure to remember their names and how to identify them.

Would You Like To Become A Rock Hound?

Rock hounds are people who hunt and collect gem stones and other rocks. Gem stones are beautiful after being polished (though usually not before) and valuable. Hunting for them can be a profitable hobby. Some other stones are also beautiful, though not valuable. All kinds are fun to find and collect!
Perhaps you would enjoy being a rock hound. Utah is a fine place for rock collecting because there are so many kinds of rock and stone. Would you believe that there are other states with almost no rocks for rock hounds to hunt? Try to guess where these states might be.

Rock hounds often discover their own special "diggings" that are rich in some special stone. They search in all kinds of places--the mountains and the desert, in small stream beds and river canyons, in road cuts and gravel pits, in railroad cuts, and anywhere else that looks promising. In Utah, you can often find such places in or near your own town or city. Wherever you go, however, be sure to watch for rattlesnakes!

Beginners usually need help to learn how to identify rocks and stones. Help can usually be found in a nearby rock shop. Rock shop people are usually friendly and interested in helping beginners.

A rock and gem stone collection is more fun when you can polish your own rocks. This requires an electric rock polisher. Used rock polishers can often be found at a reasonable price. Your rock shop can give you advice on polishers and how to use them.

If you decide to start rock hounding--or at least collecting--good luck! You will have some interesting and exciting times.

Recommended Reading

EARLY MAN IN UTAH

WORD SCRAMBLE

1. Clue: What has 4 corners and 4 periods?
   Scrambled Words: zinsaaaluretuc
   
2. Clue: What were the first high-rise apartments in Utah?
   Scrambled Words: fiflcleglindws
   
3. Clue: Could this be graffiti?
   Scrambled Word: troppylegsh
   
4. Clue: Who were Utah's first known environmentalists?
   Scrambled Words: esetdrtheresgra
   
5. Clue: What on earth is an adobe abode?
   Scrambled Word: bulpoe
6. Clue: Who in the world would rather have buffaloes than turkeys? 
   Scrambled Words: tomfner ruuletc

   [Diagram of scissors and other symbols]

7. Use the circled letters from your answers above to find the answer to the following scrambled words.

   Clue: Never a warrior in a hundred hundred revolutions.

   [Diagram of scissors and other symbols]

   Special Note: The answers are given in module number 41.
BUILDING A TIME LINE--MAKING TIME MAKE SENSE

How old is "old?" "Old" has something to do with time. Would you and your parents agree on what is "old" or "old fashioned?" It may seem to you that you were a baby a long, long time ago. To your parents it seems like just a little while ago. Both you and your parents are thinking of the same number of years, but you each see those years in a different way. Why would your own age have anything to do with how you think of time?

Understanding time is often a hard thing to do. For example, do you know when your mother and father were born? How about your grandparents? Of course, each of them was born in a certain year, but do you know how those years fit together?

A time line can help us see how events follow one after another. By drawing a time line, we can better understand the length of time between events and the order in which they occurred.

In this module you will create your own time line. On this time line you will be able to see how the history of your family and the history of Utah fit together. Your time line can be built by the entire class, by a small committee, or by one person--or each person in the class can make his own.

If you need some help to get started, you can look in Utah's Heritage. A time line (without details) will be found on the first page of each chapter beginning with chapter six. Your time line will show more details than those found in Utah's Heritage.
How To Make A Timeline

Materials:
1. Butcher paper (9 feet long and 1 foot wide)
2. Yard stick
3. Soft-lead pencil
4. Felt-tipped pen
5. Wall space or bulletin board space

Procedure:
1. Special Note. Use a pencil for all drawing and lettering so that mistakes can be erased easily. Check your work for misspellings and other mistakes. Erase all stray pencil marks. Once all your drawing and lettering is finished, trace over the pencil work with a felt-tipped pen.

2. Cut the butcher paper 9 feet long and 12 inches wide. It should be cut neatly with straight edges and square corners.

3. Use a yard stick to draw a line the full length of the paper. It should be down the center so that there is 6 inches of paper on each side of the line.

4. With the line horizontal in front of you, draw a 2-inch vertical line 2 inches from the left end of the paper. It should reach 1 inch above the horizontal line and 1 inch below it. This first vertical line is the year 1490.

5. Draw a 6-inch vertical line 2 inches to the right of the 2-inch line. This line should extend 3 inches above the horizontal line and 3 inches below it. It is the year 1500.

6. Draw another vertical line every 20 inches along the paper. These lines are the years 1600, 1700, 1800, 1900, and 2000.
7. Draw a 2-inch vertical line (like the first one) every 2 inches between the 6-inch lines. Each of these lines represents 10 years.

8. Above each vertical 6-inch line, print the year beginning with the year 1500 on the far left and the year 2000 on the far right. Do not label the 2-inch lines because too much printing will make your time line too crowded.

9. Mark and label the present year with a 4-inch vertical line. You will have to measure to locate it between the 10-year marks unless the present year falls on one of those marks. For instance, 1983 will be located at a point 3/10 of the distance between 1980 and 1990.

10. When you print the events on your time line, it is a good idea to alternate the events above and below the horizontal line to allow more space. It looks nice when you slant your lettering at a 45-degree angle from the end of the 2-inch line.

11. Locate and mark the following years on your time line:
   (a) The year you became part of history by being born. (Use the average year if more than one student is making the time line.
   (b) The year your mother became part of history by being born. (Use the average year if they were not born in the same year.)
   (c) The year your grandmother and grandfather became part of history by being born. (Use the average year if they were not born in the same year.)
   (d) The year Utah became the forty-fifth state of the United States.
   (e) The year Utah became a territory.
   (f) The year the first Mormon settlers came to Utah.
   (g) The year the first white explorers came to Utah.
   (h) The year the American colonies declared their independence from
England and the United States was born.

(i) The year Columbus first landed in America. (At last, the year 1492!)

(j) Any other dates of special interest to you.

Recommended Reading

A VISIT WITH JIM BRIDGER, MOUNTAIN MAN

Well, young feller, it seems like you got more questions than a timber wolf has fleas. But I don't mind spinning a yarn or two. I've spun plenty in my time. Sometimes I'm asked why I don't write 'em down like Doc Newell or Jim Beckwourth did their yarns. Well, I don't like to admit it too much, but I never learned to read or write. I've always been too busy for book learnin'.

When I was a young'un back in Virginia, I had to help my Pa on the farm. I was born there in 1804, the year that Lewis and Clark made their famous journey to the Pacific Ocean and back. After that, we moved to St. Louis, Missouri, where it was easier for a man to earn a livin'. I run a ferry boat on the Mississippi River for a while when I was still a young'un. Then Ma died, and then Pa died when I was only fourteen. That left my little sister and me orphans, and my unmarried aunt came to keep us.

Now I had to earn the livin', so I signed on as apprentice to a blacksmith, Phil Cramer, in St. Louis when I was fourteen. I worked as blacksmith's apprentice for five years, so I didn't get to learn readin' or writin' then. By that time, I was eighteen, and I took off up the Missouri River to be a fur trapper.

I saw a lot of important men while I was a blacksmithin'. St. Louis was a place where everything was a happenin' back then. Just about everybody headin' west jumped off at St. Louis. 'Course everybody needs a blacksmith sooner or later, and all them important folks came a
troopin' through our blacksmith shop. That's how I got to go up the Missouri with Colonel Ashley and Major Henry. They had just started the Rocky Mountain Fur Company. Colonel Ashley advertised for a hundred men to go up the Missouri to trap beaver. My apprentice time was just up, so I went to see Major Henry. I'd done some blacksmithin' for him. When he figured out who I was—he didn't know me at first because I was all cleaned up—he put me on. I got to go up the Missouri with him in his keelboat. I was only eighteen, and I was the youngest man in the party. We pulled out of St. Louis in April 1822. Colonel Ashley followed us in another keelboat.

The Colonel hadn't figured on the dangers of the Missouri and the unfriendly Indians along the way. Before we were half way there, Colonel Ashley's keelboat followin' behind us hit a snag and sunk. Nobody was hurt, but we lost half our supplies in the river. Then too, we were always a fightin' off Indians—unfriendly ones. Even the "friendlies" would steal our horses when they had a chance.

By the time winter caught up with us, we'd only got to the mouth of the Yellowstone River. The Colonel decided we should winter there, so we stopped in built us a fort. It was a stockade made of upright logs stuck in the ground, and it had two rows of cabins inside. We also made some dugout canoes. Then Colonel Ashley and five or six men went back to St. Louis in the canoes for more supplies.

When spring came, the rest of us started on up the Missouri, but pretty soon we ran into Indian trouble with some Blackfeet near the Great Falls of the Missouri. Four of our men were killed. Major Henry sent Jed Smith downstream to get help for Colonel Ashley, but the Colonel was havin' Indian trouble of his own. He'd already lost
fourteen men to Indians, and ten others were wounded. We ended up havin' to go back down the Missouri to rescue the Colonel--nearly a thousand miles we had to go back. You can see that our first year didn't amount to very much.

By that time, Colonel Ashley and Major Henry decided to give up tryin' to take boats up the Missouri. Major Ashley got the idea of travelin' to the Rocky Mountains on horses, and takin' our supplies on pack saddles. That worked, and by fall of 1823 we managed to get to the peak of the Rockies and begin trappin'. I've done a heap of travelin', trappin', and Indian fightin' since then.

Now you asked me what it's like to be a trapper. At first it seemed like an easy way to get rich. It turned out to be a lot harder work than a lot of us figured, and the only ones who ever got rich were the owners of the fur companies. But even if us trappers didn't get rich, it was a great life! 'Course there were a few dangers, like drownin' in a river or gettin' mauld by a grizzly, or gettin' scalped by Indians. You always had to keep your eye peeled for all kinds of dangers, especially Indians. There weren't all of 'em friendly, and many a careless mountain has lost his scalp.

We would trap any animal with fur that would sell or trade, but it was mostly beaver we were after. We followed any river or creek that looked promising for beaver. There's nothin' more beautiful than a prime beaver skin. The really good ones are silky brown--so soft and pretty you want to bury yourself in 'em. That kind might sell for $5.00 or $8.00 back in St. Louis. Like I said, that was what the fur company got, not us trappers.

I told you there were dangers, especially Indians, but I forgot to
mention rheumatism. You had to wade in ice cold water a lot of the time, and in snow part of the time. You see, in the summer when it's nice and warm, the beaver fur isn't any good because the beaver loses some of his fur. It isn't thick and beautiful then. He doesn't get his fur back 'til the weather gets colder. We'd start trappin' after the warm weather was over, and keep a trappin' 'til everything froze up. When everything freezes up, old man beaver holes up for the winter, and the trappers hole up for the winter, too. When the snow begins meltin' in the spring, we can get out and start trappin' again. So you see, it's just in the fall and the spring when you can trap. Wadin' around in the cold water and snow all the time brings rheumatism to your bones and makes you old before your time.

'Course the first thing when you're trappin' beaver is to find him. I start up a stream lookin' for a sign. A sign might be wood chips around a tree and tooth marks on a tree, or the tree might be cut clean off. The best sign is a beaver dam or lodge. When I found a sign, I'd take off my moccasins and wade upstream.

You always wade upstream so you don't stir up trash above the beaver. That tells him trouble's a comin'. You wade in the water so you won't make a lot of noise a crashin' through the brush and leave a lot of human smell around.

After I found where there was a beaver, I'd open the jaws of a trap, set the jaws, then plant the trap down under the water. The trap has a chain, and I'd put a wooden stake through the loop on the end of the chain, then push the stake down into the mud. I'd bait the trap with a stick dipped in castoreum, and stick it in the mud with the "good smellin'" end of it leanin' over the open trap. When old man
beaver came over to smell the stick, he'd walk right into the trap.

When I was through settin' a trap, I'd wade back downstream so as not to leave any human smell. Soon I'd be on my horse a ridin' off to set traps in other places. Sooner or later while I was gone, old man beaver would come by, sniff the castoreum stick, and get himself caught in the trap. He'd try to get away by swimming underwater, but the chain on the trap would hold him under the water and he would drown. That way he couldn't chew his foot off and get away.

When we trapped all the beaver we could get out of a stream, we'd move on to another stream.

I love the wild country, and it makes me sad to think that it's all been explored now. It was me who discovered the Great Salt Lake. In the fall of 1824, we were a trappin' in Cache Valley. A bunch of the boys were arguin' about where the Bear River went. It was decided I should settle the argument by followin' it downstream a ways.

First I made me a bullboat. I killed a buffalo, skinned it, and stretched its hide over a frame I built out of heavy willow sticks. It was kinda' like a big willow basket with a buffalo hide wrapped around it. I hopped into my bullboat and floated down the river. It wasn't too long before I had floated into this great big body of water. I thought the bullboat floated a little higher in the water than it had before, so I tasted the water. Lo and behold, it was salty. I figured it must be part of the Pacific Ocean stickin' inland that far. I hurried back to Cache Valley and told what I had found. It caused quite a stir for a while. A couple years later, a party went clear around that salt water and proved that it was a huge salty lake. Now they call it the Great Salt Lake.
Speaking of Cache Valley, it used to be called Willow Valley. I used to like to cache my beaver skins there. We would dig deep holes in the ground and bury our bundles of furs for the winter. That hid them from Indians and other trappers who might otherwise be tempted to steal them while we were doin' business elsewhere. Later, somebody decided to call it Cache Valley.

It was a followin' the streams and a lookin' for beaver that gave me a chance to learn the country. I reckon I've looked at about every mountain and stream from here to Canada. I'm lucky, too, that the Good Lord gave me a powerful eye for lookin' at the country and a powerful memory for rememberin' it.

I learned to carry maps around in my head, and I've got maps of every place I've ever been—all in my head. 'Course, I can draw them for anybody if they want. I've been guide for a goodly number of important people, and I've been told by all of 'em that nobody else remembers the country like I do. I know which way the rivers run and how mountain ranges lie. I know where the mountain passes are and what parts of the year they are open. I know where the streams can be forded and where there is good grass and water for camp spots. Places I've not seen for twenty years, I can see in my mind like I was there just yesterday.

I know the Indian trails and wild animal trails. I can follow a wild animal track or an Indian track with the best of 'em. I can tell you what kind of Indian we're a followin'. I know all the wild animal and bird sounds, and I can tell if a sound is made by a real animal, or if it's made by an Indian signalin' to his partners.

My knowin' about the country has made me a good livin' since I gave
up trappin' beaver. I've worked as a government guide and as an Indian scout lots of times. I've been a guide for Lieutenant J. W. Gunnison, Captain Howard Stansbury, Captain J. L. Humfreville, and General Grenville Dodge, just to name some of the more important people. I've worked for rich tourists, for immigrant trains, and for stagecoach companies, too.

I was Chief Scout and principal guide on the Powder River Expedition under the command of General Dodge. I just got back from workin' as Chief Scout and advisor to Colonel Henry Carrington while he was a tryin' to open up a wagon road around the Big Horn Mountains of Montana in the heart of Sioux country. This was in direct violation of the government's treaty with the Sioux, but government higher-ups ordered Colonel Carrington to do it, and Sioux Chief Red Cloud was on the war path the whole time.

I know every Indian tribe between here and Canada, and I know a lot of the chiefs personally. That doesn't mean I like all of 'em, or that they like me. I've fought a bunch of 'em, and there's still many an Indian who would give plenty to have a chance at my scalp. One time I got two Blackfoot arrows in my back, and that pritenir did me in. Old Broken Hand Fitzpatrick worked to get 'em out, but there was one he couldn't get out. It was hooked in there good next to a bone. I said go ahead and break the shaft off and leave it. He worked the shaft loose and left the arrowhead there. It healed up, and I carried that arrowhead around in my back for three years. It caused me some little pain now and then. I was lucky that Dr. Marcus Whitman, the missionary, came through three years later. He was a doctor, and I had him butcher the thing out. It was an iron arrowhead about three inches long, and
the point had bent on a bone. That's why Broken Hand hadn't been able
to pull it out. The whole camp was full of Indians who stood around and
watched while the doctor worked. They were impressed, to say the least,
and thought that Dr. Whitman was powerful medicine.

I was interpreter at the Treaty of Laramie where the government
made a treaty with eight Indian tribes all at once: Sioux, Cheyennes,
Crows, Assiniboines, Mandans, Hidatsas, and Rees. I could speak all
the languages, but I still get chills a thinkin' about tryin' to keep
all them hostile tribes from fightin' one another and the U. S. Army,
too. To top it all off, Chief Washakie brought a large party of
Shoshonis, and they hadn't been invited.

Shoshoni Chief Washakie is a special friend of mine--about the same
age as me, he is. My last wife was Washakie's daughter--she's dead
now. I consider the Shoshonis to be my people. My first two wives
died, too. The first one was a Flathead woman, and the second one was a
Ute. That's one of the sad parts of my life. I always had hard luck
with wives. I still have my children, though--all but Mary Ann. Mary
Ann was my first daughter, and I sent her to school at Dr. Whitman's
mission near Walla Walla. When the Cayuse Indians attacked the mission
and killed Dr. and Mrs. Whitman, Mary Ann was carried off and killed,
too.

Like I said, I never learned to read and write, but I have a lot of
respect for learnin'. One time I asked Captain Humfreville what the
greatest book was that had ever been written. He told me William
Shakespeare. I was real keen to know what it was all about, so I rode
down to the immigrant road and found me an immigrant train. I found
somebody with a copy of Shakespeare, and traded a yoke of oxen for the
book. Then I found me a German boy who could read, and I paid him forty dollars a month to read the book to me. I learned those stories tolerable well, and I got so I liked to quote a line or two of Shakespeare once in a while. The fact is, I could give one quotation after another, but Captain Humfreville would laugh at me sometimes because I couldn't help improvin' 'em a bit with a few swear words.

Well, young feller, I'm afraid I got to be a movin' along. I'm headed out for a short visit to St. Louis. I haven't been back there very many times since I left there at eighteen.

I'm afraid I didn't get around to tellin' you any of my Indian fightin' stories. I'll just tell you one, then I best be on my way.

One time when I wasn't bein' as watchful as I should, I was surprised by five Indians a wearin' war paint. When they saw me, they come a flyin' on some of the fastest Indian horses I ever did see. I dug in my spurs and rode for dear life. All I had was my six-shooter, and I only had five bullets. The first chance I had, I turned around and fired, and one of them Indians bit the dust. That didn't stop the others, and they kept a comin'. Another Indian got up close, and another bullet sent him a bitin' the dust. Two more got up almost on top of me, and I managed to pop off two more bullets and send them to the Happy Huntin' Ground.

There was just one more Indian, and all of a sudden we were at the edge of a deep canyon. It was too far for a horse to jump, and to fall to the bottom would have been certain death. I turned my horse real sudden, and that Indian was on me. I fired at the same instant he did, and both horses were killed dead. That was my last bullet. I jumped to the ground and went after that Indian with my knife, and he come after
me with his knife. He was the biggest, strongest Indian I ever did see, and I never fought so hard in my life. One minute it seemed like I was gettin' the best of him, then the next minute it seemed like he was gettin' the best of me. Then finally... You'd never believe what happened!

What happened? Why, that big Indian killed me!

Note To The Teacher

This story can be presented to the class in several different ways:

(a) You can read it aloud to the class. Presented in this manner, the story can also be used as an exercise for teaching listening skills. In this event, it should be followed by comprehension questions as well as a general discussion.

(b) You can memorize the story and recite it for oral storytelling. Oral storytelling intrigues and captivates students and is especially suited to a teacher who has dramatic or "ham" qualities.

(c) A student can memorize the story and recite it to the class.

(d) Students can be given individual copies of the story to read silently.

Jim Bridger, Mountain Man, listed at the end of this module, is a fascinating book written in a lively style. The book was the source for the material contained in this module, and it is highly recommended to the teacher of Utah history. Vestal has written the book from Bridger's point of view, has included many entertaining and interesting anecdotes, and has presented an authentic view of the early west as seen by one observer.
Inquiry Activities

1. Memorize the story and recite it to the class, pretending that you are Jim Bridger.

2. Make part of the story into a skit and act it out.

3. Make a bulletin board of beaver life, fur trapping, rendezvous, and other details of mountain men's lives.

4. Why was Jim Bridger an important figure in Utah history?

5. Look at the module, "Cartoon History." That module tells another of Jim Bridger's characteristics. Even though he was an experienced fur trader, why might he not be a good businessman?

6. Find one of Shakespeare's plays and read part of it. What does this tell you about Jim Bridger's abilities?

7. List some of Jim Bridger's characteristics. Then write a paragraph describing him as a person. (You may need more than one paragraph.)

8. Although there were several thousand mountain men (fur trappers) in the West during the 1800s, few ever wrote of their adventures. Why do you think this happened?

9. Another famous mountain man was Jim Beckwourth, a black man. He was one of several black fur traders in the mountain west. Beckwourth and Bridger knew one another, for both came west with Colonel Ashley's Rocky Mountain Fur Company. Later in life, Beckwourth wrote a book about his "Life and Adventures." His book caused some people to call him a "gaudy liar." Why do you think people called him a liar?

10. In 1860, Jim Bridger was 56 and Jim Beckwourth was 62, both still living in the West. Imagine that the two men met in 1860 for a
pleasant evening of swapping tales and experiences.

(a) What kinds of things do you think they would discuss?
(b) Write an imaginary conversation that you think could have occurred between the two men in 1860.

11. In the St. Louis Missouri Gazette for March 20, 1822, the following notice appeared:

Wanted...100 young men to ascend the Missouri to its source, there to be employed for one, two, and three years.

The notice was calling for young men to become fur trappers. It had been placed in the newspaper by William Ashley and Andrew Henry who were just starting the Rocky Mountain Fur Company. The notice neglected to mention the dangers of the job: unfriendly Indians, grizzly bears, dangerous terrain, and fights with fur trappers from other fur companies.

Many of the men who answered that advertisement became the famous mountain men whose names we know so well—Jim Bridger, Jim Beckwourth, Thomas "Broken Hand" Fitzpatrick, Jedediah Smith, Hugh Glass, Mike Fink, and numerous others.

(a) Would you have answered the notice in the Missouri Gazette? Why or why not?
(b) If you saw an advertisement today for people to go to some primitive part of Africa or South America, would you go? Why or why not?

12. Read a book about a mountain man. (There are several good ones in paperback.) Report to your class on what you have learned.

Recommended Reading


EXPLORERS IN UTAH

WORD SCRAMBLE

1. Clue: This is not a new travel denim.  
   Scrambled Words: gantissh tuffco

2. Clue: These were the best guides available.  
   Scrambled Words: nonimuta nme

3. Clue: This was an important landmark across the salt flat.  
   Scrambled Words: topil kepa

4. Clue: He won't find many voters out here.  
   Scrambled Word: tonermf

5. Clue: Go west, young man! Go west!  
   Scrambled Words: stafemin inetsyd
Scrambled Words: axnemic raw

7. Use the circled letters from your answers above to find the answer to the following scrambled words.

Clue: It was a good year to build a trading post.

Special Note: The answers are given in module number 41.
PREPARING FOR THE JOURNEY TO UTAH

If you were planning to come to Utah by covered wagon during those early pioneer years, how would you have known what to do? Nothing in your past experience could have prepared you for such a great task and adventure. The valley of the Great Salt Lake lay approximately 1,000 miles west of the Missouri River, the "last frontier" of civilization. Beyond the Missouri lay a great unknown land--broad plains, unpredictable rivers, parched desert lands, towering mountains, and sheer canyons.

The way west was not entirely unknown by this time, however. Explorers, fur trappers, and other adventurers had crisscrossed it, and by now there were established trails to follow. There were also guide books written by people who had already journeyed west--or claimed that they had. Some of the guide books were quite practical; others were not.

Early guide books assumed travelers were headed for Oregon or California, but their information was just as suitable for the journey to Utah. The following is a list of supplies suggested by a guide book for three people for one year.

- rifles, 3 at $20.00 each: $60.00
- pistols, 3 pair at $15.00 per pair: $45.00
- flour, 5 barrels weighing 1,080 pounds: $20.00
- bacon, 600 pounds: $30.00
- coffee, 100 pounds: $8.00
- tea, 5 pounds: $2.75
- sugar, 150 pounds: $7.00
<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>rice</td>
<td>75 lbs</td>
<td>$3.75</td>
</tr>
<tr>
<td>dried fruit</td>
<td>50 lbs</td>
<td>$3.00</td>
</tr>
<tr>
<td>salt and pepper</td>
<td>50 lbs</td>
<td>$3.00</td>
</tr>
<tr>
<td>soda</td>
<td>10 lbs</td>
<td>$1.00</td>
</tr>
<tr>
<td>lard</td>
<td>50 lbs</td>
<td>$2.50</td>
</tr>
<tr>
<td>lead</td>
<td>30 lbs</td>
<td>$1.20</td>
</tr>
<tr>
<td>tent</td>
<td>30 lbs</td>
<td>$5.00</td>
</tr>
<tr>
<td>bedding</td>
<td>45 lbs</td>
<td>$22.50</td>
</tr>
<tr>
<td>cooking utensils</td>
<td>30 lbs</td>
<td>$4.00</td>
</tr>
<tr>
<td>matches</td>
<td></td>
<td>$1.00</td>
</tr>
<tr>
<td>candles and soap</td>
<td>50 lbs</td>
<td>$5.30</td>
</tr>
<tr>
<td>private baggage</td>
<td>150 lbs</td>
<td></td>
</tr>
</tbody>
</table>

(This list was taken from *The Emigrant's Guide Book To California*, Joseph E. Wase, J. Halsall Publication, St. Louis, Missouri, 1849.)

Do you think you would need anything else? What about transportation? A wagon would cost from $60.00 to $90.00. You would need four animals to pull the wagon (two yokes of oxen or two teams of mules). Oxen cost $50.00 each, and mules $90.00 each. You will also need four extra animals. If you kept the same four animals straining to pull the heavy wagon day after day, some of them would die from overwork. It was a common sight to see dead oxen and mules along the trail. (Oxen could also be killed for food when other food became scarce.)

**Inquiry Activities**

1. Study the list shown above. Keep in mind that it is recommended for **three people for one year**. The trip to Utah took about three months after crossing the Missouri River. Also, many of the families had four
Consider the size of your family and the distance you have to travel. Are there things you should add to or subtract from the list?

(a) Make any changes you think are necessary in the list.

(b) After you have finished changing the list, figure out what it will cost to prepare for the trip. Don't forget to include the cost of buying a wagon and animals to pull it.

(c) Add up the total weight of the items on your list. Then add the weight of a woman and two or three small children. How many pounds is this? How many tons? Do you think one wagon can carry this much weight?

2. Look again at the list from The Emigrant's Guide Book To California.

Does this seem to be enough food for three people for a year? Why would the guide book suggest taking a whole year's supplies and food? Do you think this is realistic? Where might you find food and supplies along the way? You may have noticed that there are no "fresh" foods on the list. Wouldn't it be better to try to get fresh food along the way? Where and how would you get it? What disadvantages might there be to the idea of getting some of your food and supplies along the way?

Be prepared to discuss these ideas in class.

3. Some of the early immigrants were able to shoot wild animals for meat during the journey west. There also seemed to be plenty of grass and other forage for their animals. Some wagon trains even hired professional hunters to keep the immigrants supplied with fresh meat during the trip. Immigrants who came later reported that there were few if any wild animals to be found for meat, and that feed for their
animals was poor and scarce.

Why would the later immigrants find that these conditions had changed?

4. Our living conditions are greatly different today from what people knew in 1847. Work has been made easier because of machinery, food is easier and faster to prepare, and clothing can easily be bought rather than hand-made. All in all, life is much easier and more comfortable today.

Do you think today's people could survive the conditions that people faced in 1847? Support your answer with facts and examples.

5. Have you ever thought of the astronauts as pioneers? They were a different kind of pioneer, to be sure. However, the first astronauts to visit the moon had things in common with the first Utah pioneers. Both groups of pioneers were the first of their kind to visit an unknown and unfriendly place.

Of course, there were more differences than similarities. The Utah pioneers traveled about 1,000 miles (or more, depending on where they started). The astronauts traveled 240,000 miles (one way) to the moon. The covered wagon--loaded with family goods, food, women, and children--weighed 2,500 to 3,000 pounds. The "moon ship" weighed 6,484,240 pounds when fully loaded. It took the Utah pioneers three months or more to travel to the valley of the Great Salt Lake. (They moved along as slowly as two miles an hour--a slow walking pace.) It took the astronauts about three days to get to the moon.

Think about the following ideas and be prepared to discuss them.

(a) Why did it take the Utah pioneers so long to travel the 1,000 or more miles? Do you think there would have been a faster way for them
to travel? Explain your answer.

(b) What kinds of things did the Utah pioneers need to bring with them that the moon pioneers did not have to worry about?

(c) What kind of food did the moon pioneers eat? What kind of food did the Utah pioneers eat while on their journey west? Which pioneers ate better?

(d) Both the Utah pioneers and the moon pioneers had certain personal needs. What personal needs were the same for both groups of pioneers?

(e) What personal needs were different for the two groups of pioneers?

(f) In what ways were the journeys of the astronauts and the Utah pioneers similar? How were they different? Mention something other than their speed of travel.
COMING WEST BY COVERED WAGON

If you were an early pioneer coming west to settle in Utah, you would most likely come by covered wagon. For safety, wagons did not travel alone. They traveled together in wagon trains having anywhere from a few to several dozen wagons. There was safety in larger numbers of people traveling together, and the people in the wagon train could help one another when needed.

A covered wagon was often called a prairie schooner or a ship of the plains. Perhaps it was more romantic to think of a wagon as a ship sailing across the plains. However, prairie schooner was a good name for more than one reason. Not only did the cloth tops remind one of a sail, but the wagons could in fact "sail" on some occasions. When a river was too deep to ford, the seams in the wooden box could be sealed, the wheels removed, and the wagon floated across the river.

A covered wagon was the slowest and most expensive way to travel. A good wagon cost from $60 to $90. However, it provided room to carry some family goods and provided space and shelter for the wife and young children. The wagon was pulled either by oxen or by mules. A choice of animals had to be made. Oxen cost less ($50 each), but they were slower, though stronger. They ate more, but could be killed for food if necessary. Mules were more expensive ($90 each), more likely to run away at night, but were faster and less likely to be stolen by Indians.

A wagon required at least four animals: two teams of mules or two yokes of oxen. It was a good idea to take extra animals if the family
could afford them. A well-to-do family might have several wagons and a large number of animals. Most immigrant families were not well-to-do, however. A family with four or five children usually had to make-do with one wagon and perhaps four yoke of oxen.

It cost a family from $700 to $1,500 to prepare for the journey west. This may not seem like much money today, but many farm families in those days could not save that much money in a lifetime. They had to sell their farms to get enough money to buy wagons, animals, and supplies. If they were lucky, they might have a little cash left to buy more supplies further west—at one of the few supply points along the way such as Fort Laramie or Fort Bridger.

A wagon box was usually about four feet wide and ten feet long. The wagon cover was made of canvas or other heavy material stretched over hickory bows. The cloth was made waterproof with linseed oil. The covered wagon had about five feet of head room from the floor to the peak of the canvas.

You can see that the covered wagon was not really very large, and there was a limit to what it would carry. Its main load was household goods. Usually, only women and small children rode in the wagon—and the sick and the old. The older children and strongest women rode horses or walked along side the wagon.

Can you imagine what these people walked and rode through? Besides sticky mud, there were clouds of choking dust kicked up by the wagon wheels and the animals. There were snakes and pesky insects of many kinds. There was treacherous ground—rough and rocky, and crisscrossed with swollen, dangerous rivers and deep, often impassable canyons. Water and feed for animals were scarce, and sick or dead animals meant that
the precious wagon had to be abandoned. Many of the pioneers became sick and died along the way. In spite of such dangers and tragedies, however, most of the hardy souls "outlasted the trail." Theirs was an exciting adventure!

**Inquiry Activities**

Most pioneer families used poor judgement in choosing items to take on the journey. Some of the "better heads" scoffed at the many travelers who tried to take all their possessions with them--and on one wagon!

Imagine that you are a member of a pioneer family who has packed the following into your covered wagon.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bacon</td>
<td></td>
</tr>
<tr>
<td>beans (dry, 100 pounds)</td>
<td></td>
</tr>
<tr>
<td>blankets</td>
<td></td>
</tr>
<tr>
<td>books</td>
<td></td>
</tr>
<tr>
<td>butter churn</td>
<td></td>
</tr>
<tr>
<td>candles</td>
<td></td>
</tr>
<tr>
<td>china dishes</td>
<td></td>
</tr>
<tr>
<td>corn meal (1 barrel)</td>
<td></td>
</tr>
<tr>
<td>curling iron</td>
<td></td>
</tr>
<tr>
<td>family pictures</td>
<td></td>
</tr>
<tr>
<td>flat irons</td>
<td></td>
</tr>
<tr>
<td>flour (2 barrels)</td>
<td></td>
</tr>
<tr>
<td>gun powder</td>
<td></td>
</tr>
<tr>
<td>guns</td>
<td></td>
</tr>
<tr>
<td>iron cook stove</td>
<td></td>
</tr>
<tr>
<td>iron pot (large)</td>
<td></td>
</tr>
<tr>
<td>kettles and pans</td>
<td></td>
</tr>
<tr>
<td>ox shoes and horse shoes</td>
<td></td>
</tr>
<tr>
<td>potatoes (200 pounds)</td>
<td></td>
</tr>
<tr>
<td>piano</td>
<td></td>
</tr>
<tr>
<td>sauerkraut (1 barrel)</td>
<td></td>
</tr>
<tr>
<td>shovels and hoes</td>
<td></td>
</tr>
<tr>
<td>table and chairs</td>
<td></td>
</tr>
<tr>
<td>toys</td>
<td></td>
</tr>
<tr>
<td>trunk of clothing</td>
<td></td>
</tr>
<tr>
<td>tools and spare parts for the wagon</td>
<td></td>
</tr>
<tr>
<td>vegetable seeds</td>
<td></td>
</tr>
<tr>
<td>wash tub</td>
<td></td>
</tr>
<tr>
<td>water (3 barrels)</td>
<td></td>
</tr>
<tr>
<td>window glass</td>
<td></td>
</tr>
</tbody>
</table>
1. The wagon train has traveled about forty miles west of the Missouri River when the trail becomes too soft for your heavy wagon to go further. The wheels cut so deeply into the soft ground that the oxen cannot pull the wagon. The leader of the wagon train tells you that you must throw away some of your load to make the wagon lighter. Can you bear the thought of throwing away some of your valuable possessions? Make a list of items to throw away and tell why you chose them.

2. By the time you have come half way—but are still many miles from Fort Laramie—you have lost an ox and don't have an extra animal to replace it. You must lighten your load still more. What must you part with this time? Make another list of things to throw away and tell why you picked them.

3. Later, after a heavy rainstorm, the trail has become mile after mile of soft mud. You must lighten your load even more. Make a new list of items to discard and explain why you picked them. Question: Have you left enough necessary items to finish your journey?

4. Fort Bridger is the last supply point before arriving in the Salt Lake Valley. You must decide whether or not to buy anything at Fort Bridger. Supply points such as Fort Laramie and Fort Bridger have supplies for immigrants to buy, but the selection is poor and the prices are very high. Flour at Fort Bridger might be ten cents a pound, while at home you had to pay only two cents a pound. Make a list of everything left in the wagon, then decide what kinds of things you will try to buy at Fort Bridger.
Historical Note

It is a historical fact that many pioneers had to throw away some of their belongings to lighten their wagons. Metal goods, being quite heavy, were among the first items to go. However, travelers reported seeing pianos, trunks, heavy oak furniture, and family keepsakes scattered along the way.

Recommended Reading

Module No. 13
Chapter 9

THE MORMONS COME TO UTAH

WORD SCRAMBLE

1. Clue: We will build it in Utah!
   Scrambled Word: ozni

2. Clue: I guess they will be the first ones to get there.
   Scrambled Words: inorepe myapcno

3. Clue: The territory across there looks pretty wild to me, Dad.
   Scrambled Words: het siriomus vierr

4. Clue: Here is one ship that should never sink!
   Scrambled Words: hspi fo hte spinla
5. **Clue:** Hey, Jim! Which trail do we take from here?
   **Scrambled Words:** ghntaiss fttcou

6. **Clue:** How long did it take you to get here, Brother Brigham?
   **Scrambled Words:** noe ddnrhue sady

7. Use the circled letters from your answers above to find the answer to the following scrambled words.
   **Clue:** These words will go down in history.

   Special Note: The answers are given in module number 41.
GOING BEYOND

This is a module for students with imagination and who like to go beyond regular assignments. Here are some ideas that can be lots of fun! If you don't know where to begin looking for information, ask your school librarian or someone at the public library. The chapter number shown at the beginning of each activity refers to the related chapter in Utah's Heritage.

Chapters 2 and 3

Pretend you are the only survivor of a plane crash high in the Uinta Mountains. It is February and you don't know whether or not you will be found by search planes. You have only the food and equipment normally carried in an airplane. Make a plan to survive until spring and warm weather arrive.

Chapter 4

You are an archeologist interested in early Indian culture. Choose an area of Utah where you would like to make a dig. Then, using books and magazine articles, make a study of that culture. Write a report and present it to the class.

Chapter 5

(a) Do research on Indian sign language. Learn as much as possible, then demonstrate it to your class.

(b) Do research on pictographs and petroglyphs. Prepare a booklet on these topics explaining what they are. Be sure to include
photographs and/or drawings.

Chapter 6

The Spanish explorer Cortez brought the first horses to America (Mexico) from Europe in the year 1519. After that, the Spaniards brought more horses and began breeding them on large ranches. As the number of horses increased, some passed into Indian hands. Some Indian tribes began breeding horses.

Before the horse came to America, Indians traveled on foot. Horses brought about great changes in Indian life and culture, just as the automobile brought great changes to life and culture in the twentieth century.

Read about the effect of the horse on Indian life and culture. Then prepare a report to present to the class.

Chapter 7

Beaver hats were high fashion for men in America and Europe during part of the 1700s and 1800s. It was the demand for beaver hats that created the great fur trade in Utah and other parts of the West.

Learn how beaver fur was made into hats, then make a report to your class.

Chapters 8 and 9

Trace the Mormon Trail and the Oregon Trail on a map. Study the routes carefully and find out what present-day towns (the larger ones) are located along the way. Make a list of them beginning with Nauvoo and ending with Salt Lake City.
Chapter 10

Search for information on how Salt Lake City looked in the 1850s. You should be able to find photographs, drawings, and maps. Using these, make a map of Salt Lake City in the 1850s for display on the bulletin board.

Chapter 11

(a) On a globe, trace the journeys of Mormons coming to Utah from other countries.

(b) Draw a map for the bulletin board showing the Mormon settlements in the West in the year 1858.

Chapter 12

There was very little money in early Utah. Yet, people produced food and goods and were willing to carry on trade without money. Work out a plan for a system of barter in early Utah—using no money.

Chapters 13 and 14

Pretend you are living in Utah Territory in the 1850s or 1860s. Imagine some adventures you might have and write a story about them.

Chapter 15

(a) Read about the development of railroads in the United States from their very beginning. Then write a report (or a booklet) on pioneer railroads in America. Be sure to explain why they were important to our struggling new nation. Also explain why the completion of the first transcontinental railroad through Utah was important. Mention the other transcontinental railroads that were built later over other routes.
(b) Read about the development of the telegraph in the United States from its beginning. Then write a report (or booklet) on the telegraph during the 1800s. Be sure to explain why it was important to our struggling new nation. Also explain why the completion of the first transcontinental telegraph (at Salt Lake City) was important, and mention its effect on the Pony Express.

(c) The vast amounts of gold and silver mined in the West during the gold and silver rushes of the 1850s and 1860s were very important to the United States in helping to pay the costs of the Civil War. This fact is often forgotten. Research this interesting story and prepare a report for your class.

Chapter 16

(a) Some towns grew into large cities while other towns stayed small. This is just as true in Utah as in the rest of the world. What causes one town to grow while a nearby town stays the same? Why did Salt Lake City, Ogden, and Provo become urban while most other Utah towns stayed small?

Try to discover some of these reasons and write a report on what you find.

(b) Irrigation is the "backbone" of farming in Utah and many other parts of the West. Irrigation has been practiced for thousands of years in various parts of the world.

Write a report that (1) gives a history of irrigation in various parts of the world including Utah, and (2) explains how irrigation is practiced in present-day Utah.
Chapter 17

Much of the architecture in Utah Territory was impressive and beautiful. Many fine examples of this architecture can still be seen in Salt Lake City and other Utah towns and cities.

Study nineteenth century Utah architecture and prepare a booklet on the subject. Be sure to include photographs and drawings.

Chapter 18

Utah became the 45th state of the United States in 1896. New Mexico became the 47th state and Arizona the 48th state--but not until 1912! Alaska became the 49th state and Hawaii the 50th state--both in 1959!

Do you think there will ever be more than our present fifty states? What are the advantages of a territory becoming a state?

Learn how a territory becomes a state and make a report to the class.
Empty bottles! Throw them out! There goes the ketchup bottle, the pickle jar, and the Worcestershire sauce bottle. Here comes the garbage truck. We got them out just in time. Where does the garbage man take those bottles? He takes them to the city dump where they are buried with the rest of the garbage and trash.

Did you ever think about the fact that the early Utah pioneers also used bottles? They, too, threw them in the trash when the bottles were empty. So what? Who wants an old empty bottle?

Actually, antique collectors like old bottles. They hunt them, collect them, and even pay good money for them. If a bottle is old enough, it is an antique. Not-so-old bottles are sometimes unusual and rare, and those are also "collectibles."

Many of today's antiques were yesterday's trash. Throughout history, people have thrown away the things they were finished using--bottles, cans, toys, tools, and many other things. Every group of people has had its trash heaps and garbage burial pits. Over the years, most of the trash decays and disappears.

It is interesting to look at the garbage left by others. It tells us many things about the people who left it. If we wait too many years, though, most of the trash has disappeared. In the trash dumps of the early Utah pioneers, little is left except glass bottles. Glass does not decay.

Old bottles can be interesting. Bottles have gradually changed
over the years, so those used by the pioneers were different from the bottles we use today. Expert collectors have learned when different kinds of bottles were made, so they can often tell the age of a bottle just by looking at it.

Antique bottles were blown by hand rather than by machine. Hand-blown bottles are not perfectly shaped and often have air bubbles trapped in the glass. These old bottles are often different colors--aqua, purple, and amber. Some old glass will turn lavender or purple when left in the sunlight for a long period of time.

Antique bottles can tell us quite a story. Many of them have words molded into the glass (and sometimes the date). The words are usually the name of the product or the company that made it. From these clues and others, we know that some of the products used by the pioneers--such as Dr. J. Hostetter's Stomach Bitters--were not the same products we use today.

If you think it would be fun to find old bottles, you had better start digging. There are very few pioneer dumps left. Every year, a few more disappear under new housing developments, office buildings, or freeways. Where do you find old dumps? A few small towns still have old dumps, though antique collectors spend a lot of time digging through them. Farms and ranches are the most promising places if no one has disturbed them. One problem with these is that the farm family often has no idea where the oldest dumping places on the farm were. Often they have been plowed up and farmed.

Once you find a dump, you have to guess how old it is. Bottles in the dump for only a few years can look very old to the inexperienced collector. Be suspicious if you see bottles that look like those in
the medicine cabinet at home. Those bottles probably haven't been there long. Tin cans can rust away in only a few years in moist soil. Aluminum cans don't rust, but they haven't been around so very long either. They were invented only a few years ago. If you find a tin can with a lead spot (about the size of a dime) on each end of the can, you have found an antique. Those lead spots are where the can was sealed by hand. Such a can is a clue to start digging.

Old dumps may be hard to find, but antique shops are not. If you would like to look at antique bottles, head for the nearest antique shop. It won't cost you a cent to go in and look. Antique shops are good places to learn about old bottles and other old glass. Most shop owners are friendly folks who like to talk about their antiques.

Bottles To Look For

When you go bottle hunting, you may find some interesting examples. Here are a few.

1. **Poison.** Some bottles had the word *POISON* molded into the glass in large letters. Other poison bottles showed a skull and crossbones. Still others had bumps of various shapes so you could "feel the danger" when you picked up the bottle.

2. **Worcestershire Sauce.** Believe it or not, the pioneers used the same brand of Worcestershire sauce that your mother may buy. Worcestershire sauce was first made in England between 1833 and 1835 by Lea & Perrins. Lea & Perrins still sells the same product today. Their records show that a few cases were sold in 1849 west of the Mississippi River. Other bottles of the sauce came west on wagon trains. Wouldn't it be exciting to find one of these?
These bottles have the words LEA & PERRINS WORCESTERSHIRE SAUCE molded into the glass in raised letters. On the bottoms are molded J98D and S. The glass contains bubbles, showing that the bottles were hand blown. Many of the bottles are soft blue.

3. Other Products. Here are just a few of the antique bottles that can be found:

Absorbine
Dr. Baxter's Pain Relief
Dr. Hayne's Hair Health
Dr. Pettit's Eye Water
Tahiti Lemonade
McKeever's Army Bitters
Baker's Orange Grove
Buffalo Brewing Co.
Liquid Bread
Ruhstaller's Gilt Edge Lager

Wheeler's Black Ink
Armour & Co.
1 Pound Pure Honey, Beehive #1
Royal Mint Sauce
Dr. Price's Extracts
The Owl Drug Co.
P. Talcum
Sweet Clover Farms
Wash and Return

How Old?

Old glass can come in many different shades of purple. This is because manganese was used in glass until 1914. The manganese in the class turns lavender or purple if it is exposed to sunlight for a long time. A small amount of manganese produces a light lavender. Gradually increasing amounts of manganese produce gradually deepening purple. A large amount of manganese will produce deep purple.

These colors will appear only if the glass is exposed to sunlight for a long period of time. If the glass has never been exposed to sunlight, it will still be clear. On the other hand, glass made after
1914 will not turn purple in sunlight.

There are also other clues to the age of a bottle. Important changes in bottlemaking have been made over the years. Following are the dates of some of these changes. A bottle with the characteristic listed can be no older than the date given. On the other hand, the bottle can be much newer.

1600 corks used in America
1600 screw lids
1800 bitters bottles
1800 Historical & Pictorial flasks
1800 molded designs and lettering
1825 soda water bottles
1850 fruit jars
1850 inside screw threads
1875 beer bottles
1875 snap rings
1900 "Federal Law Prohibits..."
1900 milk bottles
1900 paper caps
1914 manganese glass no longer made
1925 crown corks

Inquiry Activities

1. Pretend you struck it rich in an old Utah dump and found the following bottles. For each bottle, decide what that bottle might tell you about the person who used it.

Lea & Perrins Worcester Sauce
2. Hand blown glass bottles were really "lung blown." The glass blower blew into the hot, sticky mass of glass on the end of a blow pipe, forming it into a bubble that he molded into shape. These men had to have large chests and strong lungs to do this kind of work.

(a) Read more about glass blowing in an encyclopedia and make a report to your class.

(b) Early westerners, especially mountain men, miners, and cowboys, loved tall tales. Find some information on tall tales, then make up a tall tale about a glass blower.

3. Would an old dump at Park City or Bingham Canyon contain the same kinds of antique bottles as old dumps in Cache Valley? Think this through carefully and explain your answer.

4. Visit an antique shop and learn all you can about the bottles you see there. The shop owner will help you. Also read a book on bottle collecting, such as the book mentioned at the end of this module. Then prepare a report on antique bottles and present it to the class.
Recommended Reading

LET'S HAVE A PIONEER FAIR

Let's have a Pioneer Fair! A Pioneer Fair will let you share some of the experiences of the pioneers, and it will help make pioneer life seem much more real. You can have a lot of fun while you learn many things about the way the pioneers lived. This module will give you some ideas, but there are no definite rules to follow.

Inquiry Activities

1. Make a display of pioneer items.
   (a) Personal items
      shoes    shaving mugs
      clothing medicines (or bottles)
      straight razors hair curling irons
      razor strops dolls (corn husk, rag, wooden)
      You may also find other personal items.
   (b) Household items
      antique bottles wash boilers
      antique canning jars flat irons
      kerosene lamps wooden or metal bath tubs
      butter churns furniture
      kitchen utensils wood-burning cooking stoves
      wash boards wood-burning heating stoves
      Today these things are called antiques. You may find or think of dozens more.
(c) Farm items

- hand tools
- scythes
- cradles
- hand-operated seeding machines
- hand-operated corn shellers
- hand-operated grain grinders
- horse-drawn machinery
- buggies
- wagons
- stagecoaches
- teams of draft horses

You may find many of these items—and more—in your community, in a nearby museum, or on nearby farms.

2. Make a display of pioneer crafts. The following is a list of pioneer crafts that are still known and practiced in Utah. Many of these crafts can easily be learned by students and demonstrated at the Pioneer Fair. You might also find adults who would enjoy coming to the fair to demonstrate a variety of crafts, some of which are not on this list.

- blacksmithing
- leather working (harness, belts)
- butter making
- pickle making
- food canning
- quilt making
- food drying
- soap making
- knitting
- spinning
- leather tanning
- wood carving

3. Display pioneer or pioneer-type clothing. Your family or friends may have some old-fashioned or pioneer clothing that they have been saving. (Pioneer clothing would have been worn before 1900.) Bring it—and even wear it if possible. Pioneer clothing that is too fragile to wear can be displayed on manikins or dress forms (if you can find these items to borrow). You can also wear clothing that is similar to what the pioneers wore. Men usually wore chambray shirts, blue-denim bib
overalls, and boots. Women wore long dresses and tight hair styles.

4. Have a pioneer picnic. A pioneer picnic could always be counted on for loads of REALLY GOOD FOOD. This was because it was all real food prepared from "scratch," not imitation food bought in convenience packages. Fried chicken began with live chickens that someone in the family killed and dressed. Your pioneer picnic may not begin with killing chickens, but it can begin with delicious and nutritious real food!

Delicious food prepared at home. Pioneer food was good—often very good—but always prepared at home. Real gravy was made from the juices that came from meat, not from flavoring in a package or a bottle. There were no packaged convenience foods, frozen foods, or "junk" foods such as soft drinks and packaged snack crackers, potato chips, or corn chips. These artificial foods were not around in pioneer times.

In pioneer days, most farms had cows, chickens, and pigs, and sometimes other livestock such as sheep, goats, geese, and turkeys. There was always a vegetable garden near the house, and grain was grown in the fields. Often there were fruit trees. The family raised almost all their own food except for sugar, salt, spices, coffee, tea, and similar items. Summer was a feast of fresh food, and in the fall much effort went to canning, pickling, drying, and smoking the harvest for winter.

These were the kinds of food the pioneer picnic came from. Bread was made from whole-grain flour. Biscuits and cornbread were favorites—loaded with real farm butter. Cakes were started from "scratch" with flour, eggs, lard, and other home ingredients. Meat, potatoes, milk, butter, and cheese were important to Utah pioneers. Fresh potatoes were
peeled, boiled, and mashed with milk and butter. Milk was the drink for children, and milk or water was the drink for adults. Some adults preferred tea or coffee. Picnics were special occasions, so lemonade or rootbeer were sometimes made for a special treat. The list of pioneer foods is long and delicious.

The "scratch" food at your picnic should be a real taste treat (unless the cooks are out of practice). It is much tastier than the packaged foods at the supermarket—and much more nutritious.

5. Grandparents can tell about pioneer life. Your grandparents may be the children or grandchildren of Utah pioneers. If so, they will remember pioneer stories told to them by their own parents, grandparents, and other members of the family.

Why not invite your grandparents and elderly friends to your Pioneer Fair? They will be pleased to be asked, and some of them will be delighted to come. Elderly people often enjoy talking about their lives as children, and you can learn a great deal about earlier times by listening to their stories.

Some grandparents may not be able to attend. However, they might be willing to record some of their early experiences on tape. You could conduct an interview and ask questions about their childhood and the stories they remember from those days. People at the Pioneer Fair could then listen to the tapes. The tapes might also be useful in class at a later time.

Grandparents will make your Pioneer Fair more authentic. Most children in pioneer times knew their grandparents very well because families lived closer together then. Grandparents often lived very close by. Sometimes grandparents and great-grandparents lived with the
rest of the family, making a close family of three or four generations.

6. Here are some more ideas for your Pioneer Fair. (You may want to use some of them as topics to research for class reports.)

   (a) a box social
   (b) clearing sagebrush
   (c) a cornhusking bee
   (d) country doctors
   (e) house raising or barn raising
   (f) a quilting bee
   (g) an old-fashioned schoolroom
   (h) shocking grain
   (i) square dancing
   (j) threshing bee

7. Pioneer farming is alive and well in Utah. The Ronald V. Jensen Living Historical Farm (owned by Utah State University) is a fascinating journey into yesterday, just six miles south of Logan on Highway 89-91. Farm work at the Jensen farm is performed by draft horses and horse-drawn machinery, and with steam-powered tractors and threshing machines. There is a fine outdoor collection of antique horse and steam farm machinery, plus an indoor collection of hand-operated farm tools and implements.

   This genuine pioneer Utah farm is open to the public each summer from June through September. Visitors enjoy seeing the fine team of draft horses and watching demonstrations of 1890 farming practices.

   If you live in or near Cache Valley, you should be sure to visit the Ronald V. Jensen Living Historical Farm. If you live in another part of Utah, the Jensen farm is certainly worth a side trip on your
next summer vacation.
LADY LUCK
THE STORY OF UTAH, GOLD, AND LUCK

Call it luck, fortune, or providence. There are some things in life that are hard to explain any other way. Take, for instance, the finding of money.

Have you ever found a dime lying in the street? How about a dollar? Didn't it give you a tug of excitement to have that kind of luck?

Suppose on the way home, you find a dime. Great! Suppose the very next day you find another dime near the same spot. Luck? Suppose you find a third dime on the third day. Do you think you might go back again the next day to look again? How long can you expect this luck to stay with you? What if you find a dime along that street every day for a week? Could you keep it a secret, or would you tell a friend or two? Do you think your friends might happen to turn up on that street to try their luck? Yes, there is a good chance that if the dimes keep coming, the street will become one of the busiest streets in town! Soon, crowds of people will gather, each person hoping that he or she will be the one that Lady Luck smiles upon.

Where does this example lead us? Read on!

GOLD

GOLD is exciting! GOLD is beautiful. GOLD is wealth. For thousands of years, the glitter of gold has meant money to those who have had it. Finding gold is like finding money in the ground. Gold
has excited men to the point that they would leave their homes, jobs, and families to search for it. They have risked their fortunes and their lives for its promise. Men have stolen and even murdered for gold.

Lady Luck is a fickle mistress, however, and she does not smile on everyone. Her smile brings happiness to some. Her frown, well . . .

This module is about Utah, GOLD, and Lady Luck.

Utah And The Gold Rushes

How did Lady Luck treat Utah during the gold rushes? The answer is a matter of personal opinion. It is a matter of record, however, that Utah had less gold than most of our neighboring states. Furthermore, not much of our gold was the "easy to get" kind that caused so many men to drop everything and rush off to try their hand at "getting rich quick." The mining rush in Utah was mostly for silver, but even the silver rush was small compared with some of the famous rushes in our neighboring states. Silver, as well as gold, tempted men with its get-rich-quick promise. It is interesting, however, that Utah's greatest and most lasting mineral wealth has come from lead, copper, zinc, coal, phosphate, and several other minerals. On the other hand, who would have thought of leaving their cows, crops, and families to search for lead, copper, or zinc.

It was GOLD that started the great rush of miners into the West. Today when we speak of old-time prospectors and miners, it is GOLD mining that most Americans think of. It was GOLD that held the glamour, excitement, and fancy of America--and the world--during that time in history.

The California Gold Rush of 1849 is the most famous of all. It
was the Granddaddy of American gold rushes, and it gave birth to the famous "forty-niners" of story and song. Most of our other neighbors had important gold rushes, too—Colorado, Arizona, Nevada, Montana, and Idaho. In Utah, we had more of a trickle than a rush.

Does this mean that the gold rushes were not important to Utah? Not at all! We had a few small gold rushes of our own, and even the gold rushes in neighboring states were good for Utah. Those other gold rushes brought people, business, and wealth to Utah.

During the California Gold Rush of 1849, people streamed toward California by land and by sea. Americans who could afford the trip sailed by ship from eastern seaports to Panama, or sailed around the tip of South America (Cape Horn) and back to San Francisco. The people who sailed to Panama had to cross Panama by land because there was no Panama Canal then. After crossing Panama, they took another ship to San Francisco.

A great many people could not afford to travel by ship, however. Thousands of people came west by wagon train or traveled in small groups on foot or on horseback. In this manner they crossed the American continent to California. Many of these land travelers passed through Utah in the way to California. While they were here, they bought food and supplies, thus creating business for Utah farmers and storekeepers. Later, during the 1860s, Utah, especially Salt Lake City, became a major supply and trade center for the mines of western Montana and southern Idaho. Thus the mines in neighboring states poured wealth into Utah.

Because gold and silver miners were important to Utah, it is interesting to take a closer look at the gold rushes. Just be careful
as you read that you don't begin to suffer from GOLD FEVER.

**Easy Gold?**

Most prospectors were looking for "easy" gold. Easy-to-get gold was found mixed loosely in soil or in the sand and gravel of certain stream beds. Hard-to-get gold was held tightly in solid rock—in veins or pockets called "lodes." Lodes were not easy to mine. The rock had to be broken up by blasting, then carried to a mill or arrastra where it was crushed. Only after the rock was crushed could the gold be taken from it. Lode mining was not only heavy work, it took more machinery, more labor, and more expense.

The "easy" gold was called placer gold. It was found in small pieces mixed in soil, sand, or gravel, usually in or near a stream. These particles of gold were released from a lode by natural erosion. Wind, rain, and freezing weather—over the centuries—wore down the rock of the "mother lode," making new sand and soil and releasing the bits of gold trapped in the lode. Rain and melting snow washed the sand and soil—and particles of gold—into the nearest stream. Once in the stream, the soil, sand, and gold would be carried downstream from the lode—sometimes for many miles.

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1prospector (PRAHS-pek-tuhr), People searching for gold or other minerals are called prospectors. In order to find gold, a man had to prospect for it.

2arrastra (ahr-RAHS-trah). An arrastra was a crude machine for crushing ore. A circular stone floor was built with a post in the center. The post served as an axle for a long pole which was fastened to one or more heavy stones. A horse or mule was hitched to the other end of the pole. The animal then dragged the heavy stones over the stone floor, grinding the ore.

3placer mining (PLAS-er). Placer mining was done by using water to wash gold out of soil, sand, or gravel.
Placer mining saved miners the work of blasting, hauling, and crushing the rock taken from a lode. One man using a metal pan or bucket could wash the gold from the soil. Using a pick and shovel, the miner would loosen the soil and put a shovelful in the pan. Then he would hold the pan under the water—preferably in a flowing stream—and shake it. With enough work, he could wash the soil, sand, and small rocks over the side of the pan, leaving only small pieces of gold and heavy black sand. Gold is much heavier than rock, so it stayed in the bottom of the pan. When the sand was dried, the miner could blow the sand away, leaving the pure gold.

Most of the pieces of gold left in the pan were small—the size of a grain of wheat or smaller. Once in a while, however, someone would find a larger piece—the size of a pea, or a walnut, or an egg! Larger chunks are called nuggets and were worth from a few dollars to several thousand dollars, depending on their size. Every miner hoped to find nuggets. Rumors were always passing among the miners about a bigger "strike" somewhere else. Sam "So-And-So" had struck it rich, digging hundreds or even thousands of dollars in gold in a single day—"nuggets as big as your fist." Nuggets were larger than life in the minds of miners and prospectors. The discovery of a good-sized nugget could set off a gold stampede to a new "diggings" almost overnight.

Panning for gold was not really easy work, much to the surprise of most eager gold seekers. A gold pan held only one shovelful of soil, and it took several minutes of vigorous work to shake the heavy pan under the water. It didn't take long to develop tired, aching muscles. Also, the work was slow, and a pan of dirt often yielded only five or ten cents worth of gold.
To make the work easier and faster, miners built larger wooden devices to help them. Sluice boxes, cradles, rockers, and long toms allowed miners to wash more dirt with less work. Even so, the work was still hard. Often the soil had to be carried to the stream to be washed. Sometimes flumes were built to carry water from the stream to the diggings. The miners spent much of their time with their hands and feet in icy water, so blisters, sore legs, and stiff and painful feet were common.

Lady Luck kept a close watch on the miners, and she smiled on only a few. Eager prospectors soon found that there was a great difference between searching and finding. For every miner who "struck it rich," thousands did poorly and kept searching for that big strike. Many miners found only enough gold to tantalize them.

A man who struck "pay dirt" might find anything from a few dollars to thousands of dollars in gold. Lady Luck, again. Many placer mines contained only a few hundred dollars in gold, at the very most. After the stream beds and nearby soil had been dug up and thoroughly washed by hundreds or thousands of miners, all the "easy" gold was gone. There was nothing else to do but move on.

Many miners and prospectors followed lode mining, even if it was harder work. Few of them had enough money to develop a lode into a well-paying mine. However, a rich strike could be sold to a wealthy investor who wanted to start a mining company. On the other hand, sometimes several miners might pool their money and have enough to get a hard rock mining company started. Thus lode mining also offered the get-rich-

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4flume (floom). A flume is a chute, often made of wood, for carrying a stream of water.
quick promise.

Many who found strikes quickly spent their new wealth at the mining camp saloons and gambling tables. As soon as they spent it all, they went out to search for more. It should not be surprising to learn that many camp businessmen became wealthy. They got their gold by selling food, tools, clothing, guns, whisky, and many other things needed by the miners. Prices for goods in mining camps were extremely high.

Most gold rush miners were looking for "easy diggings" and quick wealth. Thus, when most of the placer gold was gone, the real gold rush was over. On the other hand, the real mining--lode mining--was just beginning. Most of the earth's valuable minerals are locked into its rocky crust. Other men knew that lode mining promised greater wealth than the short-lived placer mining. Many of Utah's hard rock mines that were started in the 1860s and 1870s are still producing silver, lead, zinc, and copper--and wealth for Utah.

Today the West is dotted with ghost towns left by gold rush (and silver rush) miners. These towns once bustled with excited miners--often thousands of them. Stores, saloons, livery stables, newspapers, and hotels were built, and business boomed. Then when all the gold or silver ran out--often suddenly--nearly everyone left to look for wealth somewhere else. Most of these boom towns had nothing but the mines to keep them going. When everyone else, or almost everyone, left, these boom towns became ghost towns. Those which are still towns today exist because some other kinds of business replaced mining.

Though the American gold rush and excitement have faded into history, they still stir imagination and excitement in the hearts and minds of many Americans. Who hasn't imagined, at least briefly, what it
was like to live in that time and place? On the serious side, the rush westward for gold was an important event in shaping America as a nation. Most people are not aware that the gold (and silver) from the mountains and streams of the West helped the Union (the North) pay the cost of the Civil War. Equally important, the gold rushes brought thousands of people to live in the wild, unsettled country of the West where they built homes, farms, and towns that have grown into the West as we know it today.

**Inquiry Activities**

1. Some of the better prepared men started to California with the following kinds of items:
   - sturdy boots and clothes
   - slouch felt hat
   - a "waterproof"
   - blankets
   - a long strip of canvas
   - an axe
   - a pick and shovel
   - a bowie knife
   - a rifle
   - a Colt revolver
   
   (a) Think about each item and decide why it might be needed.
   
   (b) What else do you think should be added to the list? Be very sure, as it cost a great deal of money and effort to take things to California.

2. Much of the "bad luck" suffered by gold seekers was the result of their own bad decisions. Most went west without any idea of where they were going, what they would need on the way, or what they would do after they arrived. Yet, many left home, family, and property in this state of ignorance.

   Would you have done this? Don't be too sure you wouldn't have.
What are some ways you might have been able to get some reliable information for planning a trip to California?

3. Many miners soon discovered that it was much easier to find fresh gold than to keep it. Some of the men who made the richest discoveries were "broke" in a few years. Even the men who made the first discovery in California and started it all--James Marshall and John Sutter--died almost penniless.

What do you think a person would have to know and do in order to avoid losing their sudden new wealth?

4. Some mining towns have simply disappeared without a trace. Others exist as ghost towns with a few old buildings that are rickety, tumbled in, or decaying in ruins. A few are ghost towns that still have one or two "old timers" still living there. Some of our present-day towns began as mining towns, but prosper today long after their mines have been abandoned.

(a) Why would there be such a difference in what became of different mining towns?

(b) Why would all the buildings disappear from some ghost towns, while other ghost towns still have buildings?

(c) Why would one or two people choose to continue living in a ghost town long after everyone else has moved away?

(d) What would cause a mining town to grow and prosper after the mines were "mined out?" Be specific with your answers.

(e) Alta and Park City, Utah, have become popular recreation centers. Granite, Montana (north of Anaconda); Lewiston, Wyoming (near South Pass); and Florence, Idaho (in the Salmon River Mountains); have become ghost towns and nearly disappeared. How can you explain the fact...
that some old mining towns have become recreation centers, while others have not?

5. The following were mining towns:
   Alta, Utah  
   Bingham Canyon, Utah  
   Butte, Montana  
   Cripple Creek, Colorado  
   Denver, Colorado  
   Gold Field, Nevada  
   Idaho City, Idaho  
   Kellogg, Idaho  
   Park City, Utah  
   Placerville, California  
   Silver City, Idaho  
   Tombstone, Arizona  
   Virginia City, Montana  
   Virginia City, Nevada

Use books and maps to find the following information for each town:
   (a) When was it started?
   (b) Where is it located? (Near what familiar city or town?)
   (c) What metal or metals were mined there?
   (d) Is it a "live" town or a ghost town today?
   (e) If no mining is done there now, when did mining cease?
   (f) If it is a "live" town today, what kinds of business bring money into the town?

6. In *Gold*, Stewart Edward White tells of gold rush clubs that were formed in New York. Their purpose was to meet and discuss ways to get their members to California. They would sing "Oh Susannah" (the gold rush version) and talk themselves into fevered excitement. They would argue about routes to take and the details of gold mining--which none of them knew anything about.

Form your own gold rush club. Pretend you are living in New York in 1849, and you are making plans for the trip to California. Try to make a reasonable plan for getting there. You will need to consider
money, kinds of transportation, equipment and supplies, and other related items. Remember that you know many things today that those people did not know about the geography, weather, distance, and living conditions.

You may want to learn to sing the gold rush version of "Oh Susannah" (sometimes called "Oh California").

Interesting Gold Rush Books


This fine book gives extensive coverage of Utah's ghost towns, describing a surprisingly large number of ghost towns, and contains maps showing how to get there. The author has included a write-up of each town, giving its important historical facts and interesting details. The book is a must for teachers of Utah history.


This fascinating volume is ambitious and well-researched, and covers the entire western mining rush. It contains hard-to-find photographs and information on camp life. It is interesting for students and excellent resource material for the teacher.


This is a fascinating word and picture story of the California gold rush.


This book gives a close-up view of many old mining towns throughout Wyoming, Montana, Idaho, Washington, and Oregon. It is rich in
photographs of old buildings, towns, mines, and mining equipment. Complete with maps, it is a fine trip into yesteryear.


This is a fictional story of the California gold rush. It picks up the excitement of the gold rush in New York, takes the reader across Panama to San Francisco, and thoroughly explores life in the gold camps. The details of mining camp life are very authentic.
LADY LUCK GULCH: A GOLD RUSH GAME

Lady Luck Gulch is a gold rush game for two to five players. It is mainly a game of chance. There are more losers than winners. A player can be rich one minute and BROKE the next.

Object Of The Game

The object of Lady Luck Gulch is to have more gold (in dollars) than anyone else when the game ends. The game ends when all but one player goes BROKE, or at the end of 30 turns, whichever comes first. The 30 turns are numbered on the answer sheet as the 30 days in June.

Materials Needed

Dice. Three dice are needed: a pair of one color and a third die of a different color.

Map. A map of Lady Luck Creek is included in this module. Its purpose is to illustrate the terrain. Players do not need to refer to the map during the game, and the game may be played without it.

Score sheets. A score sheet is included in this module. It may be photocopied and dittoed in sufficient quantity for classroom use.

How To Play

Each player begins with his own score sheet and some scratch paper for some of the math work.

Each play is controlled by rolling dice. There are 4 kinds of throws or rolls of the dice, each with a different purpose:

(a) throw for your Claim Plot
(b) throw for your Grubstake
(c) throw for your Day's Take or Income
(d) throw for your Fate

1. **Throw for your Claim Plot.** Each player chooses a Claim Plot (or diggings) by throwing 2 dice, one after the other. The spots that turn up on the dice tell your claim number. A roll of "3" followed by a "5" makes a Claim Plot number of 35. Each claim number has a certain value for your score sheet in column B:

   A value of 3 for claims 11-16. Place a 3 in column B.
   A value of 2 for claims 21-26. Place a 2 in column B.
   A value of 1 for all other claims. Place a 1 in column B.

   You can see that claims 11-16 are the luckiest, claims 21-26 are less lucky, and the other claims are not lucky at all. Fates 24-28 give you a chance to throw for a new claim and perhaps get a higher claim value. However, before you decide to do this, you must consider carefully whether it is worth giving up your balance in column M for the 1 out of 3 chance that your new claim value will be greater than 1.

2. **Throw for your Grubstake.** A prospector's grubstake was the amount of money he had to buy supplies and equipment, and to live on until he began making money from mining. (grub = food; stake = bet)

   The amount of your grubstake is found by 1 throw of 1 die. (Die is the singular form of dice.) Your grubstake is the number of spots that you roll, multiplied by 100. A roll of 1 gives you $100, a roll of 6 gives you $600, and so on. The amount of your grubstake is written in the parenthesis at the top of column M. This is your starting balance.

3. **Throw for your Day's Take or Income.** Each player's Income or Day's Take is earned by throwing dice and figuring the values of columns
A through G. Column A is earned by throwing the pair of dice, then multiplying those two numbers together. A roll that turns up a 4 and a 5 would multiply together to make a 20 for column A.

Column B is the value of your Claim Plot (1, 2, or 3). Column C is found by multiplying column A times column B ($A \times B$). Now you cannot go any further until you roll for Fate.

4. **Throw for Fate.** Fate now enters the game. Your Fate may be good luck or bad luck, depending on Lady Luck, of course. There are 41 possible Fates, numbered from 2 to 42.

After you have thrown for your Day's Take and figured column C, you must then throw for Fate. Your Fate for each turn is decided by throwing all three dice. The spots that turn up on the pair of dice are multiplied together, then the spots on the third die are added to that number.

For example, suppose that the pair turns up a 3 and a 5, and the third die turns up a 4. Your Fate is $(3 \times 5) + 4 = 19$. Fate 19 is good luck—Gambling Win $100.

**Good luck Fates.** The values of good luck Fates are placed either (1) in column D to be multiplied, or (2) in column F to be added.

**Column D Fates.** The only Fates that go in column D are numbers 13 (the rocker) and 17 (the long tom). Fate 13 (the rocker) has a value of 2 for column D. Fate 17 (the long tom) has a value of 4 in column D.

If you do not roll Fate 13 or Fate 17 during the game, you will not use column D. If you do roll Fate 13 or Fate 17, place the 2 or the 4 in column D, then multiply column C times column D, and place the answer in column E ($C \times D = E$).
Special note for column D. There is a chance that you may roll up both a rocker and a long tom, or more than one of each. That is very good luck! In this case, you multiply those values together and place them in column D. For example, if you have a long tom (4), then roll up a rocker (2), you will multiply 4 x 2 and place 8 in column D. If you roll up another long tom, multiply the new 4 value times the existing 8 (4 x 8 = 32) and place 32 in column D. (Don't think this is impossible. It has happened!)

You will keep your column D value for all future turns, unless you roll a Fate that makes you lose it.

Column F Fates. All good luck Fates except 13 and 17 are placed in column F. Columns E and F are then added together to make the total in column G (E + F = G). Column G is your Day's Take or Income. However, you are not finished yet. Your Day's Outgo must be subtracted before you are finished.

Bad luck Fates. The values of most bad luck Fates are put in column J. These are added to your Day's Food Expense (column K) to find your Day's Outgo (J + K = L). Your Day's Food Expense in column K is always $5. Some bad luck Fates carry other penalties.

Day's Final Total--column M. Column M begins with your Grubstake written in the parenthesis at the top. This is your beginning Final Total. Your Day's Final Total is found by adding today's column G to yesterday's column M, then subtracting today's column L (today's G + yesterday's M - today's L = today's M). In figuring the first day's Final Total, your Grubstake is yesterday's M.

Special note. If your Day's Take is larger than your Day's Outgo, today's column M will be larger than yesterday's column M. However,
if your Day's Take is smaller than your Day's Outgo, you must subtract from yesterday's column M. In this case, today's column M will be smaller than it was yesterday. This is how most Lady Luck Gulch players go BROKE.

**Going BROKE.** When a player runs out of gold (money), he is BROKE and goes out of the game. There are two ways to go BROKE.

The quickest and easiest way to go BROKE is to throw the dice and come up with a 6 on all 3 dice. This is Fate 42 ($6 \times 6 = 36 + 6 = 42$). Any player who rolls Fate 42 is instantly BROKE and leaves the game.

The other way to go BROKE is slower, and you may suffer a long time before it happens--or it could happen in only 2 or 3 throws.

Any time that today's column M Final Total reaches less than 0, you are BROKE. You must leave the game.

Please note: If by rare chance you come up with 0 (zero) in column M, you are still in the game--though not sitting very pretty. You may go BROKE on the next Fate, or you may strike it rich!

**Your Fate**

The roll of the dice determines your Fate. Your Fate will be one of the following 41. Good luck Fates go in column D or in column E. Most bad luck Fates go in column J; however, some carry other penalties.

- **Fate 2: Nugget $40.** Good luck! You found a nugget today worth $40. You have won $40 for column F.
- **Fate 3: Boots $30.** Bad luck! Your boots finally "gave up the ghost" and you had to spend $30 for a new pair. Put $30 in column J.
- **Fate 4: Lost Pouch.** Bad luck! While "doing the town" last night, you lost your gold pouch that contained $175 in "dust." Put $175 in
Fate 5: Claim Jumpers. Bad luck! Today, two claim jumpers ran you away from your claim--and your "diggings"--at gun point. You lose your Day's Take. Put a zero in column G. Then roll for another claim and begin again without a rocker or long tom--and no number in column D. Be sure to subtract your Day's Food Expense.

Fate 6: Ammo $25. Bad luck! You ran out of ammunition and had to spend $25 to buy more. Put $25 in column J.

Fate 7: Supplies $100. Bad luck! You ran out of camp supplies and had to spend $100 in one of the camp's high priced stores. Put $100 in column J.

Fate 8: Robbed. Bad luck! Masked gunmen robbed you of all your gold. Kindhearted miners "passed the hat" and collected $100 to get you started again. Pay no attention to any of today's figures. Instead, place $100 in column M. That is all the money (gold) you have now. If you already had a rocker or long tom, you may keep them.

Fate 9: No Color. Bad luck! You found no "color" (gold) today. Disregard your Day's Take and put a zero in column G. You must still subtract your Day's Food Expense of $5.

Fate 10: Accident. Bad luck! You injured yourself and won't be able to work for 2 days. Keep Today's Take, but pass the next 2 turns. On each of those 2 days, you must still subtract the Day's Food Expense.

Fate 11: Tent Burns. Bad luck! Your tent accidentally caught fire and burned up, also burning your bedroll. You had to spend $75 to replace them. Put $75 in column J.

Fate 12: Gambling Loss $500. Bad luck! You lost $500 at a camp saloon gambling table. Put $500 in column J.
Fate 13: Rocker. Good luck! You were able to buy a rocker today from another miner who was leaving camp. You paid $100 for it. Put $100 in column J. However, starting tomorrow, put a 2 in column D. Continue using the 2 in column D until some other Fate either makes it larger or takes it away entirely. (Read "Special note for column D").

Fate 14: Strike $1,500. Good luck! You struck it rich today and panned $1,500 in gold. Put $1,500 in column F.

Fate 15: Gambling Win $500. Good luck! You took a chance in a saloon card game last night and won $500. Put $500 in column F.

Fate 16: Strike $800. Good luck! You struck it rich today and panned $800 in gold. Put $800 in column F.

Fate 17: Long Tom. Good luck! You were able to buy a long tom today from another miner who was leaving camp. You paid $150 for it. Put $150 in column J. However, starting tomorrow, put a 4 in column D. Continue using the 4 in column D until some other Fate either makes it larger or takes it away entirely. (Read "Special note for column D").

Fate 18: Gambling Loss $100. Bad luck! You lost $100 in a saloon card game last night. Put $100 in column J.

Fate 19: Gambling Win $100. Good luck! You won $100 in a saloon card game last night. Put $100 in column F.

Fate 20: Nugget $100. Good luck! You found a nugget today worth $100. Put $100 in column F.

Fate 21: Chance To Sell Rocker Or Long Tom. You must decide what is best for you to do. Another miner has offered you $500 for your rocker or long tom. If you have one and sell it, you lose your value of 2 or 4 in column D.

If you don't own a rocker or long tom, obviously you can't sell it.
However, you may share this offer with someone who owns one, if he wishes to sell. In that case, he gets only $250 and you keep $250. These figures are added to column F on the score sheets of you and the other seller. (You must remind the seller that he will lose his 2 or 4 point value in column D.)

Think this situation through carefully before you decide what to do.

Fate 22: Debt Collected $500. Good luck! Today a friend repaid you $500 that you loaned him for a grubstake. Put $500 in column F.

Fate 23: Nugget $200. Good luck! Today you found a nugget worth $200. Put $200 in column F.

Fate 24, 25: Staking New Claim $100. You must decide what is best for you to do. You have the choice of keeping your present claim, or of staking a new claim. If you stake a new claim, you must do the following: (1) give up your present claim, (2) give up the balance in column M, (3) begin with a new balance of $100 in column M, (4) give up any rocker or long tom you own, thus removing all values from column D, and (5) roll for a new claim number.

Think this situation through carefully before you decide what to do.

Fate 26, 27: Staking New Claim $200. You must decide what is best for you to do. You have the choice of keeping your present claim, or of staking a new claim. If you stake a new claim, you must do the following: (1) give up your present claim, (2) give up the balance in column M, (3) begin with a new balance of $200 in column M, (4) give up any rocker or long tom you own, thus removing all values from column D, and (5) roll for a new claim number.

Think this situation through carefully before you decide what to do.
Fate 28: Staking New Claim $300. You must decide what is best for you to do. You have the choice of keeping your present claim, or staking a new claim. If you stake a new claim, you must do the following: (1) give up your present claim, (2) give up the balance in column M, (3) begin with a new balance of $300 in column M, (4) give up any rocker or long tom you own, thus removing all values from column D, and (5) roll for a new claim number.

Think this situation through carefully before you decide what to do.

Fate 29: Nugget $125. Good luck! You found a nugget today worth $125. Put $125 in column F.

Fate 30: Pants $20. Bad luck! Your pants became so badly worn that you were forced to buy a new pair--levis--for $20. Put $20 in column J.

Fate 31: Flour And Bacon $35. Bad luck! You just ran out of flour and bacon, and had to buy more at the camp's high prices. A sack of four cost you $25 and a slab of bacon $10. Put $35 in column J.

Fate 32: Loan To Friend $50. Bad luck! A friend, down on his luck, asked you for a loan. You loaned him $50 in dust. Put $50 in column J.

Fate 33: Good Luck - 3x. Good luck! You had an unusually good day today. Multiply the amount in column C by 3 and place that answer in column F.

Fate 34: Good Luck - 5x. Good luck! You had an unusually good day today. Multiply the amount in column C by 5 and place that answer in column F.

Fate 35: Flood $100. Bad luck! A thunderstorm caused a sudden flood that washed out your diggings and campsite. You lost all your mining equipment. If you owned a rocker or long tom, it is gone, too. You had to spend $100 to begin mining again without the rocker or long
tom. Put $100 in column J. Remove all values from column D.

Fate 36: Too Tired $0. Bad luck! You were too tired to work today, so you slept all day. Ignore column A for today and put a zero in column G. You must still subtract your Day's Food Expense.

Fate 37: Dentist $5. Bad luck! One of your teeth began to ache so bad that you had to find the camp dentist. He stopped panning gold long enough to pull the tooth and charge you $5. Put $5 in column J.

Fate 38: Sunday $0. Because it is Sunday, you decided not to work today. Instead you went to a miners' meeting in the camp. Ignore the amount in column A and put a zero in column G. You must still subtract your Day's Food Expense.

Fate 39: Using Your Water $40. Good luck! Some miners who were digging up on the hill above you asked to wash their dirt in the creek by your claim. They didn't have running water near their claim. You agreed on the condition that they pay you $40 to use the water for 2 weeks. Put $40 in column F.

Fate 40: Poor Day $2. Bad luck! Your claim seems to be almost panned out. You have been finding less and less gold. Take half the amount in column G and put it in column J.

Fate 41: Lost Bet $50. Bad luck! You bet your neighbor $50 you would find a nugget this week worth at least $50. You lost the bet. Put $50 in column J.

Fate 42: Gone BROKE. Bad luck--and how! Last night you went to one of the camp's saloons and began to gamble. One thing led to another, and before you thought about it, you bet your claim and everything you owned--on a single bet. You lost. You are now BROKE and out of the game.
LADY LUCK CREEK CLAIM PLOTS
# Lady Luck Score Sheet

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<th>Product A x B</th>
<th>Fate 13 or 17</th>
<th>Product C or D</th>
<th>Good Luck Product E or F</th>
<th>Sum E + F</th>
<th>Bad Luck Fate</th>
<th>Sum J + K</th>
<th>M + G + L</th>
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Player's Name: _______________________________
Well, folks, here we are at Promontory, Utah. It's May 10, 1869, just before noon, and we are waiting for the ceremony to start. This is the big day we've been waiting for. I know that you people in New York and Washington are standing beside your telegraph sets waiting to hear that this fantastic project has been completed. This is the day for the driving of the Golden Spike and the joining of these two great railroads. In just a few minutes, America will have a railroad reaching from the Atlantic to the Pacific oceans.

We are standing here on a high plateau in the Promontory Mountains just north of the Great Salt Lake. In spite of our being in the middle of the Great American Desert, the temperature is a pleasant sixty-nine degrees. There is a slight breeze and a few clouds are drifting overhead. The climate here is a real surprise to us Easterners.

We can see Central Pacific's engine, Jupiter, sitting on the track just to our left, and Union Pacific's engine No. 119 on the tracks just to our right. They are idling here, waiting to cross over the ceremonial tie and spikes after the last spike is driven. Smoke and steam are coming out of both smoke stacks, and I can see the Jupiter's tender loaded high with the firewood that is used to make the steam in this engine. The engines here have to burn wood because they don't have any coal.

All the rails are in place now, and all that remains to be done is for the ceremonial tie to be slid under the rails, and the final spikes
to be driven into it. I see a workman doing something down there where the ceremonial tie will be placed.

I should tell you something about the building of this railroad track. Just a minute... Do I see Dr. Durant in the crowd? Yes, there he is. He is the vice-president of the Union Pacific. Oh, and there is President Leland Stanford of the Central Pacific. We will be seeing more of those two gentlemen in just a few minutes. Both of these distinguished gentlemen are here today, far out in the middle of the Great American Desert to drive in that final spike.

Anyway, back to some of the events that have led up to this historic moment. The Central Pacific Railroad began building their track at Sacramento, California, in January 1863, heading east over the towering Sierra Nevada Mountains. The Union Pacific began building their tracks at Omaha, Nebraska, in December 1863, heading west across the Great Plains. The idea was for the two railroads to meet somewhere and join their tracks together. As strange as it seems now, no one decided where the two railroads were to meet, maybe because nobody knew how fast either company could build their tracks. The result was pretty ridiculous, because the two companies met and kept on laying track until they had 225 miles of road bed built side by side before anyone did anything about it. You see, it had turned into pretty much of a race to see who could build the most track the fastest, and once it got started, no one wanted to stop. The important guys in Washington and for the two companies saw that their foolishness was costing too much, so they finally met and came to an agreement to join up here on Promontory Summit.
There is a really amazing fact about the length of this track. I'll bet our founding fathers, George Washington, John Adams, Thomas Jefferson, and the others wouldn't believe it--but they would probably be proud at the coincidence. This new railroad between Omaha and Sacramento, across this great wilderness, joining the American civilization of the East with that of the West, is exactly 1,776 miles long. Now isn't that appropriate for an American achievement?

Both railroad companies had their troubles getting their roads going. The Union Pacific got bogged down in mud right away, and there was a lot of flooding out on the Great Plains. The Central Pacific had to cross the treacherous Sierra Nevada Mountains, working through snow drifts and avalanches, and cutting through solid rock. One of the Chinese workmen told me they cut and blasted fifteen tunnels through 6,213 feet of solid rock. It was bitter cold most of the time, and cutting the rock was done mostly with hand tools. Many of the men were killed in accidents while working in those rugged mountains.

Speaking of the Central Pacific, I see about a dozen Chinese coolies--that's what they call the Chinese laborers. About a dozen of them are pushing their way through the crowd along the tracks. They are carrying sledge hammers and pry bars, probably to make some final adjustments on the rails. The crowd is pushing close everywhere and is most reluctant to let anyone through. The crowd is a noisy one today, but well behaved. The Chinese have finally made their way through. Their sledge hammers may have helped convince people to make way for them.

Yesterday, those of us who were here saw most of the Chinese pack their tents and belongings onto a train and start back toward
California. There had been a sizeable Chinese tent village just west of here. You probably have heard that most of the Central Pacific was built by Chinese labor. Central Pacific brought in about 12,000 of them to work on the railroad. They used the Chinese because most of the white men in California were out digging for gold after the big forty-niner gold rush, and most of the Americans back in the states were involved in the great Civil War. The Chinese turned out to be excellent workmen, though. Today we see only about a dozen left here at Promontory. Whatever they did to the track just now must be finished, because I can see them pushing their way back out of the crowd now.

I see Dr. Durant and President Stanford conferring now at the edge of the crowd. This must be a proud day for both of these bold, daring men who risked so much to bring these two railroads together.

The Union Pacific had other problems, too. Once they got out of the flooding, their land was pretty smooth; but it happened that the Indians thought the land belonged to them. The Union Pacific had to fight the Sioux and the Cheyennes. It seems like the Indians knew that once the railroad was completed, it would end their way of life. The buffalo herds will all disappear now, most likely, and the Indians will have to find other food. Anyway, those Union Pacific boys kept right on fighting and laying track, and here they are today. Most of the Union Pacific workers were Irish immigrants, and they worked mighty hard, too. After the Civil War was over, quite a few veterans hired on to help. A lot of us in the East didn't realize that the Mormons here in Utah did a lot of grading and laying tracks across this hot desert. They've worked for both railroads to help get it finished sooner.

Wait a minute. There's a murmur in the crowd. Yes, the ceremony
is about to start. Rev. J. Todd from Massachusetts is beginning his prayer. The crowd is listening patiently. Stand by. We have done praying. The spike is about to be presented. No, there seem to be some more speeches before the spike will be driven. Dr. Durant is accepting two gold spikes from California. While I've been talking, someone has already put the ceremonial tie in place. It is a fancy, varnished piece of laural wood. The holes are already drilled for the ceremonial spikes to fit into. Dr. Durant is now placing the golden spikes into their holes. The crowd seems quite excited now. Now Leland Stanford is accepting two more ceremonial spikes. One is being presented by the Governor of Arizona Territory, and the other one by the Governor of Nevada. Both spikes look like they might be silver. More speechmaking. Now President Stanford is placing those spikes into their holes. Someone hands them a silver ceremonial sledge, and both men take a few ceremonial taps at the spikes. They don't want to hit them too hard and spoil the beauty of these historic spikes.

Now all the ceremonial spikes have been driven, and the big moment is here—the driving of the last spike. This is an ordinary iron spike to be driven into an ordinary tie. It is the last one needed to complete the railroad which will connect the Atlantic with the Pacific. The sledge which will be used is wired to the telegraph so that all the major American cities will know the instant that the final spike is in place.

President Stanford takes the sledge. He swings it and drives the spike part way in. Oh, wait a minute. He didn't drive the spike in. He missed the spike completely! Well, now Dr. Durant takes the sledge. He steadies himself. He lifts the sledge. Now he swings.
Finally the spike is driven! No, wait a minute. The spike is still there. Dr. Durant also missed the spike! Can you imagine? Both of these important men swung and missed the spike. Well, I guess neither one of these great men became famous by driving spikes, anyway.

Now someone else is taking the sledge. I think it's the Central Pacific Construction Superintendent Strobridge. He swings the sledge and strikes three or four blows on the spike. Now he hands the sledge to Union Pacific Superintendent Reed. Mr. Reed now strikes the spike several blows. The final spike is driven and the railroad is finished.

Just a minute, folks. I may have made one mistake; I have the two superintendents confused. I guess I don't know which one is which, so I can't say for sure just which one made the final blow to put the last spike in place.

The crowd has been cheering, waving, and backslapping for several minutes, now. Dr. Durant has returned to his private car. In fact, he left before the ceremony was over. An official just told me that Dr. Durant has a severe headache. I guess he celebrated pretty late last night. Everyone in front of us is shaking hands and congratulating one another.

There goes Jupiter backing over the final spike. Now it is pulling out of the way, and here comes No. 119 crossing the spike onto Central Pacific tracks. Well, now that each engine has crossed onto the tracks of the other company, the transcontinental railroad is no longer a dream. It is a reality. This marks the beginning of the end of the western frontier. From this day forward we will see the great West filling up with people, and we will truly be the United States from coast to coast.
Note To The Teacher

This story can be presented to the class in several different ways:

(a) You can read it aloud to the class. Presented in this manner, the story can also be used as an exercise for teaching listening skills. In this event, it should be followed by comprehension questions as well as a general discussion.

(b) You can memorize the story and recite it for oral storytelling. Oral storytelling intrigues and captivates students, and is especially suited to a teacher who has dramatic or "ham" qualities.

(c) A student can memorize the story and recite it to the class.

(d) Students can be given individual copies of the story which they read silently.

Inquiry Activities

1. Memorize the story and recite it to the class, pretending that you are the telegraph operator.

2. Act out the story in a skit, using the telegraph operator and other important characters from the story.

3. Make a bulletin board display of pictures of the ceremony itself and of the railroad being built. Pictures can be traced using an opaque projector and white butcher paper. Display materials can be obtained from the Golden Spike National Historical Site.

4. Try to visit the Golden Spike National Historical Site during the summer months. You can hike or drive along the cuts and fills of the original railroad beds, and you will enjoy the visitors' center which has displays and film presentations. Highlighting the displays are two exact reproductions of the original steam locomotives that took
part in the ceremony—Jupiter and No. 119. It will be hard for you to believe that the ghost town of Promontory was once located here. The Golden Spike National Historical Site is approximately thirty miles northwest of Brigham City off Highway 83.

5. What major element of the story as narrated here is different from the way it really happened?

6. Today the transcontinental railroad does not run near Promontory. The only rails remaining there now are for historical and ceremonial use. Why was the railroad removed from this famous place? When? Where does the railroad line run through Utah today? Why was the railroad built over Promontory Summit in the first place, bypassing Utah's major city?

7. What changes did the railroad bring to Utah?

8. It is often said that the building of the transcontinental railroad tied the nation together. What does this mean? In what ways might this be true?

Recommended Reading


Materials Available From The Golden Spike National Historical Site

A variety of interesting historical materials are available at a nominal charge from the Golden Spike National Historic Site. The 1979 sales list included a variety of books, plus postcards, slide sets, and the 1869 UPRR Grand Opening Omaha poster. The Winter 1969 Utah
Historical Quarterly, containing the Bowman article, was still available in 1979. The Bowman article (listed as recommended reading) is especially interesting and helpful to the teacher, as are several other articles in the same journal.

A list of available materials and prices can be obtained by writing to:

Golden Spike National Historic Site
P.O. Box 394
Brigham City, Utah 84302

All items can be ordered by mail.
If you were an early Utah settler, would you ever think about the town or farm you left behind? Would you ever wonder who had been elected President of the United States? Would you wonder what new laws Congress was cooking up? Would you wonder if the United States was at war, with whom, and how it would affect you?

How would you find out about any of these things when there were no radios, television sets, telephones, or telegraph?

News traveled very slowly in those days, carried along by people as they traveled. You will recall how slowly they traveled—by boat, stagecoach, wagon, or pack animals. Some people even walked long distances when they had no other means of transportation. There were no electronic "miracles" then, only word-of-mouth, letters, and newspapers—until the telegraph arrived in Utah in 1861. Before then, if a bit of news traveled from St. Louis to Salt Lake City, or from New York to San Francisco, it came more often by accident than on purpose.

One of America's most dramatic events happened because news traveled slowly. The United States and Britain fought one another in the War of 1812. The two countries finally signed a peace treaty on December 24, 1814 in Europe. However, it took a considerable length of time for the news of the treaty to be carried across the Atlantic Ocean to the fighting armies. As a result, the two countries fought the Battle of New Orleans two weeks after the peace treaty had been signed. The British suffered a great loss—losing the battle and 2,000 soldiers.
The United States won a great victory and lost only thirteen men. Andrew Jackson became a national hero because of the battle, and he was later elected President of the United States. The battle proved that the United States was a strong, independent nation.

Utah's first white settlers were far away from the rest of the world, too—and from the United States. It was many hundreds of miles away from St. Louis, Missouri, which was then the western edge of "civilization." The distance seemed even greater then because of the slowness and difficulty of travel and of receiving news.

Newspapers were a favorite source of news. Travelers often valued them, carrying them from place to place. Settlers in remote places—such as Utah—were eager to get such newspapers. News from distant places helped relieve their sense of isolation. Utah's first white settlers had to rely on whatever newspapers came their way—from New York, Philadelphia, St. Louis, and other "eastern" cities. Soon after the California Gold Rush of 1849, Utah settlers began receiving newspapers printed in San Francisco and Sacramento.

New settlements were quick to have their own newspapers. Even many of today's ghost towns once had thriving newspapers.

Utah's first newspaper began three years after the first pioneers arrived. The Deseret News was begun in 1850 by the Mormon Church to print church news and instructions to its members. Its church connection made the Deseret News a very unusual pioneer newspaper. The Salt Lake Tribune began in 1870 as an opposition newspaper to the Deseret News. It began as the Mormon Tribune, but was soon taken over by non-Mormons and the name changed to the Salt Lake Tribune. The number of newspapers in Utah grew rapidly after that. During the 1870s and 1880s, many Utah
communities had newspapers of their own.

Pioneer newspapers carried mostly local news. However, it was often gossipy and heavily spiced with the opinions of the newspaper's owner-editor. Fragments of news from other places were often used to take up space. An example is shown in the following make-believe item: "Jason Randolph, recently returned from Boston, reports that the Union troops stationed there have been issued new uniforms."

Before the coming of the telegraph, important news from other places was usually taken from newspapers printed in other places. Knowing how slowly goods traveled by boat, stagecoach, wagon, and pack animals, you can imagine how old such news must have been by the time it was reprinted in the local newspaper. News was often weeks or months out of date.

The invention of the telegraph entirely changed the way news traveled--and changed newspaper news as well. Messages and news could then be received over telegraph wires--by "lightning," as it was sometimes called. News could be sent from city to city in a matter of hours.

The telegraph, invented by Samuel F. B. Morse, sent messages using combinations of dots and dashes that stood for letters of the alphabet. (If you guessed that it used Morse Code, you were right.) The operator sending the message had to encode each word and tap it out by hand. The operator receiving the message had to listen carefully and decode it by hand. This may seem clumsy in today's world of television, satellites, and computers, but it was a vast leap forward from anything previously known.

The first two cities linked together by telegraph wires were Washington, D. C. and Baltimore--in 1844. From that time forward, the
number of cities connected by telegraph grew rapidly. People began to
dream of a transcontinental telegraph system, with wires reaching from
the east coast to the west coast. This dream was accomplished on
October 24, 1861.

Why was this event important to Utah? It was important because the
telegraph wires coming from the east and the west met and were connected
at Salt Lake City! Utah was the final link connecting the East and the
West.

How did the telegraph change newspapers? Newspapers could now
receive news quickly. People no longer had to wait for weeks or months
to learn of distant events. News of events could be printed the day
after they happened. Also, news became more accurate, depending less on
rumor and hearsay. The invention of the telegraph brought newspaper
reporting an important step closer to the modern world that we know
today.

Inquiry Activities

1. Study a pioneer newspaper.
   (a) Examine the newspaper shown in Figure A and think about the
   following questions.
   (1) What is the name of the newspaper?
   (2) Where was it printed?
   (3) What date was it printed?
   (4) Do you think any of the news in this paper came to Utah by
telegraph. What clues do you find to support your answer?
   (5) Was it a "daily," a "weekly," or something else?
   (6) In what ways does this newspaper differ from those we have
today?

(7) Is this newspaper still being printed today? What are some reasons that a newspaper might stop being printed?

(b) Visit a museum, a historical society, or a library that keeps pioneer newspapers. Look through several of the oldest newspapers you can find, then write a report about some of the interesting things you found.

2. **Write a present-day news story.** Study your own city newspaper for a week. Read and clip any stories about the city council. Write an article reporting the actions of the city council and tell how they community may be changed by these actions. This may test your ability to be purely factual.

If you prefer not to study the actions of the city council, you might try the police department, the mayor, or some other part of the city government.

3. **Collect news items for history.** Over the period of a week, collect newspaper articles that you think may be of interest to people fifty or one hundred years from now. Think carefully about your reasons for choosing these particular articles. Share them with several classmates and see whether they agree with your choices.

4. **Make your own newspaper.** (Choose one of the following ideas.)

(a) Research to find out what happened on the day you were born, then make a newspaper for that date in history. You could even include your own birth announcement! Keep in mind, however, that such a newspaper won't be very old in terms of a study of history.

(b) Subtract one hundred years from the day you were born, then make a newspaper for that date in history.
(c) Choose an important event in history--preferably Utah history--and make a newspaper which reports that event.

Figures B and C show two examples of newspapers made by students in a history class. Perhaps they will give you some ideas for format and content.

Your newspaper should be two or more pages and contain a variety of news stories. You might want to include advertisements, public announcements, items on politics, travel, books, theater entertainment, or anything else that seems appropriate.

5. Write an essay. Think about the question, "What makes history?" Put your thoughts together and write an essay on this subject. Be sure to illustrate your points with specific examples.
Figure A - 2. Deseret News, Inside Page.
EDW. HUNTER, President Bishop.

GOODS! GOODS! GOODS!

Eighth Annual Meeting.

J. McNEAL, M. M., states especially to inform the citizens of this State, that in consequence of having to meet the loss in the last thing, the first thing for which he offers to call on the public, he is now offering for sale the articles listed below.

GREAT LAMBS.

This side of the mountains.

The stock is well-registered, consisting of New Zealand and Frenzy Goats, which will be sold at such prices as will warrant a ready sale.

So come, and purchase, will do well to call before purchasing elsewhere.

R. M. DENNIS, M. M., President.

NOTICE.

Notices, to the注意 of the merchants, that the meeting will take place at the Central House, on the evening of the 14th of April, at 7 o'clock.

R. M. DENNIS, M. M., President.

NOTICE.

The 14th Annual Meeting will meet at the Central House, on the 14th of April, at 7 o'clock.

R. M. DENNIS, M. M., President.

NOTICE.

From the west side of jordan, a pool of exter, a nake, a wife, and a very good pool of the nake, the other pool of the nake, and some water, and white horse under his belly. The owner rests up to the berries, and takes the cane.

R. M. DENNIS, M. M., President.

NOTICE.

The notice of the meeting of all persons interested, in the estate of Daniel C. Davis, late of the town of Inman, in the county of DeKalb, in the state of Georgia, will be held at the DeKalb Circuit Court, on the 10th day of April, 1830. The notice of the meeting of all persons interested in the estate of the said Daniel C. Davis, will be held at the DeKalb Circuit Court on the 10th day of April, 1830.

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War Rages on

The Lineup of States During The American Civil War

- Union States
- Confederate States
- Territory

Grant vs. Lee:
The Union Armies in the west, under Wynnes & Grant and William Tecumseh Sherman, gained control of the Mississippi River, thus splitting the Confederate States from north to south. The chief events of the campaign were:
- The capture of Fort Henry and Fort Donelson in Tennessee; the battle of Shiloh in Tennessee; the capture of New Orleans by the Union army under David G. Farragut;
- Finally, Grant's capture of Vicksburg, Miss.
- Grant also tried to counteract Union successes in the west by invading Pennsylvania. However, General George Gordon Meade defeated Lee at Gettysburg, Pa., at the same time that Grant was captured.
- After capturing Vicksburg, Union armies in the West concentrated on Chattanooga. The Confederate soldiers nearly defeated Union forces at Chickamauga. Grant was then summoned to Chattanooga, and Sherman marched up from Vicksburg. Grant and Sherman won at Chattanooga.

Gettysburg Address—Delivered by President Abraham Lincoln on the Gettysburg battlefield, Nov. 19, the occasion being the dedication of the National Cemetery there. It reads as follows:

Four score and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are met on a great battle-field of that war; we have come to dedicate a portion of that field as a final resting-place...

Figure B - 1. The Yankee Gazette, Created By A Student.
Thanksgiving Proclamation—
To the People of the Territory
of Idaho:
The year of A.D. 1863 has
nearly closed. It has been
a year fitted with many
blessings to our Territory
and the nation at large.
The pestilence that left
its desolating track just
soon our borders didn't
visit us, and has gone
from our neighbors. Health
and abundance have prev-
aded.
The harvests have been
plentiful, and our mines
have yielded their usual
reward. Peace and harmo-
ny have reigned through-
out the land; and the na-
tions' fraternal relations,
stimulated by the kind
but fair and generous
example of the national
executive, are fast sup-
planting the harsh feel-
ning of past hatreds.
Taxes are being lighten-
ed and the credit of
the nation improved.
All enjoy religious
liberty and security.
Justice is regularly ad-
ministered; happiness
and tranquility reign
over all.
To the end that we
may all unite in giving
the thanks that become
us as a people, and in
accordance with the
Proclamation of the Pres-
ident of the United
States do hereby recom-
 mend to the people of
Said Territory that on
Thursday, the 24th day
of Nov. next, they assemble
in their accustomed
place of worship and pray.

David W. Bellows
Governor of Idaho.

Figure B - 2. The Yankee Gazette, Created By A Student.
CALIFORNIA STRUCK BY EARTHQUAKES

MOST OF SAN FRANCISCO IN RUINS

PROPERTY LOSS
ESTIMATED
$100,000,000

San Francisco—Earthquakes and fires have put nearly half of San Francisco in ruins. At least 200 people have been killed, a thousand others injured and the property loss will exceed $100,000,000. All day long streams of people have been fleeing from the stricken districts to places of safety.

WIDE EXTENT OF DISASTER

Los Angeles—Information from San Francisco is that the Mechanics Pavilion is now being used as a morgue and 300 dead bodies have already been collected there.

The wind was reported as blowing a gale and the fires spreading in every direction. The shock was felt as far south as Santa Barbara. The fact that San Jose, Oakland and other Bay Cities have not been able to communicate with Los Angeles would indicate they have suffered severely from the shock. It is reported that crowds of panic stricken people are at the ferries in San Francisco seeking to cross the bay to Oakland. Destructive fires are reported in Oakland, Alameda and Berkeley.

Damage of the earthquake does not begin to compare with the loss by fire. The heart of the business section of San Francisco, an area of eight square miles has been burned over. Among the notable buildings destroyed so far are the Palace hotel, only the framework of its 1000 rooms now stands, the Majestic theatre, the new Merchants Exchange, St. Mary's hospital, the $2,000,000 Fairmont hotel and hundreds of other famous landmarks.

Many of the finest buildings in the city were leveled by charges of dynamite in an effort to halt the progress of the fires. Several policemen, soldiers and firemen were killed in the process.

Figure C - 1. The Gazette, Created By A Student.
Oakland—It is reported that the mint in San Francisco is burning, and from outside indications, it will be impossible to save it. The fire surrounds it on every side.

Seattle—It was a rehearsal of a balancing act. A man upraised a shining ladder and ascended it unsupported into the air. A second followed and balanced on the shoulders of the first. Then a girl climbed up. As she reached the shoulders of the second man, there was a fall. The girl crashed to the floor, her arm broken, her face bleeding.

"It was my fault," she gasped. "I can go on Tuesday, can't I?"

Chicago—"Build an airship, go find the North pole and report by wireless and submarine cable the progress of your efforts."

This was the startling assignment given to Walter Wellman, Washington correspondent of the Chicago Record-Herald, by Frank B. Noyes, editor in chief of the paper, and the commission has been accepted by Mr. Wellman.

As assistant on this daring expedition Mr. Wellman will have the services of Santos Dumont of Paris who will have charge of the construction of the airship and will act as aeronautical director and pilot of the ship on its voyage to the North pole.

WEATHER

Fair and warm tomorrow and probably Saturday.

MATSON NAVIGATION COMPANY

PASSenger and freight

SERVICE TO HAWAII AND THE SOUTH PACIFIC

The concert scheduled for Sunday evening at Francis Hall has been cancelled because of the temporary discontinuation of railroad service from the San Francisco area, where the orchestra is presently stranded.
What is a cartoon? It is a drawing or a sketch that shows humor or satire. Most often it can be thought of as a pictorial joke accompanied by words that add to its meaning. Some cartoons do not need words, however. Of course, you knew what a cartoon is, but for this module you need to look carefully at the elements that make up a cartoon.

What makes a cartoon funny? The answer varies with the different people who look at the cartoon. A particular joke does not appeal to everyone in the same way. Something that seems funny to one person may not seem funny to someone else. One reason may be the background of the reader. For example, a cartoon about ice hockey most likely will not seem funny to a person who knows nothing about ice hockey. It is important to realize this when looking at history cartoons.

Cartoon A

Is Cartoon A funny? Perhaps so if you have been on a trip and had a similar experience yourself. Cartoon A also illustrates a true situation from history--and is much more funny if you know the story behind it.

Fort Bridger was a trading post built in 1843 by the famous mountain man, Jim Bridger. It was never a real fort, just a collection of two or three crudely-built log cabins daubed with mud. One traveler reported that the cabins had only "faint resemblance to habitable houses." Though located in Wyoming, Fort Bridger was only a little more than one hundred miles northeast of Great Salt Lake, and was an important
stopping place on the way to Utah, Oregon, and California. The post was built to provide needed supplies to west-bound immigrants. It also had a blacksmith shop to repair immigrant wagons.

The worst problems with Fort Bridger were the men who ran it--Jim Bridger and his partner, Louis Vasquez. Bridger was seldom there. Both men were adventurers, ill-suited to settling down to run a business. Both continued their wandering impulses. As a result, immigrants frequently found Fort Bridger totally deserted, even at the height of the immigrant season.

The Mormon pioneers of 1847, including Brigham Young, met Jim Bridger at the Big Sandy River--headed east. When they reached Fort Bridger, they found the blacksmith shop destroyed by fire, and no attempt had been made to rebuild it.

Now that you know this story, you can look at Cartoon A and see that it conveys the main idea of the story.
The American dream of having a railroad running from coast-to-coast was realized on May 10, 1869. On that day, the Union Pacific Railroad and the Central Pacific Railroad linked their rails together at Promontory Summit, Utah, in the famous Golden Spike Ceremony. The exciting story of the race between these two companies to lay the most track will be read elsewhere.

Until 1863, there were no railroads west of Omaha, Nebraska. In that year, the Union Pacific began building a track west from Omaha, and the Central Pacific began building a track east from Sacramento, California. Their plan was for each company to keep building until they met somewhere in the wide-open country of the West.

The plan sounds simple, but the two companies couldn't agree where to join their tracks. When they met, they didn't link up. Instead, they sped on past, each building new track along side the track of the other company. Before long, the two companies had 225 miles of track built parallel to one another. Each company wanted as much track as possible because they were to receive free land and other benefits from the federal government for each mile of track they built. Finally, with government help, the two companies agreed to join their tracks at Promontory, Utah. Promontory is at the north end of Great Salt Lake and about fifty miles east of Ogden.

Cartoon B does not show the exact situation, but it expresses the idea of trouble in trying to link the two railroads together. The satire in this cartoon is probably more funny than if the picture showed exactly what happened.
Inquiry Activities

1. Some cartoons need captions (words to go with them), and some are best without. Study Cartoons A and B and try to think of clever captions that might heighten the joke. Some examples for Cartoon B might be:

   (a) "Thank goodness it's Friday!"

   (b) "Question: What's Kipling going to say about this? Answer: East is east and west is west, and never the twain shall meet."

   Now look at each cartoon with and without a caption. Have the captions improved one or both of them? Explain your answer.

2. Choose another event in Utah history and draw a cartoon for it. It can be either with or without a caption.

3. A collection of Utah history cartoons would make a very interesting bulletin board. Why not try it?
A U. S. postage stamp was issued in 1947 honoring the one hundredth anniversary of Utah's first pioneers. If you owned one, you would be well on the way to "stamping through history."

Stamps such as these are called **commemorative** stamps. They are issued by the United States Postal Service (Post Office) to honor persons, places, events, and other noteworthy "things." A commemorative stamp is issued only once.

Many people find commemorative stamps fascinating, and there are many who collect them. Each stamp is a beautiful work of art in itself. Viewing history through commemorative stamps can make history a much more personal experience—especially when you begin to collect them yourself.

**Stamping Through Utah History**

Utah has been honored by the following commemorative stamps:

- The Utah Centennial 1847-1947
- Utah Bicentennial Era 1776-1976
- Zion National Park

The picture in this module shows these stamps—and others.

There are also other commemorative stamps that honor Utah in a less direct way. These stamps honor people and events shared with other states, such as the John Wesley Powell 1869 expedition and the completion of the first transcontinental railroad in 1869. Other stamps have been issued to honor gold and silver rushes, agriculture,
conservation of natural resources, and a variety of other ideas, places, events, and people. The following list includes many (but not all) of these other stamps:

- Completion of the First Transcontinental Railroad 1869-1944
- John Wesley Powell 1869 Expedition
- Centenary of the Telegraph 1844-1944
- Overland Mail 1858-1958
- Silver Centennial 1859-1959
- Pony Express 1860-1960
- Frederic Remington, Artist of the West 1861-1961
- The Homestead Act 1862-1962
- C. M. Russell, American Artist
- Rural America - Angus Cattle 1873-1973
- Progress in Electronics (TV camera tube shown with microphone, radio tube, and radio speaker)
- Forest Conservation
- Range Conservation
- Save Our Air
- Save Our Cities
- Save Our Soil
- Water Conservation
- Waterfowl Conservation
- Wildlife Conservation
  - Bighorn Sheep
  - Buffalo
  - Ducks
  - Trout
UTAH STAMPS
Inquiry Activities

1. How do the following commemorative stamps honor Utah: Completion of the First Transcontinental Railroad 1869-1944; The Homestead Act 1862-1962; and Frederic Remington, American Artist 1861-1961?

2. In 1962, a stamp was issued honoring the one hundredth anniversary of the Homestead Act of 1862. Many Utah pioneers got their start in farming with land given them under the Homestead Act.

Design a stamp honoring the Homestead Act of 1862. Then go to a stamp shop and compare your design with the one issued by the Post Office. Are the two designs similar or greatly different? Why do you think this would be?

3. In 1996, Utah will celebrate an important event. What is it? Design a stamp commemorating this event.

(Artists do submit designs to the Postal Service to be considered for stamps. Some of those designs actually become stamps. If you have artistic talent, perhaps you will be ready to submit a finished design for 1996. It would have to be submitted before 1996.)

4. Choose two important events from Utah history and design stamps to commemorate them.

5. Look carefully at the Transcontinental Railroad stamp shown in this module. The artist made an error that was not noticed until the stamp was already printed. Try to find the error. (See module number 41 for the answer.)

"Let's Have Some Fun," He Said With A Stamp.

Do you collect stamps or have a friend who does? If you do, or ever have, you know what fun it can be! There are more than 16 million
stamp collectors in the United States--some of them young people your age. Young people all over America collect stamps. A few of them are "serious" collectors who have collections worth hundreds or thousands of dollars.

If you don't collect stamps, why not give it a try? Beginning collectors often start with issues of twentieth century U. S. stamps. These stamps are easy to find and are a great way to highlight the history of our state and country. You could begin with the Utah stamps shown in this module. They are inexpensive and fun to collect. As your collection grows, you will probably discover areas in which you want to specialize. A stamp shop, stamp dealer, or experienced stamp collector can give you advice and help you get started.

Many stamp collectors like to read about stamps, prices, stamp collectors, and other stamp news. Linn's Stamp News is a favorite among stamp collectors and dealers. It is a weekly newspaper of stamp news and has a section for young collectors. If you wish to subscribe, write to the following address:

Linn's Stamp News
Subscription Department
P. O. Box 29
Sidney, Ohio 45365

The price in 1979 was $15.00 per year.

Stamp collectors enjoy sharing their collections and talking about stamps. This is fun among friends. Some collectors also enjoy belonging to a stamp club. Perhaps there is a stamp club near you. If not, you might want to get some young stamp collectors together and start your own club.
Odd Facts About Stamps

The United States issued its first postage stamps the same year that the first Mormon pioneers came to Utah--in 1847.

A British Guiana stamp issued in 1856 is the world's most valuable stamp. It is believed that only one copy still exists today. It last sold for $280,000!

Would you ever be this lucky? W. T. Robey bought a sheet of airmail at the Post Office in 1928. They cost him $24. When he got home, he noticed that the airplanes on the stamps were printed upside down. These stamps were immediately valuable to collectors. A single stamp from this sheet sold for $36,000 in 1971.

Who was the first stamp collector? Perhaps it was a certain young woman in England. England printed the world's first postage stamps in 1840. They sold for a penny each and were called the Penny Black. (Can you imagine sending a letter today for only a penny?) The young woman advertised in the London Times for canceled Penny Black stamps. She must have been able to collect a considerable number of them. She used them to paper her bedroom walls!

Recommended Reading

Have you ever found an artifact? You may have, but you probably
called it a plain old arrow head, coin, pocket knife, or whatever else
it might have been. An artifact is any object made by a human being.
We usually think of artifacts as being old. Scientists use old
artifacts to learn things about people who lived in earlier times.
Baskets, clay pots, mortars and pestles, stone knives, and arrow heads
are all artifacts that give us clues about the way Indians once lived.

Ancient people are not the only ones who have left artifacts. We
throw artifacts into the garbage every day. These artifacts are dumped
and buried in our towns' dumps and landfills. It is likely that future
archeologists will someday delight in digging through our old garbage
dumps.

Scientists who study the artifacts of historic and prehistoric
people are called archeologists. Archeologists study the science of
archeology.

Time Capsules

Sometimes groups of people decide to leave a time capsule. A time
capsule is a container in which present-day artifacts are placed for the
use of future generations. The capsule is sealed to make it waterproof
and airtight. Then it is buried in a building or under the ground.
Some time capsules are planned to be opened in 50, 100, or more years.
Sometimes such a capsule is sealed into the cornerstone of a building
when it is being built. When the building is torn down at some future
time, people can open the time capsule and study about the people who left it.

A time capsule must be marked with a plaque or other kind of marker. Otherwise, the capsule may be forgotten and lost.

Inquiry Activities

1. Pretend you are an archeologist in the year 2580. You have been digging in an old landfill in the dry Utah desert. So far you have discovered an old electric fan, a bottle opener, and a dollar made of genuine silver.

   (a) How could you tell the age of these artifacts?
   (b) What kinds of things would these items tell you about the people who left them?

2. Create an archeological dig for someone else to uncover. A "dig" is a place where archeologists dig for artifacts. Carefully bury some items in sand or soft soil. A group of class members can then dig carefully to uncover the artifacts. It is important to dig carefully to avoid damaging them. Digging should be done with an old tablespoon or similar tool.

   You don't have to put present-day artifacts in your "dig." You can make models or replicas (or even pictures) of artifacts of an earlier period. They can be artifacts from the eighteenth, nineteenth, or twentieth century. They could even be pre-Columbian--before the time of Columbus.

3. Pretend that you have been chosen to design a time capsule for a new city hall to be built in your town or city. It is to be opened in 100 years. The capsule is only the size of an average outdoor garbage
can.

Following are some items you may or may not wish to include:

<table>
<thead>
<tr>
<th>Books</th>
<th>Toys</th>
<th>Dried food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magazines</td>
<td>Clothing</td>
<td>Postage stamps</td>
</tr>
<tr>
<td>Newspapers</td>
<td>Photographs</td>
<td>Tape recordings</td>
</tr>
<tr>
<td>Comic books</td>
<td>A ball point pen</td>
<td>Money</td>
</tr>
</tbody>
</table>

(a) Discuss each item and decide whether or not it should be included.

(b) Make a complete list of items that should go into the capsule.

4. Make a time capsule for your school--to be opened in 5 years. A small chest or foot locker would be fine for this purpose. After it is filled, it should be securely locked, sealed, and labeled. The label should tell what it is, when it was sealed, the names of the people who prepared it, and the date it is to be opened.

You must then find a safe place to store it. Your present classroom, the principal's office, or a school storeroom might be a good place to leave it for the next 5 years.

The class should agree on a date to return to the school to open the time capsule. Then you should try to remember to return on that date!
HOW ACCURATE IS HISTORY?

When we read something in a book or a newspaper, we usually believe it to be true. Sometimes, however, what we read might not be entirely accurate. It isn't that most writers try to deceive us. The problem is usually an honest one. No two people see the same thing in exactly the same way. Two observers of the same event may notice different details, remember details inaccurately, or draw different conclusions from what they see.

How does this influence the history we read? It does indeed have an influence. To illustrate the problems that historians face in discovering historical facts, let us look at one small but exciting event from Utah history. This is the story of Old Ephraim.

Facts About Old Ephraim

Old Ephraim was Utah's last known wild grizzly bear. He lived in Logan Canyon and was known by many people who lived in the Cache Valley area. A huge animal, he weighed about 1,100 pounds and stood nine feet eleven inches on his hind legs. His skull was about the length of a basketball's diameter.

Old Ephraim died on August 23, 1923, when he was shot by Frank Clark, a sheepman. For almost twelve years, Clark had tried to trap and kill the grizzly because, over the years, the bear had killed many of his sheep. After the bear was dead, Clark and another sheepman, Joe Brown, skinned the huge animal and tried to burn the body. They buried what was left.
When Old Ephraim's death was reported, the Smithsonian Institution in Washington, D. C., wished to verify that Utah's last grizzly bear had been killed. They offered a reward of $25.00 for the skull. Hearing of the reward, Logan Boy Scout Troop No. 5 traveled up Logan Canyon and found where the bear was buried. They dug up the skull and several other bones which some of the boys kept for souvenirs. The scouts then sent the skull to the Smithsonian and received the reward of $25.00. The skull was kept on display in the Smithsonian for many years.

In 1978, Old Ephraim's skull returned to Utah. It is now on loan from the Smithsonian Institution to Utah State University where it is on display in the special collections section of Merrill Library. The people of Utah may now see this famous skull of Utah's last wild grizzly bear.

Searching For More Facts

To learn more about Old Ephraim, let us go to some of the people who know his story. Some of the 1923 members of Logan Boy Scout Troop No. 5 still live in Cache Valley. Of course, they are grown men now—and grandfathers. However, they haven't forgotten the stories of Old Ephraim.

The following is a make-believe conversation of three men who—as boy scouts—made the trip up Logan Canyon to help dig up the skull of Old Ephraim. It is June 1978, and the three are sitting in the Bluebird Cafe in Logan. They have gathered for a cold drink on a warm afternoon.

"You know," said Tom, "I read in the paper that Old Ephraim has come back to Utah. His skull has been put on display up on the USU campus."
"How come?" asked Ed. "Didn't the Smithsonian want it anymore?"

"Oh, they didn't really give it back," replied Tom. "Somebody from around here discovered that it was being stored in the Smithsonian basement, so they asked to have it sent back. The Smithsonian put up a fuss at first, but finally agreed to loan it to USU if they would properly display it. Senator Orrin Hatch personally carried the skull back here on the plane with him."

"So people are still interested in Old Ephraim, are they?" remarked Bill.

"Yes, they seem to be," said Tom.

"You know," said Ed, "I always felt sorry that Old Ephraim was killed. I know it's the old story of men against wild animals--and the wild animals almost always lose out against civilization. Frank Clark couldn't afford to keep feeding his sheep to the old bear, and I guess Old Ephraim ate a pile of sheep in his time. Still, it seems a mighty shame."

The other two men murmured agreement.

Tom picked up the conversation. "The other day, two of my grandchildren, Dave and Tammy, asked me to tell them the story of Old Ephraim. I told them as much as I could remember. Afterward, they asked me to write it down so they could have it to keep. I told them I would, but I haven't done it yet."

"I have an idea, if you two will go along with it," Tom continued. That bear story should be as accurate as possible, so I was hoping that you would help me out. I thought we could each write down the story as we remember it. Then we could get together and compare notes. If we don't agree on some point, we can hash it over and try to figure out
what is correct. Afterward, we can each have a copy of the corrected story. What do you think?"

"Great idea!" exclaimed Bill.

"Sure, I'll help you out," agreed Ed. "I think it's a nice idea to leave something like that for the family."

The next afternoon, Bill, Ed, and Tom each had their own version of the story written out when they met again at the Bluebird Cafe. Following are the three versions.

**Ed's Story**

Old Ephraim was a grizzly that lived up Logan Canyon when I was a boy. It seems that he was always killing Frank Clark's sheep. Frank was a sheepman who lived up the canyon.

Frank and Old Ephraim had this little war going on between them, each one trying to outsmart the other one. Old Ephraim was the winner for ten or twelve years. Frank kept trying to trap the grizzly. He would put this twenty-three pound trap in the bear's wallow along the river. Somehow Old Ephraim would always find the trap and haul it out onto the bank—unsprung.

On the night of August 22, 1923, Frank came awake about midnight from a terrible racket going on down by the river. He grabbed his rifle and took off toward the noise. It was really too dark to see anything, and when he got close to the river, he decided he had better wait until daylight. He didn't much like the thought of meeting Old Ephraim face-to-face in the dark.

At daybreak, Frank could see the bear in a bunch of willows along the river. He was standing with one hind leg in the trap. Frank took a
shot at him, but it just made Old Ephraim mad as hops. He started running toward Frank like a steam engine, but the trap was fastened to a log by a fourteen-foot chain. When he came to the end of that chain, he grabbed that log up in his front paws and tossed it around in the air. Then he started after Frank again. About that time, Frank's dog attacked the bear. Ephraim dropped the log and killed the dog with a single blow.

That gave Frank a chance to get a better aim at the bear. His rifle was a .25-.35, and he knew he would have to aim carefully to kill such a big animal with it. He took careful aim at the bear's head and emptied the rifle at it. Old Ephraim didn't go down until the last shot was fired.

Later, Frank and another sheepman burned the body and buried the bones.

Our scoutmaster, George Hill, heard there was a reward for Old Ephraim's skull. He took our troop up there, and we dug up the skull. Someone sent it off to the Smithsonian Institution in Washington, D.C., and they sent our troop a check for $25.00.

**Bill's Story**

I was just a boy when Frank Clarke killed Old Ephraim, the last grizzly bear in Utah. Later on, Joe Brown, our scoutmaster, took our troop up near Adams Park to dig around for some of the bones.

Frank Clarke was a sheepherder who herded sheep in Logan Canyon during the summers. For several years, this big grizzly raided Clarke's flock and killed off a lot of his sheep. Clarke tried to trap Old Ephraim, but the bear was too smart to be trapped. Sometimes Old
Ephraim would pull Clarke's trap out of the creek onto the bank without even springing it.

This went on for at least ten years. Clarke kept losing sheep, and he couldn't catch the bear. The bear was too smart. Then something changed in the summer of 1923. Maybe Old Ephraim was getting careless, or maybe he was getting old.

Old Ephraim liked to take a bath in the creek. He had dug himself a wallow in the creek, and this was where Clarke would set his trap. One day that summer, Clarke found the trap pulled out on the bank, but this time the trap had been sprung. Old Ephraim must have been hurt or at least scared by the trap, because he never came back to that wallow. He dug a new wallow downstream.

When Clarke found the new wallow, he set his trap there. That did the trick. In the middle of the night, Clarke heard a terrible noise down by the creek. The old bear was howling and growling up a storm.

Clarke was only wearing his long underwear, but he didn't take time to dress. He grabbed his .30-.30 and ran toward the creek. He could hear the bear, but he couldn't see him in the dark. Clarke began to worry then. He knew that if the bear came his direction, he wouldn't be able to see well enough to get out of the bear's way. He decided to spend the night on the hillside and wait for daylight.

When daylight came, Clarke could see Old Ephraim down in a patch of willows. He crawled closer and fired a bullet into the big bear's back. That was a real mistake. Old Ephraim stood up on his hind legs and glared at Clarke with murder in his eye. He stood ten feet tall, and he weighed more than half a ton. That's enough to scare anybody. The bear trap was on his right front paw, and he started waving that
twenty-five pound trap around like it wasn't there. The trap was chained
to a log. When Old Ephraim got to the end of the chain, he pulled that
log up by the chain and began swinging it around his head. Clarke must
have been pretty worried by then, because Old Ephraim looked plenty
ready to come charging after him with the trap, log, and all. Then
Clarke's dog, Bennie, started barking and biting at the bear's legs.
When the bear turned toward the dog, Clarke was able to shoot the bear
through the head.

Clarke tried to burn the body, but he didn't do a very good job of
it. He buried what was left.

About a month later, our scoutmaster, Joe Brown, led our troop up to
where Old Ephraim was buried. We dug up some bones, and somebody found
the skull. The skull was sent to the Smithsonian Institution in
Washington, D.C., where it was kept from 1923 until 1978. Old Ephraim's
skull is now at Utah State University.

Tom's Story

I think some folks thought Old Ephraim was almost human, the way
they talked about him. Someone must have been pretty fond of him, giving
him a name like Old Ephraim. Old Ephraim was a huge grizzly bear who
lived up Logan Canyon from about 1911 until 1923.

He had quite a reputation among Cache Valley folks at that time.
People liked to tell stories of hearing him moving through the woods, or
of catching a glimpse of his grayish-brown fur--always on the move, of
course. A few brave souls took their guns and went out to hunt for him,
but no one ever came back with the trophy. There was some boasting
about taking a shot at him, but the truth was that most folks were
pretty scared of him. After all, he weighed more than half a ton and stood almost ten feet tall on his hind legs. It was said that he was the last grizzly bear in these parts. I think we were all a little proud of having Old Ephraim living nearby.

The trouble with Old Ephraim was that he was a sheep killer. This upset the sheepmen, especially Frank Clark. Mr. Clark was a rancher from Malad, Idaho, who grazed his sheep in Logan Canyon in the summertime. That old bear cost Mr. Clark a great many sheep. Mr. Clark tried for over ten years to catch Old Ephraim, but failed until that August in 1923.

On the evening of August 21, Mr. Clark put his trap in Old Ephraim's wallow and retired to his sheep camp. Sometime in the middle of the night, the old bear stumbled into the trap and set up a terrible howl. Of course, it woke Mr. Clark, who was very excited that he had finally trapped the bear. He stayed awake all night so he wouldn't miss the chance to finish the job early the next morning.

When morning finally came, Mr. Clark found the old bear biting at the chain that held the trap to a log. When he heard Mr. Clark, Old Ephraim stood up on his hind legs, and Mr. Clark could see the trap on the right front leg. Then Old Ephraim started walking toward Mr. Clark--on his hind legs, ten feet tall, and very, very, angry.

Mr. Clark began firing his rifle at the bear, but the bear just kept on coming. Then his dog, Jennie, arrived at that moment from the sheep camp. Jennie began barking and circling the bear. This stopped Old Ephraim while he turned his attention to the dog. As the bear turned, Mr. Clark ran up close and put a bullet into the bear's head.

Mr. Clark claimed to have killed forty-three bears in that area
during thirty-four years of shepherding. Old Ephraim was his biggest and last bear. It also happened that his last bear was the last grizzly bear in Utah.

Later, our scout troop went up to the bear's grave near Steel Hollow. It was said that the Smithsonian Institution wanted to study the skull and had offered a reward for it. We dug up the skull and a few other bones, and sent the skull off to Washington, D.C. Some of us took other bones as souvenirs. Old Ephraim's skull was kept at the Smithsonian for many years after that.

In August 1966, a group of Cache Valley boy scouts helped place a huge granite stone on the grizzly's grave. The stone measured nine feet eleven inches tall in honor of Old Ephraim. For the occasion, someone wrote a song to Old Ephraim's memory:

Old Ephraim, Old Ephraim,
Your deeds were so wrong;
Yet we build you this marker
And sing you this song.
To the King of the forest,
So mighty and tall,
We salute you Old Ephraim,
The King of them all.

Inquiry Activities

1. Questions for discussion.
   (a) Why are these stories so different from one another?
   (b) Some people exaggerate to make a good story better. What does this mean? Why do they do it?
   (c) How might these stories have been different if the boys had written them in the fall of 1923?
   (d) Look up the meaning of the name Ephraim. Why would someone give the name to a grizzly bear?
(e) What is the Smithsonian Institution? What does it do? Why is it famous? Why would the Smithsonian want the skull of Old Ephraim?

(f) The noted historians, Will and Ariel Durant, wrote: "Most history is guessing, and the rest is prejudice." Do you agree or disagree? Find evidence to support your point of view.

2. **Note to the teacher.** Stage an event to test the accuracy of your students' observations. Have two students who are unknown to the class enter the classroom arguing and scuffling. The action should last about one minute, after which you should manage to get them out the door. The class should be unaware that this is a staged event.

After the event, have each student write a brief description of the event. Then read some of the papers aloud in class to show the differences in detail. After the papers have been discussed, bring back the two actors for everyone to see. Most students will be amazed at how poorly they observed the event.

3. **An activity for the intrigued student.** Everyone has heard of Sherlock Holmes, the world-famous detective created by Sir Arthur Conan Doyle. Sherlock Holmes's first adventure was *A Study in Scarlet*, written in 1886. Though the crime and its solution take place in London, the victims, the murderer, and the motive are traced back to Utah. *A Study in Scarlet* is a good Sherlock Holmes mystery. The only problem is that Sir Arthur Conan Doyle's view of Utah's geography and people is entirely incorrect!

Doyle had never visited Utah, and never set foot in any part of the United States he described in *A Study in Scarlet*. Yet he did not hesitate to describe this part of the world—a place that was an ocean
and most of a continent away from where he lived. How well did he do? The following is an excerpt from the first page of Chapter 1, Part Two, "On the Great Alkali Plain."

From the Sierra Nevada to Nebraska, and from the Yellowstone River in the north to the Colorado upon the south, is a region of desolation and silence. . . . There are no inhabitants in this land of despair. A band of Pawnees or of Blackfeet may occasionally traverse it. . . . but the hardiest of the braves are glad to lose sight of those awesome plains, and to find themselves once more upon their prairies.

After a page of this kind of description of the terrain, Doyle introduces the coming of the Mormons to Utah. The following chapter deals with life in one of the Mormon settlements. Can you imagine how he described the life of the Mormons? Remember that he wrote the story in 1886.

Suggested activity. Read A Study in Scarlet strictly for enjoyment. It is a fine story except for Doyle's factual errors about Utah and the American West.

(a) After you have finished, turn back to the beginning of Part Two and make a list of the most obvious errors you can find.

(b) Think about the following questions:

(1) Why do you think Doyle had such faulty ideas about Utah?

(2) Where do you think Doyle got his information?

Recommended Reading

THE STAGE TO SALT LAKE CITY
A UTAH PUZZLE

This is a puzzle!

Six people are riding the stage coach from Rush Valley to Salt Lake City: four passengers plus the driver and the guard. The driver is a grizzled and crusty old veteran, Shorty Shaver. The guard, armed with a shotgun and a repeating rifle, is the notorious sharp-shooter, Doc Ellsworth, feared by every wrong-doer in the West.

The four passengers are Quick-Draw Daugs, Red Jackson, Lefty Knight, and Lucky Monson. One is a bandit, one a sheriff, one a miner, and one a school teacher, but not necessarily in that order. Also, one is a woman!

On the previous day, a rumor was heard in Rush Valley that the Salt Lake City stage would be robbed. It was also rumored that one member of the outlaw gang would be riding the stage as a passenger.

Now the stage coach was jolting and rattling over the rough, rocky road toward Salt Lake City. Besides its four passengers, it carried a cargo of gold from the Rush Valley placer diggings. The sheriff had come aboard as a passenger at Stockton to try to prevent the robbery.

The sheriff looked carefully at each of the other passengers, hoping to discover who was the bandit.

The miner sat twisting his long, black mustache. He sat facing the school teacher.

Red Jackson was pleasantly surprised to find himself sitting across from a lady. He wondered if she admired the bushy red beard that gave him his name.
Lefty Knight dozed and dreamed about capturing a bandit and collecting a big reward.

A heavy cast on the school teacher's left hand made it impossible for the school teacher to write.

Lucky Monson sat on the school teacher's right.

As usual, Quick-Draw Daugs had a big .44 within easy reach.

From the right-hand side of the rear seat, the sheriff turned to stare out the window. "Now that I know who the bandit is," thought the sheriff, "I'll be ready when the rest of the gang jumps out from behind those big rocks just ahead.

THE PUZZLE: What is the name and "occupation" of each passenger, A, B, C, and D—and which one is the woman?

Driver - Shorty Shaver

Guard - Doc Ellsworth

Passenger A
Name________________________
Occupation____________________
Man or Woman?________________

Passenger B
Name________________________
Occupation____________________
Man or Woman?________________

Passenger C
Name________________________
Occupation____________________
Man or Woman?________________

Passenger D
Name________________________
Occupation____________________
Man or Woman?________________

The Solution

The solution to this puzzle will be found in module number 41.
THE STAGE TO SALT LAKE CITY
BUILDING A MODEL PIONEER TOWN

What would it be like to live in Utah Territory? We can never know how it really felt, but is is fun to imagine. Think back! Can't you see the freight wagon, loaded with supplies, rumbling down the street, pulled by two or three teams of sulky mules? Here comes the stage coach almost speeding down Main Street, its wheels and horses kicking up clouds of dust. People are making their way across the dusty, unpaved street, trying to keep out of the way of horses, mules, wagons, and stage coaches. When wet weather comes, the street will be a sea of mud rather than a dust bowl.

Standing in the center of Main Street we can see business buildings on both sides of the street for two or three blocks. Many of the buildings have false fronts and are made of rough boards. We can see a bank, a restaurant, a number of small stores and shops, and a livery stable. If it is a larger town, we will also see a hotel and one or more saloons. Horses stand tied to hitching rails and posts in front of several businesses, and men and women can be seen standing here and there. Further up the street we can see houses, some made of boards and others made of logs.

It's fun to imagine a scene like this one, but wouldn't you rather see it? You could see it if it were a model town or village built to scale. It is great fun to build a model, and this module will tell you how!
This Is A Class Project.

Your model town or village will have a variety of streets and buildings. Like real towns, no two model towns will be alike. You can use your knowledge and imagination to plan and build your town and make it as authentic as possible.

The fairest way to divide the work is to draw jobs from a hat—and it prevents arguments. A committee or the entire class can plan the town. Then the various jobs, including making each of the buildings, is written on a slip of paper. All the slips are put into the hat, the slips are stirred to mix them, and each person draws out a slip.

How To Build A Model Town

Materials:

1. **Large table.** You can also use smaller tables placed together, or you can use the floor in a protected part of the room.

2. **Butcher paper.** You should build your town on a large piece(s) of paper. The paper is used for drawing streets and any other land features such as hills, creeks, or canyons.

3. **Cardboard.** Corrugated cardboard (from cardboard boxes) is excellent material for making the buildings.

4. **Craftsman's knife.** You will need a very sharp knife to cut the cardboard pieces for the buildings. Any sharp knife will do. However, the kind of metal knife with the triangular blade used by building craftsmen is especially good for this purpose. Most hardware stores have them.

5. **Cutting board.** NEVER use a knife directly on a table top or floor. Use a board or piece of plywood for a cutting board.
6. **Quick-drying cement.** The cement is to hold the parts of your buildings together.

7. **Paint.** Your buildings should be painted to look as real as possible. Tempera or water colors are satisfactory.

8. **Pictures.** You will need to look at pictures of pioneer buildings to help you build authentic models. Look for pictures of log houses, tent houses, false front buildings, hotels, livery stables, and other typical buildings. You may also find a picture of a board sidewalk. Pictures of many of these things can be found in **Utah's Heritage.**

**Suggested Features For Your Town:**

1. A creek or canyon
2. Sloping ground or a hill
3. Streets
4. Houses made from logs and boards
5. Business buildings (some with false fronts)
   (a) stage station
   (b) hotel (if a larger town)
   (c) restaurants
   (d) boarding house
   (e) bank
   (f) livery stable
   (g) small stores and shops
   (h) saloon and gambling house (optional, depending on the town)
   (i) dance hall (optional)
   (j) opera house (optional)
(k) board walks

Procedure:

1. Plan the town. This includes the size, land features, types of buildings, and where they should be located. (A committee or the entire class should do the planning.)

2. Make a list of the jobs to be done. Write each job on a slip of paper and put it in a hat. Stir the slips to mix them thoroughly.

3. Have each person draw one or more job slips from the hat.

4. Spread the butcher paper where the town is to be built.

5. On the butcher paper, draw the land surface (hills, slopes, creek, canyon).

6. Draw the streets and mark the locations of the buildings.

7. Size and scale. Buildings should be built to the scale of 1 inch = 3 feet. If there is enough room, the streets should be the same scale.

How To Make A Building:

1. Measure all pieces on a scale of 1 inch = 3 feet.

2. Find a picture of a building similar to the one you want to make.

3. Estimate (in feet) the size of the building shown in the picture. You need its length, width, and height.

4. Using your estimated measurements, draw a paper pattern of each wall and the roof. Each wall and roof panel should be drawn as a separate piece. Either cut out or draw in all windows and doors. Cut out the pieces and fit them together to see that they fit properly. Make final adjustments on your pattern by trimming where necessary.
5. Trace the finished pattern onto the corrugated cardboard. Cut out each piece with a sharp knife. Cut out all doors and windows before cementing the pieces together (unless you plan to draw them on instead of cutting them out).

6. Assemble your building by cementing the pieces together. Let the cement dry thoroughly before painting the building.

7. Paint your building as realistically as possible. Use gray for wood that is old and weathered. Use warm off-white or very light yellow for fresh wood. Bark is sometimes brown and sometimes gray, depending on the tree and its age.

Lines and stripes can be used to imitate logs and boards. Many pioneer buildings were built with their boards vertical instead of horizontal. Not many houses or businesses were painted in early pioneer days. Paint was used later after more wealth came to the territory.

More Ideas

1. The landscape will be more realistic if you add rocks and small branches and twigs. These will resemble boulders, logs, and bushes.

2. Small model furniture, wagons, coaches, horses, mules, oxen--and people--can make your model town more realistic.

3. Log houses look more realistic when they are made from small branches and twigs with the bark left on. Board buildings can be made from popsicle sticks. Real log houses had mud smeared between the logs to keep the wind out. You can use modeling clay or real mud.

Buildings such as these take much more time to build than those
made from cardboard.

4. Buildings can be made from clay. You can use modeling clay or the kind of clay used for making pottery. Your art teacher might let you make your building out of pottery clay and fire it in the kiln.

5. Think up a good name for your town. You will also want to name each of the businesses and put small signs on them.

Recommended Reading


UTAH'S SYMBOLS--WHAT DO THEY TELL US?

Each of our united states has its own personality. This personality is reflected in the kinds of symbols adopted by its people. The people of each state have adopted their own state flower, state bird, state nickname, and assorted other state symbols. These differ greatly from state to state.

Utah's nickname is the "Beehive State." California calls itself the "Golden State." Colorado is the "Centennial State," Idaho is the "Gem State," and Wyoming is the "Equality State."

Utah has its own special symbols. The most special Utah symbol is the State Flag which carries a picture of the Great Seal of Utah. A picture of the Great Seal can be found on page 331 of Utah's Heritage. Utah's official symbols are:

- State Flag - Adopted in 1913
- State Emblem - Beehive
- State Motto - Industry
- State Nickname - The Beehive State
- State Bird - California Gull
- State Animal - Rocky Mountain Elk
- State Fish - Rainbow Trout
- State Flower - Sego Lily
- State Tree - Blue Spruce
- State Gem - Topaz
- State Song - "Utah, We Love Thee"
Inquiry Activities

1. Is it important for states to have symbols such as the ones listed here? Why or why not?

2. How do you think people would go about choosing their state flower, state bird, state nickname, and other state symbols? Who is responsible for making the final decision?

3. Alaska shows a fishing boat and a merchant ship on its Great Seal. The Great Seal of Connecticut shows three grape vines symbolizing the bringing of the culture and traditions of Europe to the colony of Connecticut. New Hampshire's Great Seal shows the Revolutionary War frigate Raleigh surrounded by a wreath to symbolize victory. The Great Seal of Oklahoma shows a large five-point star representing the Five Civilized Tribes who lived there before the white men came.

Would any of these symbols be suitable for Utah's Great Seal? Why or why not?

4. The beehive symbol is unique to Utah. On Utah's Great Seal, the beehive represents the State Motto, "Industry." Utah, The Beehive State, also uses the beehive symbol. Deseret is the name the Mormons first gave to the area that is now Utah. Deseret is a Book of Mormon word meaning "honeybee". The name is still commonly used in Utah today with the Deseret News, Deseret Industries, and other familiar Utah institutions.

Why do you think the Mormon pioneers and later Utah citizens made the honeybee such a powerful Utah symbol?

5. Examine a picture of the Great Seal of Utah. (You can find a picture in Utah's Heritage or in the World Book Encyclopedia under "Utah.") On the Great Seal you will find the following symbols:
(a) a shield
(b) the State Motto
(c) a beehive
(d) two dates
(e) an eagle
(f) two American flags
(g) arrows
(h) sego lilies
(i) words in the outside circle

What does each of the above symbols stand for? (If you need help with this question, look in The World Book Encyclopedia under "Utah.")

6. Make a large picture of the Great Seal of Utah.
   (a) You can trace a pattern on paper from your textbook using an opaque projector, or draw it freehand.
   (b) You can color the Great Seal with crayons, colored pencils, water colors, or paints—or you may assemble it from pieces of colored construction paper cut and glued into the proper pattern. You can see what colors to use by looking at the colored picture of Utah's Great Seal in The World Book Encyclopedia.

7. Imagine that your county has been made into a new state. You and two other class members have been appointed to decide on the symbols for the new state. (Form a committee with two other class members to complete this activity.)
   (a) Choose a name for your new state. Why did you choose this particular name?
   (b) What kinds of things are important or notable in your part of Utah? Are there things in which the people take pride? Make a list of
any of these things that would make good symbols for your new state.

(c) Choose the following symbols for your new state:

<table>
<thead>
<tr>
<th>State Nickname</th>
<th>State Bird</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Motto</td>
<td>State Tree</td>
</tr>
<tr>
<td>State Flower</td>
<td>State Animal</td>
</tr>
</tbody>
</table>

(d) Brainstorm ideas for your new state's Great Seal. Then draw a sketch of your ideas to present to the class when you are finished. (You might find it helpful to look at the Great Seal designs of several other states. These can be found in The World Book Encyclopedia under the name of each state.)
CATTLE BRANDING

If you were a rancher or cattleman, how would you know which cattle were yours and which were your neighbors'? After all, many cattle look pretty much alike! Did you say BRAND them? That is absolutely right!

You have probably seen movies or pictures showing cattle being branded—or you may have personally watched or helped cowboys brand cattle. Many cattlemen still brand their cattle with a hot branding iron. The branding iron has a mark or design on one end and a handle on the other. The "branding" end is heated in a fire and then pressed against the hip or side of the animal. This burns the outer layer or skin. Although the burn is painful, it does no real harm. As the burn heals, it forms a scar in the form of the brand. The scar, being permanent, settles any question about who owns a particular cow or calf.

Branding is not a new idea, and it did not originate in America. Pictures showing how branding was done have been found in Egyptian tombs dating back to at least 2000 B.C. The first branding in America was probably done in Mexico in the 1500s by Hernando Cortez, the Spaniard who conquered Mexico. His cowboys burned three fancy crosses onto the hides of his cattle. The early Spanish-American cattlemen liked fancy and complex brands. Cattle thieves or rustlers could not change these fancy marks into other brands.

Huge herds of cattle had developed in North America by the 1800s. With so many cattle to mark, they had to be branded as quickly and simply as possible. The fancy Mexican-style brands were too time-
consuming to use, so they were replaced with simple markings. These new markings were combinations of circles, squares, triangles, and straight lines. The initials of the owner or the ranch would often appear in the brand. The markings were combined carefully to form a brand that could not be changed by cattle thieves. Brand reading became an art, and many cowboys prided themselves in their ability to identify large numbers of brands.

Today many ranchers use ear markings instead of hot-iron branding. Some ear markings are metal identification tags, while others are combinations of ear notches.

**Brand Symbols And How To Read Them**

In the United States there are thousands of cattle brands used by thousands of ranches. Their language is complex. However, there are some basic symbols that are usually read the same way. Brands are usually read from left to right, from top to bottom, and from outside in.

Below are twelve of the basic symbols used in making cattle brands.

- **BAR**
- **RAIL or LINE**
- **ONE**
- **HALF-CIRCLE**
- **QUARTER-CIRCLE**
- **ROCKER**
- **BOX or SQUARE**
- **TRIANGLE**
- **DIAMOND**
- **CIRCLE**
- **HOLE**
- **DOT**
The following drawing shows how a typical branding iron might look. This branding iron could be used to make either an "X" or a cross.

Below are drawings of sixteen cattle brands used by sixteen cattle ranches in the western United States.

LAZY A  W DIAMOND  TUMBLING D  FORD
THREE O'CLOCK  TWO BAR X  HOLE IN BOX  HANG HIGH
SUNRISE  RUNNING O  FLAG BAR  RAFTER
T IN BLOCK  ROCKING CHAIR  CRAZY R  TEN IN TEXAS
Inquiry Activities

1. Design your own cattle brand. What ideas should your brand represent? Keep in mind that a brand must be drawn so it can't be changed into another brand. You can test your brand by giving it to someone else and having him or her try to change it. If you don't have any cattle (and most of us don't), what else could your brand be used for?

2. For a brand to become legal, it must be registered. Why do you think it would be important to register all brands? Find out how a cattle brand is legally registered.

3. A few range cattle would escape being branded. An unbranded animal was called a maverick. Rustlers could steal mavericks and simply use their own brands on them. Branded cattle were a greater problem for rustlers, and they would often try to change or disguise the brands of cattle they had stolen. A well-designed brand was almost impossible to change, though sometimes a rustler would be successful.

   A famous case of brand changing took place in Texas. A man was accused of changing the XIT brand on an animal to a Star Cross. The jury studied the two brands, however, and decided it was impossible. They acquitted the man. After the trial, the man showed the jury how he had done it.

   Can you change the XIT to a Star Cross? Try it!

   Hint: The man had found a cow with a slanted T.

4. The Log of a Cowboy was written in 1902 by a real cowboy, Andy Adams. The book is a fascinating account of Andy's life and experiences as a working cowboy. Among his many experiences was helping drive a huge herd of cattle from Texas to Montana.
Read *Log of a Cowboy* and make a report to your class.

**Recommended Reading**


A COLLABGE OF UTAH FARM PRODUCTS

Note To The Teacher

This is a class project to emphasize the importance of Utah farm products. It is intended to engage all or part of a class in producing a collage representing a variety of those products.

Farming in Utah

Food grown on Utah farms can be found in almost every food market in Utah. Utah farm products are also sold in other states and in other countries as well.

Farming is one of Utah's most important industries. Besides supplying much of the food we eat—and other things we use—Utah's farms provide jobs for many people. Farm work is only one kind of job provided by farms. Many people are employed in factories that process raw farm goods into the familiar products we find in our stores. Other people are employed in businesses that supply goods and services to farmers. When we look at the whole picture of farming in Utah, we see that it affects the lives of a great many people.

Because farming is an important part of life in Utah, we should be familiar with its products. Making a collage for the classroom is a good way to learn about the farm products grown in and/or processed in Utah.
Steps For Making A Collage

1. Make a list of Utah Farm Products. You first need to know what products and which brands are grown on Utah farms. Many of the foods we eat are grown in other states and countries. It will be necessary, therefore, for you to search out the products that are grown or processed in Utah.

A list can easily be made by sending several class members to visit a number of food and department stores. Each person should make a separate list. The individual lists can then be combined into a master list when they are brought to school. The information you will need can be found on bread wrappers, flour sacks, frozen food packages, dairy products, cans, bottles, fresh fruits and vegetables, and other such items. Be sure to include the brand name, the kind of product, who produced it, and the city in which it was packaged.

There are also farm products that are not food. Think about leather and wool. Are there others?

2. Make A Wall Chart. The master list of Utah farm products should be made into a large wall chart to be displayed beside the collage. Your wall chart should tell each brand name, the kind of product, who produced it, and the city where it was produced or packaged.

3. Gather Materials For The Collage. A collage is an artistic display made of pieces of objects and materials pasted on a surface. Attention is given to unifying lines and colors to give the collage a pleasing appearance.

As you complete your list of Utah farm products, you should begin collecting materials for your collage. You will need a large piece of butcher paper six or eight feet long, or a large piece of cardboard that
size. This will be the backing material upon which you paste the
collage. You will also need to collect Utah food product labels and
empty packages. Magazines and newspapers are good sources of pictures
of food and other farm products.

4. **Design And Build Your Collage.** Begin by fastening the butcher
paper or cardboard to a wall or bulletin board. Assemble all food
packages, labels, and pictures on a table or the floor. Cut the food
packages into pieces of different sizes and shapes. The pictures and
labels may also be trimmed to make them more interesting.

On the table or floor, arrange the pieces into designs that are
pleasing to the eye. Remember to develop some unifying lines and/or
color patterns to give the collage a more artistic appearance. Then
make a rough sketch of the overall design on the paper before starting
to paste.

Begin pasting the collage pieces onto the paper backing according
to your design. You should overlap the pieces as you paste them,
showing only parts of them. Be sure to show enough of each picture or
brand name for people to identify.

When the collage is finished, display the wall chart (or product
names, etc.) beside it or nearby.
CLUES
A GAME OF UTAH EVENTS

What is CLUES?

CLUES is a game that relies upon the players’ knowledge of historic events. Players are given clues, one at a time, which reveal a historic event. When a player correctly identifies an event, he receives a certain number of points.

How To Play

CLUES requires two or more Players and one Teller. The Teller reads the clues to the Players. The clues are contained on Clue Cards, each of which has ten clues for a specific historic event. Each Clue Card contains clues for a different event.

The Teller reads the first clue to the first Player, and that Player tries to identify the event. If the player fails to do so, the second clue is read to the second Player, and that Player tries to identify the event. If the Player fails to do so, the third clue is read to the third Player. This procedure is continued until one of the Players correctly identifies the event.

When an event is correctly identified (or no one identifies it after ten clues), the Teller picks another Clue Card and gives the first clue to the next Player. The game continues in this manner until all the Clue Cards have been used.
How To Score

Each Player receives points only for his own correct answers. The score he receives for correctly identifying an event is ten minus the number of clues used. For example, if a Player answers correctly after the third clue, he earns seven points $(10 - 3 = 7)$. If he answers correctly after the sixth clue, he earns four points $(10 - 6 = 4)$.

The final score for each Player is the total of all the points he has earned for all the events he has identified. The Player (or team) with the highest number of points wins the game.

Organizing For Play

The game of CLUES can be used with small groups (two to five members) or with large groups up to the size of an entire classroom.

Small groups (two to five members).

Option A. The group chooses a Teller who serves as Teller for the entire game. The Clue Cards can come from a central bank of Clue Cards made up by other class members, or each small-group member can make several cards for the game. (Everyone brings the same number of Clue Cards.) In the latter case, Players do not respond to their own Clue Cards. Each Player is by-passed when his Clue Cards are being used.

Option B. Members take turns at being Teller. Each member makes at least five clue cards to bring to the game. (Everyone brings the same number. Each member then serves as Teller while reading his own Clue Cards.

Large groups.

Option C. The teacher divides the class into two teams which compete against one another. The teacher serves as Teller and reads all
the Clue Cards.

Each team member makes several Clue Cards, the number being set by the teacher. During play of the game, each team responds to the Clue Cards written by the other team. The teacher begins by giving Team A the first clue from a Clue Card made by Team B. Team A members respond in turn until someone correctly identifies the event. The teacher then turns to Team B, giving those team members clues from a Clue Card made by Team A. Team B members respond in turn until someone identifies the event. The game continues in this manner, alternating between teams, until all the Clue Cards have been used. The teacher or a student should keep score on the chalkboard.

Option D. The teacher uses the Clue Cards for a quick review with the whole class. There are no teams. Clues are presented in turn to students randomly selected by the teacher.

Making Clue Cards

Four Clue Cards are shown in this module as samples. These four are to be used only as starters. From these sample Clue Cards, you can learn how to play the game and how to make other Clue Cards.

It is suggested that standard five by eight note cards be used for making Clue Cards. Typing is not necessary. Typed cards look nice, but they take much more time to make. There is nothing wrong with a card that is neatly and legibly written or printed.

To make a Clue Card, use your textbook or class notes to identify an important historic event. Look for important characteristics or details that are associated with the event. Choose ten of these as clues for the Clue Card. Arrange the clues with the hardest clue first,
and gradually make the clues easier. Clue number ten should be almost a give-away clue. Be fair! Don't choose small, unimportant details. Choose details that a student might reasonably be expected to know after studying about that event.

Be sure you describe an event, and give your answer in terms of an event. For example, "the building of the transcontinental railroad" is an event. "The transcontinental railroad" is not an event. "The Mormon trek to Utah" is an event. "Mormons" is not an event.

Each Clue Card should have its author's name plainly visible in the upper right-hand corner unless the teacher gives other instructions.

The answers to the sample Clue Cards shown in the module are coded so that a quick glance will not give away the answer. It is suggested that all Clue Cards be coded in this manner. The code is very simple:

```
1 - A  7 - G  12 - L  17 - Q  22 - V
2 - B  8 - H  13 - M  18 - R  23 - W
3 - C  9 - I  14 - N  19 - S  24 - X
4 - D 10 - J  15 - O  20 - T  25 - Y
5 - E 11 - K  16 - P  21 - U  26 - Z
6 - F
```

Other Suggestions To The Teacher

Time the use of CLUES. CLUES is an excellent device for reviewing several chapters at the end of a grading period. It should be noted that prior knowledge of the subject matter is necessary in order for a student to be able to play the game successfully. Therefore, it is advisable to not try the game too early in the course.
Build a collection of Clue Cards. Save the best Clue Cards each year to build a collection which you can draw from quickly when needed. Even though you may have a collection of Clue Cards, however, you should still have all students make new Clue Cards. The act of making Clue Cards is an important learning experience.

Preparing for team competition. Plan approximately two class periods for making Clue Cards--before having your class teams play CLUES. It is best to choose your teams before having the students write their Clue Cards, then keep the cards separate for each team. This avoids the messy problem of having to sort out the Clue Cards later.

The class periods spent writing Clue Cards are valuable review time. A student must process a considerable amount of material in order to write ten or more Clue Cards, and some students will never be able to write that many. Writing Clue Cards will also heighten interest in the game and its outcome. The game that follows then becomes the culminating activity of the review process.
Sample Clue Cards

CLUE CARD NO. 1

1. Four Corners region
2. farming
3. dams, dikes, and reservoirs
4. basketmakers
5. stone walls
6. cotton clothing
7. mesa tops and river bottoms
8. beautiful pottery
9. ended about 1300 A.D.
10. The Great Pueblo Period

Coded Answer: 4-5-22-5-12-15-16-13-5-14-20 15-6 20-8-5
1-14-1-19-1-26-9 3-21-12-20-21-18-5

CLUE CARD NO. 2

1. July 1776
2. to Monterey, California
3. Ute Indians
4. September 11, 1776, to October 15, 1776
5. Utah Valley
6. Spanish Fork River
7. Yuta Indians
8. very barren desert lands
9. a diary and the first map of the Utah region
10. Crossing of the Fathers

Coded Answer: 4-15-13-9-14-7-21-5-26 1-14-4
5-19-3-1-12-1-14-20-5 5-24-16-5-4-9-20-9-15-14
20-8-18-15-21-7-8 21-20-1-8
CLUE CARD NO. 3

1. handsome and daring man
2. 1843-44 and 1845-47
3. Broken-Hand Fitzpatrick served as his guide
4. Great Salt Lake region
5. Snake and Columbia rivers
6. Joseph Walker and Kit Carson also were guides
7. route west from the Great Salt Lake to California
8. two different expeditions to Utah
9. a scientist who reported temperatures, plant and animal life
10. 5 expeditions to explore, map, and report on American West

Coded Answer: 10-15-8-14 3 6-18-5-13-15-14-20
5-24-16-12-15-18-1-20-9-15-14-19 15-6 20-8-5 21-20-1-8
18-5-7-9-15-14

CLUE CARD NO. 4

1. the village tabernacle in a central square
2. an irrigation system
3. 1847
4. people lived in Old Fort for one or two years
5. Eagle Gate - 1859
6. the Governor's office - 1852
7. the Deseret Store
8. Beehive House
9. the Temple Block
10. Utah's first permanent settlement

Coded Answer: 20-8-5 6-15-21-14-4-9-14-7 15-6 19-1-12-20
12-1-11-5 3-9-20-25
MAKING DECISIONS ABOUT OUR STATE

Introduction

This module is a decision-making exercise requiring students to analyze and evaluate ideas. It should be teacher directed rather than being used as an independent exercise. The module contains information for preparing the materials and instructions for their use.

Preparing The Materials

The teacher will prepare several sets of decision-making materials consisting of (a) marker cards, and (b) decision cards.

1. Marker cards. The four marker cards are plain note cards, each printed with one of the following categories:

   | Strongly Agree | Disagree |
   | Agree          | Strongly Disagree |

   These markers are spread in front of the group as the members work with the 12 decision cards.

2. Decision cards. A complete text for each of the 12 different decision cards follows the Instructions For Use section of this module. These cards, labeled A through L, represent varying views on environmental concerns. Six of the cards are "pro-environmental" and six are "anti-environmental." Some take less extreme stands than others.

   The teacher should prepare 10 or 12 complete sets of cards--one for each three students in the classroom. (A complete set is 4 + 12 = 16 cards.) They can be printed on unlined 5 x 8 note cards. These are
more durable than lighter weight paper and can be printed with most ditto machines.

Instructions For Use

Divide the class into groups of 3 students each. Give each group one set of 12 decision cards and 4 marker cards. Each group is to try to reach agreement about each of the 12 decision cards.

Each group must arrange their cards into 4 categories: Strongly Agree, Agree, Disagree, and Strongly Disagree. Three cards MUST be placed in each category. This forced choice is part of the evaluation process. In most cases, there will be much discussion and disagreement within the group before all the cards are placed.

After the groups of 3 have finished, combine pairs of groups, creating new groups having 6 members each. The new groups are now to repeat the process of arranging the cards into 4 categories.

When the groups of 6 have finished, combine these groups into 2 large groups, each containing half the class. The large groups are now to repeat the process of arranging the cards into 4 categories.

The teacher should circulate and confer with the groups as they are working. It may be necessary to point out inconsistencies in thinking, such as placing exact opposites in the same category.

Optional activity for further growth. As students work with the cards, many disagreements are bound to emerge. Some students may not like the either/or conclusions that the decision cards dictate. Students who come to such an impasse in dealing with these ideas should be encouraged to develop their own sets of alternative decision cards. In this way, students having the desire and ability can develop a synthesis
of ideas and perhaps compromises that are acceptable to people on both sides of an issue.

Culmination. When the decision-making exercise is complete, have a class discussion about the important public issues facing these young people as they become adults. Explore with them such questions as:

- Why is it difficult to make good decisions?
- Why do people have different viewpoints?
- Can everyone's interests always be satisfied?
- What responsibilities do these young people have as future citizens?

At the end of this discussion (which may become very lively), some of the students may wish to write up their ideas as "Letters to the Editor" for the local newspaper.
Decision Cards

A. WE MUST NOT DESTROY ANY ENDANGERED SPECIES.

Last summer when the state was replacing an old, crooked, dangerous highway bridge with a modern freeway, someone noticed a patch of water thistle growing where the freeway was to go. Scientists had thought that water thistle was extinct many years ago. The new freeway would destroy all the water thistle growing in this area. No other water thistle is known to exist. This makes the water thistle an endangered species.

Because of the water thistle, work on the freeway has been stopped. This was the proper thing to do. We must not destroy any endangered species.

B. IT IS IMPORTANT THAT WE KILL COYOTES SO THEY WON'T DESTROY OUR SHEEP AND OTHER ANIMALS.

Coyotes kill many sheep and cost ranchers a great deal of money. If the coyotes are not stopped, the ranchers may go out of business. Then wool and lamb would become very expensive and almost impossible to get. Sometimes coyotes come right into the farm yard and kill pigs and other farm animals.

Coyotes must be stopped. Farmers and ranchers kill many coyotes by poisoning, shooting, and trapping. It is true that coyotes also eat wild rabbits and other rodents that eat farm crops. However, it is more important that we kill the coyotes so they won't destroy our sheep and other animals.
C. WE SHOULD NOT BUILD ANY MORE DAMS.

Dams harm our streams and the fish that live in them. When a dam is built, the water often covers up valuable farm land. The silt and mud that rivers carry downstream collect in the reservoirs. Over the years the reservoirs could fill completely with soil so that the dams would not hold much water anyway. We should not build any more dams.

D. WE SHOULD BUILD AS MANY DAMS AS WE NEED.

Dams are very important to us. They are used to store water which is used to irrigate crops. Without irrigation, there wouldn't be enough food for us to eat. Many dams also make electricity. Everyone knows how important electricity is to our lives.

Electricity made by dams is cheaper than that made by burning coal. Dams form manmade lakes (reservoirs) which people enjoy for boating, fishing, swimming, and water-skiing. The reservoirs behind dams help control the water flowing down the river and in this way help prevent flooding. Before many of the dams were built, the people living near those rivers suffered from flooded homes and towns almost every spring. We should build as many dams as we need.
E. WE NEED TO BAN CARS AND TRUCKS THAT BURN GASOLINE AND OTHER PETROLEUM PRODUCTS.

Cars and trucks are among our greatest polluters of air. The lead and other chemicals in the gasoline go into the air when the gasoline is burned. These chemicals in the air make people sick when they breathe the air. When it rains, the lead and other chemicals are washed out of the air and into the ground. From there they run into the streams and to the ocean.

The chemicals in the soil may find their way into the plants we eat for food, the milk we drink, and the meat we eat. The chemicals in the water make it unsafe to drink, and the fish in it unfit to eat. Even the fish in the oceans are becoming unsafe to eat unless we stop polluting the ocean. *We need to ban cars and trucks that burn gasoline and other petroleum products.*

F. WE DON'T NEED TO WORRY ABOUT CARS AND TRUCKS BECAUSE SCIENCE WILL SOLVE THE PROBLEMS OF ENERGY AND POLLUTION.

No one needs to be told why we need cars and trucks. There is no way we can get by without them. We don't need to worry about the gasoline they burn polluting the air, or that we will run out of fuel to run them. *We don't need to worry about cars and trucks because science will solve the problems of energy and pollution.*
G. WE SHOULD NOT BUILD ANY MORE COAL BURNING ELECTRIC POWER PLANTS.

Coal makes smoke and pollutes the air when it burns. Even when the smoke is filtered, very small pieces of material and gases still pass into the air. These materials are poison and harm our bodies when we breathe them.

It costs a great deal of money to ship coal by train from the mines to where the electric plants burn it. It also uses much of our valuable water when it makes steam to run the turbines. Burning coal is not a good way to make electricity. We should not build any more coal burning power plants.

H. AS WE NEED MORE ELECTRICITY, WE SHOULD BUILD MORE COAL BURNING ELECTRIC POWER PLANTS.

In Utah, most of our electricity is made by burning coal. The coal is burned in huge furnaces, and the heat turns water into steam. The steam turns turbines which turn electric generators. The generators make the electricity.

Everyone knows how important electricity is to our lives. It gives us light, runs our refrigerators and washing machines, and powers our television sets and tools that we use around the house. It runs factories that provide jobs for our families and goods that all of us use.

As the number of people in our state gets larger, we need more electricity. As we need more electricity, we should build more coal burning electric power plants.
I. WE NEED TO STOP CUTTING OUR FORESTS DOWN,

Mom, Dad, Jim, and I used to like to go camping up at Miracle Lake. We would go out early in the morning and catch at least six fish apiece and fry them for breakfast. After breakfast we would hike to the top of Miracle Mountain where we could see mountains and trees for miles in every direction.

After lunch we would take a rest under the tall trees, smelling the scent of pine, wild berries, and lots of other things. When it got nice and warm in the afternoon, we would swim in the lake. Sometimes we would hike up and down Miracle Creek and catch some pretty nice fish there.

Last summer when we got there, they were logging everywhere. The lake was muddy and you wouldn't dare swim in it. Silt and clay from the hillsides had run down into the lake and creek, and there weren't any fish to be found. Where they were cutting trees, the ground was bare. With nothing growing there, the whole area will be just muddy hills that will wash away when it rains or when the winter snow melts. You can't believe how ugly it is up there now. We need to stop cutting our forests down.
J. WE SHOULD CUT DOWN AS MANY TREES AS OUR PEOPLE NEED.

John Olson is my best friend. He lives next door to us. His dad works in a lumber mill across town. Mr. Olson earns a good living at the lumber mill. The money he earns pays for the family's food, clothes, house, and all the other things they need. Last Christmas John's folks bought him a TV set of his very own.

The lumber mill uses trees from our forests and cuts them into lumber. The lumber is then used to build homes for other people. Our state needs the lumber and needs the jobs that it makes possible. We should cut down as many trees as our people need.

K. WE NEED TO PRESERVE OUR NATURAL ENVIRONMENT AT ALL COSTS.

A large deposit of molybdenum has been discovered high in the mountains of our state. Molybdenum is a space-age metal used in making jet engines, rockets, and space satellites. These mountains are still untouched by man. The streams are pure and the fish and wildlife are undisturbed.

Some people want to allow this valuable metal to be mined there. Opening a mine there would fill the streams with poisonous chemicals, destroy the fish and wildlife in the area, and make an ugly scar in one of America's few remaining natural beauty spots. This should not be allowed. We need to preserve our natural environment at all costs.
L. WE SHOULD DO WHATEVER IS NEEDED TO GET THE METALS WE NEED.

We use metal in many ways every day of our lives. Steel (iron) is in our bicycles and cars. Copper is in our TV sets, stereos, telephones, and electric lights. Silver is used in making coins and film for cameras. Molybdenum is used in making jet engines, rockets, and earth satellites. Many other metals are used for an endless list of things.

Mining and refining the metal ore provides jobs for thousands of people. These jobs provide money for families to spend on the things they need.

Metal ore is usually found in the mountains. To get it out, it is necessary to dig holes and tunnels in the mountains, and to dispose of waste material. Even so, metal is vital to our way of life. We should do whatever is needed to get the metals we need.
"What's on TV?" we often ask. Much less often we might wonder how or why the television set works. Somewhere in the back of our minds we know that someone invented it or we wouldn't be watching it.

Have you ever really wondered who invented television? Can you imagine what kind of flesh and blood person invented it? That person should interest you very much. You see, Phil was only sixteen years old when he did it—and he was a Utah boy besides!

It happened in 1922. In 1922, television had not yet been invented. The entire science of radio was still in its infancy. There were fewer than thirty licensed radio stations in the whole United States. Television was only a dream in a few imaginative minds. Several scientists in the United States and Europe were trying to find a way to send moving pictures over long distances. They were using mechanical devices with moving parts, but had not been successful.

Phil was a farm boy who loved science. In his freshman year of high school, he got permission to sit in chemistry class which was taught only for seniors. Soon he caught up with the seniors and passed them. His teacher, Mr. Tolman, used study hall during the last period of the day to teach Phil more advanced science subjects.

Eagerly, Phil read every science book in the school library. There weren't many science books, for it was a small library in a small high school in a small town. However, one book especially fascinated him. It was an electrical encyclopedia.
Sixteen-year-old Phil had never lived anywhere except on farms. He had never seen a research laboratory or a radio broadcasting station. However, he could read and study—and he had a fine mind and imagination.

Phil's reading taught him about the electron theory. Two devices in the electrical encyclopedia fascinated him. One was the photoelectric cell, a device which changes light into electric current. The other was the cathode-ray tube, which turns invisible electricity into visible light.

The idea came to Phil that these two devices could be used together to send moving pictures "through the air." He believed this could be done using only electrical impulses and no moving parts. He had to solve such problems as breaking the picture into small parts to send it, then putting the picture back together again when it was received. There was also the problem of finding a way to project the picture when it was received by the cathode-ray tube. After weeks of thinking—between farm chores and school work—Phil had his idea worked out. Now he felt he must discuss it with someone.

One afternoon he came anxiously into the empty study hall and began drawing his plan on the blackboard. It was a complicated diagram that filled half the board that stretched across one end of the room. Before he finished his diagram, Mr. Tolman came into the room. Mr. Tolman could see that he was in a state of great excitement.

When Phil finished his work at the board, he picked up a pointer and announced to Mr. Tolman that this was his new television system. Mr. Tolman was amazed, to say the least, but listened intently with great interest. He knew Phil's abilities well enough to respect his ideas. He asked many questions, and Phil had good answers for all of them.
The discussion with Mr. Tolman went on for many evenings after school. This helped Phil think out further details of his plan, and it locked the plan permanently into Mr. Tolman's mind.

Phil's family moved away from that school at the end of the school term, and he did not see Mr. Tolman again for several years. He finished high school in Provo and went on to attend Brigham Young University. These were difficult times for Phil, however. He had to work to earn money while going to school, and in 1924 his father died.

In spite of his problems, Phil kept working on his television plan. His work was slow, however, for he had no money to build a model or even to patent his idea. The story of how he overcame these problems is too long to include here, but it is a story that makes great reading.

In 1927, Phil applied for a patent for his invention. By that time, a scientist working for Radio Corporation of America (RCA) had been working on a similar idea. RCA contested Phil's application for a patent, claiming they had developed the idea first. The government then held a hearing to settle the question of who should receive the patent. Phil needed evidence to show when he had first developed his plan. He had no notes, records, or letters to prove that he had developed the idea in 1922. His only evidence was a witness—Mr. Tolman. However, he had no idea where to find Mr. Tolman.

Mr. Tolman was found in a Salt Lake City high school. He had not seen nor heard from Phil since 1922, but he remembered his former student's plan perfectly. In front of attorneys, judges, and scientists, Mr. Tolman went to a blackboard and drew perfectly the diagram Phil had shown him more than five years earlier. Phil won his patent!
The world would soon hear more of this bright young scientist. His plan became the pattern for all the commercial television systems we know today!

Oh, yes. Who was Phil? He was called Phil by his family and friends. The world came to know him as Philo T. Farnsworth, boy wonder, inventor, and "Father of Television."

Inquiry Activities

1. A more complete version of the story of Philo T. Farnsworth is told in an interesting style in two of the recommended readings at the end of this module. They are "The Strange Birth of Television" by Wilson, and The Story of Television by Everson.

Read one or both of these stories, then give the class a report on Philo Farnsworth.

2. Do you know any boys or girls who remind you of Phil? In what ways? In what way(s) did Phil seem different from other students?

3. Philo was born on a farm near Beaver, Utah, in 1906. In 1920, his family moved to a farm near Rigby, Idaho. It was while he was a freshman at Rigby High School that he developed his plan for television. His teacher, Mr. Justin Tolman, recognized his genius and encouraged him. When his family moved to Provo, Utah, Philo had the use of a laboratory for the first time--at BYU. While going to school at BYU, he had to work to support himself and help support his mother and brothers and sisters.

What do these facts suggest to you about a person's chances of making a success in life?

4. It has been said that Philo was probably helped by living far
away from centers of scientific research and thus not knowing about the
television experiments being done there.

How could this have helped him?

5. What is a patent? Why is it important? How does a person go
about getting a patent for an invention?

6. What is a genius? Look up the word in an encyclopedia or a
psychology book. What kinds of behavior set a genius apart from other
people?

7. How important was the invention of television? Does it do
anyone any real good, or is it just an expensive toy? Could we get along
easily without it? Explain your answer carefully.

8. List the good points and bad points of television as you know
it. Discuss these in class.

9. What would life today be like without television?

In order to understand the effects of television on our lives, go
one week, two weeks, or longer without turning on the television set in
your home. (You will need the cooperation of your entire family.)

Afterward, discuss your experience in class. How did you feel?
What did you do instead of watching television? How did the other
family members react? How did life at home change? Was it a good or a
bad experience? Would you go without television again?

10. In her book, The Plug-In Drug, Marie Winn describes many
harmful effects of television on children, adults, and family life.
The book is written at a high adult reading level. If you read at that
level, you might enjoy reading the book. If not, perhaps you can get
the teacher or one of your parents to read it and tell you about it.

11. Has everything important been invented already, or are more
inventions needed? Can you think of things the world needs badly but which are not now available? If so, make a list of things you think need to be invented. Discuss these ideas with your class.

**Recommended Reading For Students And Teachers**


**Recommended Reading For Teachers And Parents**

WEB OF HISTORY

What is a "web of history?" It is a way to arrange some of the facts and events of history to show how they are related. It is a way to classify ideas. To classify means to put similar ideas into groups. This makes it easier to work with large numbers of ideas.

The picture in this module might make you think of a spider's web. The ideas of history could be thought of as forming a web--or many different webs. This is because the ideas of history have many different strands that are connected--or related--to one another.

For example, some of the major strands related to "churches" are people, buildings (architecture), education, and cultural activities. "People" are related to nearly every other strand. These examples are intended to show that there is more than one way to draw a web of history.

Study the web of history shown in this module. You will see that it is made up of large, medium, and small strands. The large strands are the main ideas around which the medium and smaller strands are arranged. The large strands stretch away from the figure of Utah. The medium strands branch off the large strands, and the small strands branch off the medium strands.

In the web shown here, ARCHITECTURE is the only large strand with other strands attached. ARCHITECTURE has been used to show you how a web of history can be drawn. (Architecture refers to the design or shape of buildings.)
ARCHITECTURE WEB OF HISTORY
The ARCHITECTURE web shows many things about Utah architecture. For example, it includes buildings both in the city and in the country. There are schools, courthouses, hospitals, and museums. Religious buildings include Mormon churches and tabernacles, Protestant and Catholic churches, and both Mormon and Buddhist temples. There are buildings to live in, buildings to work in, and buildings to play in. What an exciting mixture of architecture we find in Utah!

There is no single "correct" way to draw a web of history. If you were to draw your own ARCHITECTURE web, it might look quite different from the one shown here, but still be done well.

Inquiry Activities

1. Build your own web of history. Choose one of the strands shown on the web and develop it in the same way that ARCHITECTURE is shown. (These include POLITICS, HISTORY, RELIGION, ECOLOGY, and several others at the top of the web.) If you wish, you can choose ARCHITECTURE and make it more complete.

To begin, choose the idea you wish to work with. Then make a list of other ideas that relate to it. From your list, choose the most important ideas and arrange them into your web. The main ideas--those with the broadest meanings--become the large strands. The next most important ideas become the medium strands, and the most specific ideas or examples become the small strands. Be sure to connect only words or ideas that are plainly related. If you have trouble thinking of ideas or examples, it may help you to ask yourself "who," "what," "why," "when," and "how."
2. Develop your web into a report. Your web is really an outline—a skeleton with interesting facts and descriptions. Compare some of the descriptions. You could make your report into a booklet using photos or pictures you have drawn.

3. Ways to use your web of history. Here are several possible ways to use your web of history. You may think of others.

(a) Make your own web working entirely alone.

(b) Build your web with a committee. Everybody can work together, brainstorming the whole web, or different members can work on different strands.

(c) Begin the web of history project early in the school year. Each member can work on part of the web during the year as an extended project. In the spring, use everyone's material for a culminating unit.

(d) Develop an extended web on the bulletin board. First cover the bulletin board with paper, then draw the web directly on the paper. This should provide enough space for hundreds of strands—in one large, extended web, or in several smaller webs. The bulletin board provides a good way to present the work of a committee (as in item b) or the culminating unit of an extended project (as in item c).

4. Activities for developing your web. Begin by making a list of all sources of information available to you. Your list might include books, films, museums, people, places, and other ideas you can think of. Such a list is called a bibliography.

The following paragraphs contain some leads that might help you develop strands for your web. These are only a few of many possible ideas. You will be able to think of many more.
Architecture. As you drive through Utah, look at the variety of buildings. You will see homes, both old and new, and of many different styles. You will see churches of many styles and sizes. You will see public institutions, stores, service stations, eating places, and perhaps even an outhouse. What other kinds are there? What style is each? Do the styles have names? Did early settlers influence the style of architecture in your area? If so, how? Where did the early settlers get their ideas for architecture?

Arts and cultural activities. Utah has a fine variety of arts and cultural activities. You will find music, ballet, drama, painting, and sculpture, among others. What is art? What are the fine arts? What is culture? What are cultural activities? How have these things influenced Utah?

It would be helpful to discuss these topics with the art, drama, and music teachers in your junior or senior high school. Your librarian might also be able to help you. For a partial list of art and cultural activities in your area, contact the art, drama, and music departments of your nearest college or university.

Ecology. Work out a design for a city that is free from pollution, then present your ideas to your local city council. Study bills in the state legislature or in Congress that might help or hinder the environment. Have a debate in your history class, with one side for and one side against environmental protection. Remember that often the choice is between saving jobs or saving the environment. Learn to spell "environment."

Education. What is a public school? Where does the money come from to pay for it? What is a private school? What private schools are
there in Utah? How are these schools paid for? What is an Indian school? Make a list of colleges and universities in Utah. Which ones are public and which ones are private? Make a chart showing the levels of education in Utah. Make another chart showing the levels of control and policy making for Utah's public schools--starting with the legislature at the top. Interview teachers at different levels of teaching. You may obtain more information by writing to the Utah State Department of Education in Salt Lake City.

**Future.** From studying the past, what do you think might happen in Utah in the future? Make some predictions.

**Geography.** Use maps to locate mountains, valleys, and other kinds of terrain important to Utah. A 3-D (three-dimensional) map is ideal. If you cannot find one, use an official Utah highway map. These excellent maps can be obtained free of charge from the Utah State Department of Highways.

Where is most of Utah's population? Why? How has the Great Basin affected Utah? How is Great Salt Lake unusual? How many other salt lakes are there in the United States? In the world? Study a 3-D map of the western half of the United States. Using the map, try to discover some things that are unique about Utah.

**Natural resources.** What is a natural resource? What natural resources can you find in Utah? In what parts of Utah are they found? Are there any Utah counties that do not have any natural resources? How are natural resources important to the economy of Utah? (Economy refers to income, wealth, and the flow of money.) Are any of Utah's natural resources exported from Utah to other states or to other countries? Does Utah have to import anything from other places? What happens to
the economy of an area when it has no important natural resources? Make a list of Utah towns, places, or areas that are named for the natural resources found there.

People. Who were the first people in Utah? Where did they come from? Where did they live? Who were the first white explorers in Utah? Who were the first white settlers? Where did they settle? Why did they come to Utah? What were the first five white settlements in Utah? In what years were they settled? What did the first white settlers do for a living? How early did Utah people begin living in cities? What do Utah people today do for a living? How many people live in Utah today? Where do most of them live? Why? What religious groups are found in Utah? What national and racial groups can be found in Utah? List them.

Politics. Look through old and new newspapers for news about politics. Read about the Republican and Democratic parties and any other parties that have formed from time to time. Talk to your local legislators and city officials and find out what their jobs are. Learn about the structure and functioning of Utah's state government. How are laws made? What are liberals? What are conservatives? Which is the larger group in Utah? Why? Collect campaign buttons and bumper stickers. Do they tell a story?

Religion. How many religions are in Utah? Make a list of them. What are the main religions among Americans of Chinese, Japanese, Vietnamese, East Indian, and other Asian backgrounds? Why is there such a heavy concentration of Mormons in Utah? When did the first Catholics come to Utah? What was the first Protestant church in Utah? When was it started? Where? What effect have religious groups had on the cultural patterns of Utah?
EXPO UTAH

Note To The Teacher

This is a class project to emphasize the importance of Utah's varied technological, industrial, and cultural resources. It is intended to engage the entire class in producing a fair or "expo" which will familiarize the students with these aspects of Utah. On a broader scale you might consider making this a school-wide project for all students enrolled in Utah history. In this case the expo could be culminated by a public showing on a specified date--in a large area such as the school gym.

What Is An EXPO?

Have you ever been to an EXPO? The word expo is short for exposition, which is a public show or exhibition of art or industry. The most recent World Fairs (Seattle, New York, Spokane, and Montreal) were called expos.

An expo is a big show that displays or exhibits achievements in various fields such as science, technology, manufacturing, and cultural interests. At a large expo, you could expect to see displays of recent inventions and the "biggest," "best," or "latest" products by various manufacturers--automobiles, aircraft, computers, machinery, chemicals, food, and so on. There would be interesting demonstrations in science and technology. You would also be able to see the best in art, music, and other cultural activities.

A World Fair expo lasts for several months and attracts millions of
people who pay to visit the displays and shows.

Let's Have A Utah Expo

Wait a minute! Those World Fair expos are pretty powerful and expensive events. We aren't New York or Montreal—or the world for that matter. In fact, we are just a school!

A school! That's really great! In school, everyone can get involved. People can have fun planning and working together. Building exhibits is great fun! An exhibit doesn't have to be 200 feet tall. Two feet tall is plenty for some exhibits. If you can't bring something gigantic into the school (like the Bingham Canyon copper mine) there are plenty of pictures, drawings, models, and copper samples to use.

If you can't bring the Great Salt Lake to school, you can show pictures of the lake, the islands, and the salt factories—and show samples of the many chemicals that come from the lake.

If you can't bring a missile from Thiokol, there are plenty of models and photographs.

If you can't bring the world's largest Swiss cheese factory from Smithfield, you can show pictures and samples of its products—and tell about it.

If you can't bring a coal mine to school, you can still make an exhibit showing how Utah is rich in this valuable energy resource.

These are just a few ideas for a Utah expo—perhaps some of the more unusual. The truth is, Utah has a GREAT VARIETY of natural resources, manufacturing, business, and cultural achievements. Almost any of them could be made into an interesting display.

Following is a partial list of ideas that could be developed into
interesting displays for a Utah expo. Each and every item on this list is part of our state--Utah.

Agriculture
  Farming
  Ranching
  Agribusiness

Communications
Cultural Achievements
  Art
  Music
  Drama
  Education
  Religion
  Architecture

Cultural Diversity
  European
  Indian
  Mexican-American (Chicano)
  Negro (Black)
  Oriental
  Other

Defense Installations and Industries
  Air Force
  Army
  Thiokol
  Other
Electric Power
Electronics Industries
   Computers
   Microwave
   Television
   Other
Food and Cooking
   Cultural Favorites
Manufacturing and Processing
   Chemicals
   Clothing
   Food Crops
   Livestock
   Missiles
   Printing and Publishing
   Tools
Mining
   Coal
   Metals
   Non-metal Minerals
   Petroleum
Natural Resources
   Forests and Forest Lands
   Fossil Fuels
   Minerals
   Soil
   Water
How To Build A Display

1. Decide on a topic, event, industry, or product to display.
   For this, (a) refer to the list of topics above, (b) read chapters 25 and 26 in Utah's Heritage, and (c) read about Utah in The World Book Encyclopedia. After you have done this, you may even think of something not included in any of the above sources.

2. Find items to illustrate the display. These items can be models, photographs, drawings, product containers and/or labels, or actual pieces of the material or product (such as cloth, metal, minerals, or similar items).

3. Create your display. This can be either (a) a diorama, or (b) a free-standing display and presentation.

   (a) A diorama is a 3-dimensional scene with model figures and background, all painted as realistically as possible. A diorama can be
made in a shoe box. A shoe box diorama is a smart display when it is done well. A larger cardboard box can also make an excellent diorama. The box (or shoe box) can be used either with the opening at the top (so the scene is viewed from the top) or turned on its side (so the scene is viewed from the side). A unique diorama can be made with a closed box so the viewer must peep through a small hole to view the scene. This is called a peephole diorama, and it needs a source of light inside the box.

(b) A free-standing exhibit is one that can be set on a table or the floor without any other support. Such a display can show product samples, equipment, models, pictures, drawings—anything suitable for an exhibit. It can be built of plywood (sturdy, permanent, and expensive) or from a large cardboard box (convenient and free).

A cardboard box is easy to prepare. Merely cut away the top and one side. Then use the remaining inside surfaces for the display. The box should be at least two feet high and two feet wide.

Below is a drawing of a display made in a cardboard box.
If you decide to build your display with plywood, it is a good idea to fasten the panels together with hinges instead of nails. This lets you fold it up to transport or store it. The general design of the plywood display can be the same as or different from the display made from a cardboard box.

4. Write a report about your exhibit. The report should tell the following things about your subject:
   (a) Describe the subject.
   (b) What is interesting about the subject?
   (c) How is it important to Utah and the United States (as in the case of coal or missiles)?
   (d) How is the manufacturing process done (such as refining salt, metal, or petroleum)?
   (e) Who does it or uses it?
   (f) Where is it found in Utah? You should include a sketch or outline map of Utah showing the location(s).
   (g) Other things you would like to include.

When making the final copy of your report, follow the rules and form you have learned in English. Check for correct spelling and punctuation. Then neatly write or type the final copy and fasten it onto your display.

Your report—and your entire exhibit—should be something you can be proud to show other people.

Other Activities

It is fun and worthwhile to get as much first-hand information as possible. Guest speakers and field trips are two good ways to do this.
In every part of Utah, there are people working in science and technology, business, manufacturing, cultural activities, or other interesting fields. Many of these people would be happy to visit your school and explain their work. Also, many of these people could provide the class with an interesting and valuable tour or visit to their place of work.

If the class cannot arrange to make a field trip, perhaps individual students can arrange to visit places related to their own exhibits. Such a trip can add a great deal of interest to the display and report.

Recommended Reading

FAMOUS UTAH PEOPLE

WORD SCRAMBLE

1. **Clue:** This famous actress won an Academy Award for Best Actress in the movie *The Farmer's Daughter*.
   **Scrambled Words:** trealot gynou

2. **Clue:** At the age of 16, this young man invented television.
   **Scrambled Words:** oplhi satorwhrnf

3. **Clue:** A childhood in Utah gave this man a GREAT BRAIN.
   **Scrambled Words:** honj zifetlradg

4. **Clue:** At the age of 13, he made his first gun from scrap metal. As a man, he invented and designed more guns than any other American.
   **Scrambled Words:** nojh ornbiwgn

5. **Clue:** This Governor of Utah served as Secretary of War under President Franklin D. Roosevelt.
   **Scrambled Words:** roeegg ednr
6. Clue: As Treasurer of the United States, this Utah woman's signature appeared on everyone's paper money. Scrambled Words: yiv ebrka restip

7. Clue: This Utah family is an American TV favorite. Scrambled Word: dsomno

8. Clue: This leader in the Mormon Church served as Secretary of Agriculture under President Eisenhower. Scrambled Words: raze attf snoemb

9. Use the circled letters from your answers above to find the answer to the following scrambled words.

Clue: What makes Utah a great state?

Special Note: The answers are given in module number 41.
Who has had the greatest influence on your life? Most young people would probably name someone in their family.

Here is another question.

Who in Utah history has had the greatest influence on your life? On all our lives—if we live in Utah?

This may not be so easy to answer. It may be necessary to think about the way we live today. How is life different today because of certain people who lived in Utah before us?

Which Utah people have had the greatest effect on our lives today?

Was it someone who explored, mapped, and reported on the land that is now Utah—and much of the American West?

Was it someone who brought large numbers of fur trappers into the Utah region?

Was it someone who was an influential mountain man, Army scout, and Indian fighter?

Was it someone who brought the first Mormons to Utah and helped build a thriving territory?

Was it someone who was an influential Indian chief and who decided that his people should live peaceably with the white settlers?

Was it someone who commanded the U. S. Army troops in Utah, and who helped develop Utah’s early mining industry?

Was it someone who influenced people through the newspaper?

Was it someone who pioneered dry farming methods in Utah?

Was it someone who invented television?
Was it someone else?
Who?

**Inquiry Activity**

1. Decide who were the six most influential people in Utah history.
2. Rank these six people in the order of their influence, one through six, with number one having the greatest influence.

Below is a list of eighteen influential figures from Utah history. You will need to read carefully about each person before making up your mind. Each can be found in *Utah's Heritage*. All but two appear in the book's index. For those two, the page numbers are listed beside their names.

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Jim Bridger</td>
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<td>Patrick Edward Conner</td>
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<td>George H. Dern (p. 416)</td>
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<td>Earl Douglas</td>
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<td>Philo T. Farnsworth (p. 472)</td>
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<td>John C. Fremont</td>
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<td>Heber M. Wells</td>
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<td>John A. Widtsoe</td>
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<td>Brigham Young</td>
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**Helpful Suggestions**

You should focus on the greatest total effect these people have had on the lives of other people in Utah. Consider both the effect they had on other people living at that time and their effect upon future generations. Their influence can be direct (such as the inventor of television) or indirect (such as the early explorers of the Utah
You must not confuse fame with influence. For example, do you know the name of the man who invented the internal combustion engine? That invention has led to the vast number of cars, trucks, and airplanes that are so much a part of our everyday lives. Was that inventor famous? No, definitely not! Was he influential? Yes, resoundingly yes!

You must not be swayed by whether these people seem famous or unknown, "good" or "bad," or likable or not likable. These things have very little to do with whether a person was influential and has had an effect on our lives.

Think of these things as you consider the names on this list of influential Utah people. Perhaps you will discover other names which you believe should be included on the list. Feel free to add them.

The task before you should be very exciting and will give you a different view of history. Good luck in your discussions and deliberations!

Recommended Reading

WHAT KINDS OF TOWNS AND CITIES DOES UTAH HAVE?

Is your town different from other Utah towns? What makes your town different from other towns? What makes it similar to other towns? No two towns are exactly alike, and some are very different from one another. However, many towns have certain similarities that can be used to group them into types or "kinds" of towns.

Many Utah towns are small, having 5,000 or fewer people. Some of these small towns are tourist or recreation towns, some are farm towns, and some are mining towns--just to name a few. From these simple examples, you can see that towns can be grouped in several different ways. You can also see that the same town can be in more than one kind of grouping system, such as both size and local industry.

Arranging things into groups is called classification. Each thing or item is placed in a class (or category) containing similar items.

Inquiry Activities

What do you know about Utah's towns and cities? Do you know enough about them to CLASSIFY them into useful groups? It is really easier than it may seem.

Begin by making a list of at least 25 Utah towns and cities. (It is a good idea to use a Utah highway map when making your list.) Next study the highway map to learn more about how these towns and cities are alike and different. One of the first things you may notice is differences in population. To classify towns and cities by population, you would make categories such as: 1-2,500; 2,500-5,000; 5,000-20,000; 20,000-50,000;
and 50,000 and above. You can also classify towns and cities according to their elevation. To classify on the basis of elevation, you would make categories similar to the ones shown above for population.

There are many other ways to classify towns and cities. Think about their geography, natural resources, historical similarities, location, and grammatical characteristics—among others.

(a) Make a list of different ways that Utah towns and cities can be grouped or classified. Make the list as long as you can. You can begin with the two examples already given: population and elevation. The ideas given in the previous paragraph should help you think of other examples.

(b) Classify all 25 or more towns and cities on your list using one of the examples you have thought of.

(c) Compare your list of ideas with the list found in module number 41. How many of these examples did you include on your list?

(d) Classify the same list of towns and cities another way.

(e) Study your list of ideas and the list found in module number 41. Which of these ideas make the most sense? Which make the least sense? Do these two lists contain all the possible ways to classify towns and cities? Who decides how things and ideas should be organized and classified?

(f) Why do people classify things and ideas? How important is classification?

Recommended Reading


Official highway map. Utah State Department of Highways, Salt Lake City.
As you travel from one part of Utah to another, you see remarkable differences. Mountains, valleys, canyons, deserts, and Great Salt Lake all serve to create a changing landscape. Utah is divided into twenty-nine (29) counties. Each county has its own personality. There are large counties and small counties. Some straddle Utah’s mountain peaks, while others spread across Utah’s driest areas. Some have only a few people living there. Others contain great numbers of people. Some have many farms and ranches. Others have fewer farms and ranches, but instead are centers of mining or manufacturing.

Each county contains several towns and/or cities. The business of the county is carried on in the county courthouse. The county courthouse is located in a town or city known as the county seat. The county seat is usually the most important town in the county.

Learning About Utah’s Counties

In this module you will learn more about Utah’s counties and county seats.

Materials Needed:
1. A ditto copy of the outline map included in this module.
2. A Utah highway map. (Preferably a map printed by the Utah State Department of Highways)
3. A copy of Utah’s Heritage by Ellsworth.
4. A ruler.
5. Colored pencils, water colors, or crayons.
Inquiry Activities

1. On a ditto copy of the outline map of Utah, neatly print the names of each of Utah's twenty-nine (29) counties. This information can be found on page 505 of Utah's Heritage.

2. Below is a list of the county seats of each of Utah's twenty-nine counties. On the outline map, place a dot to mark the exact location of each county seat. Next to each dot, neatly print the name of the town. The location of each county seat can be found on the map on page 505 of Utah's Heritage. Please note: The name of each county should be printed larger than the name of the county seat.

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<th>County</th>
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<td>Davis</td>
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<td>Uintah</td>
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<td>Utah</td>
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<td>Iron</td>
<td>Parowan</td>
<td>Wasatch</td>
<td>Heber City</td>
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<td>Juab</td>
<td>Nephi</td>
<td>Washington</td>
<td>St. George</td>
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<td>Kane</td>
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</table>
3. Study the map of Utah counties (either the ditto map you have completed or the map on page 505 of Utah's Heritage. Notice the shapes and sizes of the counties. Make a mental note of where some of them are located. Notice especially which counties are located next door to your own.

4. With colored pencils, water colors, or crayons, color the counties so that no two that touch each other are the same color.

5. How do you suppose the counties got their shapes? (Some are pretty strange.) Learn to identify your own county by its shape.

6. Using your highway map, try to determine whether any of the county lines (borders) are drawn along natural geographic features. What kinds of geographic features have been used to draw these borders?

7. Why do you think some counties are so large while others are so small? Does size have anything to do with the number of people who live there?

8. Which are Utah's largest and Utah's smallest counties in terms of the number of square miles? The answer cannot be easily found by just looking at the map.

   Try the following method. Find the scale on the highway map. It will say that one inch equals a certain number of miles. Using a ruler and the scale, figure as closely as you can the number of square miles in the several largest and several smallest counties.

9. Which county has the most people, and which has the fewest? (The Utah highway map has this information.)

10. Which is Utah's largest city? In what county is it located?

Where is the county seat?

11. Which county seat has the smallest population?
12. Which counties are located in the following places:
   (a) the northwest corner of Utah?
   (b) the north northeast corner of Utah?
   (c) the east northeast corner of Utah?
   (d) the southwest corner of Utah?
   (e) the southeast corner of Utah?

13. What is the "four corners" area? Which Utah county is at the four corners?

14. Which county contains Utah's highest point? Which county contains its lowest point?

15. Which county(s) has the coldest climate? Which county(s) has the warmest climate?

16. Which counties have the following:
   (a) copper mining?
   (b) coal mining?
   (c) oil wells?
   (d) defense industries (including military bases)?
   (e) Great Salt Lake?

17. Do you think it would be a good idea to combine some of the smaller counties into a single larger county? Would it be a good idea to combine a small county with a nearby large county? Either plan would reduce the number of counties in Utah. Think carefully and give good reasons for your answers.

18. Do we need counties at all? Couldn't we get along just as well with just the state and cities? Think carefully and give good reasons for your answers. Discuss this idea with others in the class.

19. Memorize where each county is located and learn how to spell
its name. Practice filling an empty outline map until you have learned all the counties.
COUNTY BINGO

County Bingo can be lots of fun, and it is a good way to learn the names of Utah's 29 counties. In this module you will learn how to MAKE the bingo game, and you will learn how to play it.

For the purposes of County Bingo, each Utah county has been given a symbol which appears on the bingo cards. For example, "Wb" is the symbol for Weber County. The list of Utah counties, their symbols, and their county seats is given on another page of this module.

How To Make The Bingo Game

You will need to make the following items for County Bingo.

1. Bingo cards. The game has 24 cards, each with a different pattern of symbols. First, cut 24 cards from tag board or manila paper. Make each card five inches by five inches. Then, with a felt-tipped pen, draw 25 one-inch squares on each card.

   Twenty-four different bingo patterns are shown on the last two pages of this module. With a felt-tipped pen, fill in the 25 squares on each of the 24 bingo cards. Make one bingo card for each of the 24 patterns.

   Caution: Do not alter any of the patterns shown in this module.

2. Bingo markers. A marker is needed to place on a square when that county symbol is called by the caller. Special chips are not needed. You can use buttons, dry beans, dry corn, or any other small item. You should have at least 12 markers for each player, or about 300 markers for 24 players.
Calling squares. There are 29 calling squares, one for each county. These are picked at random from a box and called by the caller.

Cut 29 squares, each one and one-half inches square, from manila paper or tag board. On each square, print the name one county, its county seat, and its bingo symbol. Below is a sample calling square.

```
Washington
Ws
St. George
```

The squares may be printed on one or both sides, whichever you prefer.

Rules For Playing County Bingo

Each game of County Bingo can be played by two to 24 players. Besides the players, each game must have a caller.

The caller. It is the job of the caller to pick calling squares at random and call them to the players.

First, the caller places the 29 calling squares in a box and stirs or shakes them. Then, without looking into the box, he picks out a square and—in a loud voice—reads the name and symbol of the county. Then he prints the name and symbol on the chalkboard for everyone to see. (The chalkboard is a good place to keep track of the counties that have been called.)

The caller continues to call counties until someone wins.

The players. A bingo card and at least 12 markers are given to each player. The player watches his card as the counties are called.
When he hears a county that appears on his card, he places a marker on that square. The counties are also printed on the chalkboard as they are called. This allows the player to return any markers to the correct squares if they are accidentally moved.

**Winning the game.** A player wins when he gets a row of five markers in a straight line. The row can be across, down, or diagonal. When the player thinks he has won, he calls out "Bingo!" The caller then compares the player's card with the list on the chalkboard. If there are no mistakes, the player is announced the winner.

**County Seat Bingo**

County Seat Bingo is very similar to County Bingo. The rules are the same, and it uses the same bingo cards, bingo markers, and calling squares. The game differs only as follows.

The purpose of County Seat Bingo is to help students learn the county seat of each county—and to provide a more challenging game than County Bingo. To play County Seat Bingo, the caller calls only the name of the county seat. He also writes only the name of the county seat on the chalkboard. The players must place their markers on the correct county (symbol) when the county seat is called. Therefore, each player must know all 29 counties, county seats, and symbols in order to play successfully.

**Utah's Counties, County Seats, And Bingo Symbols**

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<tr>
<th>County</th>
<th>Symbol</th>
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<tr>
<td>Weber</td>
<td>Wb</td>
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Bingo Card Patterns

The following are the patterns for making 24 different County Bingo cards. Make one card of each pattern as previously explained.

<table>
<thead>
<tr>
<th>Bingo Card No. 1</th>
<th>Bingo Card No. 2</th>
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<tr>
<td>Bv Jb Ch Cr Dg</td>
<td>Ch Md Dg Dv Dc</td>
<td>Dg Pi Dc Em Gf</td>
</tr>
<tr>
<td>Gr SJ Em Dc Dv</td>
<td>Jb Sv Gr Gf Em</td>
<td>Md To Jb Ir Gr</td>
</tr>
<tr>
<td>Ir Sm Kn Md Mr</td>
<td>Kn Un Mr Pi Ri</td>
<td>Mr Wt Ri SL SJ</td>
</tr>
<tr>
<td>Sp Bx SL Ri Pi</td>
<td>Sm Cr Sp SJ SL</td>
<td>Un Dv Sm Sv Sp</td>
</tr>
<tr>
<td>Sv Gf To Un Ut</td>
<td>To Ir Ut Wt Ws</td>
<td>Ut Kn Ws Wy Wb</td>
</tr>
<tr>
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<td>Bingo Card No. 6</td>
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<tr>
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<td>Gf Sp Ir Jb Kn</td>
<td>Ir Sm To Md Mr</td>
</tr>
<tr>
<td>Pi Ut Md Kn Jb</td>
<td>SL Ws Pi Mr Md</td>
<td>Sp Wb Wy Ri Pi</td>
</tr>
<tr>
<td>Ri Wy SJ Sp Sv</td>
<td>SJ Bv Sv Sm To</td>
<td>Sv Ch Cr Un Ut</td>
</tr>
<tr>
<td>Wt Em Un To Sm</td>
<td>Wy Gr Wt Ut Un</td>
<td>Wt Jb Kn Ws Wt</td>
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<tr>
<td>Ws Mr Wb Bv Bx</td>
<td>Wb Ri Bx Ch Cr</td>
<td>Bx SJ SL Dg Dv</td>
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<td>Kn Md Ut Pi Ri</td>
<td>Mr Wt Ri Wy SJ</td>
<td>Ri SL Wb Sp Sv</td>
</tr>
<tr>
<td>Sm Sv Bv SJ SL</td>
<td>Un Cr Sm Bx Sp</td>
<td>Wt Ut Dg To Sm</td>
</tr>
<tr>
<td>To Un Dv Wt Ws</td>
<td>Ut Dc Ws Gf Wb</td>
<td>Ws Wy Gr Bv Bx</td>
</tr>
<tr>
<td>Ch Bx Mr Wb Wy</td>
<td>Dg Pi Ch SL Bv</td>
<td>Dc Dv SJ Cr Ch</td>
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<tr>
<td>Cr Dg Sp Dc Em</td>
<td>Dv To Em Sv Gr</td>
<td>Em Gf Un Ir Jb</td>
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<td>Bingo Card No. 10</td>
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<td>Bingo Card No. 12</td>
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<td>SJ Sp Bx Sm To</td>
<td>Sv Sm To Dg Ut</td>
<td>To Un Ut Dc Ws</td>
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<td>Wy Ws Dc Ut Un</td>
<td>Bv Wb Wy Em Wt</td>
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<td>Ir Gr Gf Un Dc</td>
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<tr>
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<td>Ws Wy Wb Md Bx</td>
<td>Wb Bv Bx Pi Cr</td>
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<tr>
<td>Pi Ri Ch SJ Bv</td>
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<tr>
<td>Ir Sp Gf Em Dc</td>
<td>Kn Jb Ir Gr SJ</td>
<td>Mr Un Kn Jb Ir</td>
</tr>
<tr>
<td>Jb To Md Mr Pi</td>
<td>Md Mr Pi Ri Wy</td>
<td>Pi Ws SL SJ Sp</td>
</tr>
<tr>
<td>Sv Gr SJ SL Ri</td>
<td>To Sm Sv Sp Em</td>
<td>Ut Dc To Sm Sv</td>
</tr>
<tr>
<td>Sm Ch Un Ut Wt</td>
<td>Un Ut Wt Ws Gf</td>
<td>Wt Md Wy Wb Bv</td>
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<th>Bingo Card No. 21</th>
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<td>Gr Sm Jb Kn Md</td>
<td>Jb Kn Un Mr Pi</td>
</tr>
<tr>
<td>Ri Pi Mr Md To</td>
<td>Sp Wb SL Pi Mr</td>
<td>Sv Sp To SL Ri</td>
</tr>
<tr>
<td>SL SJ Sp Sv Ch</td>
<td>Sv Ch To Un Ut</td>
<td>Sm Wb Dg Ut Wt</td>
</tr>
<tr>
<td>Ws Wt Ut Un Jb</td>
<td>Bv Ir Wy Ws Wt</td>
<td>Bx Bv Md SJ Ws</td>
</tr>
<tr>
<td>Wy Wb Bv Bx Kn</td>
<td>Bx SJ Cr Dg Dv</td>
<td>Ch Cr Wy Dv Dc</td>
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<td>Pi Ws SL Sm Sp</td>
<td>SL Wb Sp Dc Sm</td>
</tr>
<tr>
<td>To Ch Sv Sp SJ</td>
<td>Ut Wy To SJ Sv</td>
<td>Ws Sv Ut Un To</td>
</tr>
<tr>
<td>Un Dv Wt Ws Wy</td>
<td>Wt Em Dg Wb Bv</td>
<td>Wy Gr Bv Dv Ch</td>
</tr>
<tr>
<td>Cr Mr Bx Bv Wb</td>
<td>Dv Ri Un Ch Bx</td>
<td>Em SJ Bx Jb Cr</td>
</tr>
<tr>
<td>Dg Sm Dc Em Gf</td>
<td>Dc Cr Gf Gr Ir</td>
<td>Gf Wt Ir Dg Kn</td>
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What will Utah be like in the year 2100? Is there any way to see that far into the future? Can anyone really predict the future? Many people believe it can be done, and nearly everyone likes to try it now and then. The only way that anyone can see the future is by studying the past--history.

How are history and the future related? They are connected by the present--today!

Tomorrow, today will be yesterday, and yesterday is history. Today connects yesterday with tomorrow. Only a week from now, tomorrow will be a fading memory--and part of history.

When you are young, things seem to change very little. Change is always going on, however. You are growing up, and every adult is growing older. Change is easy to see as you watch a baby grow to become a toddler, then a school-age child. Changes in other people and the world around us are hard to see. Still, these things are changing all the time.

Think of the changes in transportation during the past 100 years. A century ago, nearly everyone used horses for transportation, and sailing ships traveled all the world's oceans. The first successful airplane flight came in 1903, and airlines began carrying passengers in 1926. What a difference in speed and comfort!

Think of the changes in communication. We have come from messengers on foot and horseback to the telegraph and telephone--and
now to television beamed by satellite and telephones beamed by laser. Refrigerators did not come into popular use until the 1920s and 1930s, and most farms had to wait until the 1940s to have electricity and running water. The atomic age began in 1945—only yesterday, as history is measured. The list of changes could go on and on.

Now that we have studied history and know something about the past, what about the future? Utah's pioneers were busy building the "good life" for themselves, their children, and their grandchildren. They faced many problems in their task of building a new land, but they worked hard, believing in their success and their future.

What about our future? What will happen in Utah between now and the year 2100? Do we believe in our success and our future?

Utah does not and cannot exist alone. The Mormon settlers soon found other people in their midst, some passing through, others deciding to stay. The same thing is true today, only more so. Happenings in Washington, D.C., New York, Kansas City, Seattle—even Japan—are felt in Utah. The entire world has become one gigantic community in which everyone shares both the good and the bad. As people in this world, we share food, air (including pollution), television programs—and many manufactured products—with people in other parts of the world. The same cars, cameras, and transistor radios are sold in Tokyo, Cairo, Paris, London, New York, and St. George—and everywhere in between.

We also share world problems. The world is threatened with a shortage of petroleum. All sources of energy are becoming more and more expensive and threatening to our environment. The increasing population of the world is straining our food supplies. Air and water pollution have become worldwide problems. These problems—and many others—have
Many people gloomy about the future.

Other people are optimistic. They think mankind—and science—will find ways to solve these and all other problems. This was a firm belief of Philo Farnsworth, inventor of television, Utah native, and one of the most brilliant men of the twentieth century. He often said, "There is no problem which cannot be solved by man if he intelligently applies himself to the task long enough and diligently enough."

Inquiry Activities—Thinking About The Future

1. Some of our government leaders have been accused of not having a "sense of history." What do you think this means? Why would a "sense of history" be important to a national leader such as the President of the United States?

2. If you were elected "President" of another planet which you had never visited, what problems would you encounter? Could you govern those people if you didn't know what they had done in the past? What kinds of important things do we learn from studying the past?

3. The population of Utah continues to grow. More people need more homes.

   (a) Make a study of Utah and try to decide where most of Utah's people will be living in the year 2100. Give reasons for your answer.

   (b) It has been observed in Utah, as well as in California and other states, that towns tend to cover up the best farm land as they grow. More people, therefore, result in less farm land. Do you think this should be allowed to happen? Could it or should it be prevented? Could towns be built somewhere else instead? Discuss this problem with the class.
(c) Buckminster Fuller invented a dome-shaped structure that he named the geodesic dome. He says the design can be used to build cheap and simple housing for the earth's growing population. A picture of the geodesic dome can be seen in the World Book Encyclopedia under "Architectural Terms."

Read about Buckminster Fuller and the geodesic dome. Do you think the geodesic dome is a practical solution to future housing needs? Make a report to your class.

4. America has several important minority groups--Indians, Mexican-Americans, Blacks, and Orientals. In the past, life has been much harder for these Americans than for the "mainstream" of white Americans. In recent years, life for these people has been changing slowly for the better.

Try to predict what life will be like for these minority Americans in the year 2100. Give reasons for your predictions.

5. Dirty air and dirty water! These are the main kinds of pollution talked about these days. The smog often seen in the Great Basin along the Wasatch Front is the plainest example of dirty air in Utah. Dirty air and dirty water seem to come with the growth of technology, industry, and population.

Read about the causes of air and water pollution. How can these problems be reduced? How much air and water pollution will there be in Utah in the year 2100? Prepare a report for your class.

6. The radiation dangers of nuclear energy have become a great concern to many people. It is feared that the atomic tests in Utah and Nevada during the 1950s and 1960s have caused cancer in people living in southern Utah. More studies need to be done on the dangers of using
nuclear energy for electric power and other uses.

Read about nuclear energy, nuclear testing, and nuclear power plants. An encyclopedia is a good place to start. Also read some articles in magazines and newspapers that discuss the dangers of nuclear radiation and nuclear waste. Think about Utah when reading about these problems.

What do you think will be the future of nuclear energy in Utah for the year 2100? Consider all these things, then write a report to present to your class.

7. For the past several years, America and much of the world has been threatened by an "energy crisis." Try to find out the causes of the "energy crisis" by reading several articles in magazines and newspapers. Make a report to your class.

8. It is certain that the world will run out of petroleum (oil) some day. People do not agree on when it will happen. No one likes to think that it will be soon. Some say that the world's petroleum may run out during the next twenty years; others give it fifty years or more.

This problem has caused some new thinking about other fuels such as wood, coal, oil shale, tar sands, alcohol, and nuclear power. Research is now being done on solar power (sunlight), wind power, and water power—including the ocean tides. It is interesting to note that Utah has every one of these resources except ocean tides.

Which of these energy sources has the most promise? Research one or more of these resources and make predictions for the year 2100. Be sure to include the role that Utah will play.

Note. These are some questions to explore when thinking about answers to this problem:
How much uranium still exists in the world?
How much coal, oil shale, and tar sand exists in the world?
How can sunlight, wind, and water be harnessed to produce electric power? How can this power be stored?

9. Some people have suggested that books and knowing how to read and write will be unnecessary in the future. It is their idea that television, tape and video recorders, computers, and other electronic devices will take over these functions.

Is this idea reasonable or realistic? Think about it carefully, then have the entire class discuss the idea.

10. What will happen to transportation when the world uses up all its petroleum? How could anyone travel? Without petroleum, will there be a decline in technology? Will the machine age come to an end? Will we have to return to the ages of horses and muscle power?

Food for thought. Mankind traveled for thousands of years before the modern age.

The Amish people who live in Pennsylvania and other eastern states avoid using modern machines. They still use horses for farming and transportation.

Someone has suggested building a fleet of computerized sailing ships to carry freight and passengers between America and Europe. Computers would be used to keep the sails set exactly to capture the greatest possible wind power. The computers would be powered by the sun.

In the summer of 1979, the John F. Leavitt, a two-masted sailing schooner, was launched in Maine. This sailing ship is 97 feet long and can carry 150 tons of freight. Its owner will use it to carry cargo between New England and Caribbean ports such as Haiti. The John F.
Leavitt is the first freight-carrying schooner built in America since 1939. It has no engines. It is powered entirely by its sails and wind power--just as ships were for centuries before modern times. The cost of hauling freight on the John F. Leavitt is twenty to fifty percent less than on an engine-powered freighter--and it does not pollute the air or water.

What about other forms of transportation? Are there other practical ideas that have been tossed aside in the rush for newer technology?

What can you do? Do as much reading as possible on other forms of transportation and power--both old and new. Search for workable ideas. After thinking about what you have learned, write a report to present to the class.

Note. Be sure to consider the limitations of older forms of transportation and work. For example, would horses be practical as a substitute for tractors? How much land would be needed just to raise food for the horses needed to operate a farm? How many more people would be needed for farm work? Each method has its own limitations.

11. Create a time line from 1940 to 2100. Mark on it the important events occurring from 1940 to the present. After studying the ideas in this module, mark any events which you foresee in the future.

12. The rate that the world's population is increasing is an important world concern. The number of people on earth has increased as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
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<tbody>
<tr>
<td>1650</td>
<td>500,000,000</td>
</tr>
<tr>
<td>1850</td>
<td>1,000,000,000</td>
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(500 million)

(1 billion)
You can see from these figures that the world's population doubled during the 200 years between 1650 and 1850. It has more than quadrupled in the 129 years between 1850 and 1979.

The growth of population in the United States has been much more dramatic. In 1790, the population of the United States was 4,000,000 (4 million). In 1979, the population had grown to 220,806,000. This is an increase of fifty-six times as many people in 188 years. We must remember, however, that there were only thirteen states in 1790, and most of the rest of the United States was undeveloped land.

The growing world population is largely because of the growth of human knowledge. There have been high birth rates throughout most of history. However, population numbers have been kept low by high death rates due to wars, disease, and starvation. In the past, death rates have been especially high among infants and children.

As human knowledge improved, death due to disease has decreased because of improved sanitation and personal hygiene. Better farming methods and knowledge of nutrition have reduced deaths due to malnutrition and starvation in much of the world.

Now that death rates have been reduced, more children are becoming adults, and adults are living longer. This has kept the world's population increasing at a rapid rate. This steady increase has raised some important questions:

How many people can the earth support?
How can all the people be fed?
Where will the people live?
How can the people be housed?
Will the larger population use up all of the earth's natural resources?
Should people limit the size of their families?
There was worry about having enough food for an increasing population as early as 500 B.C. in China. Han Fei-Tzu wrote at that time:

People at present think that five sons are not too many and each son has five sons also, and before the death of the grandfather there are already 25 descendents. Therefore people are more and wealth is less; they work hard and receive less.

In 1798, Thomas Malthus, an English economist, published his book, *Essay on the Principles of Population*. Malthus believed that the number of people always increases faster than the food supply. He said that only the deaths due to war and disease prevent widespread world starvation.

Similar ideas were published in 1968 by Dr. Paul Ehrlich in his book, *The Population Bomb*. In his book, Dr. Ehrlich lists eleven "Inalienable Rights" for mankind:

1. The right to eat well.
2. The right to drink pure water.
3. The right to breathe clean air.
4. The right to decent, uncrowded shelter.
5. The right to enjoy natural beauty.
6. The right to avoid regimentation.
7. The right to avoid pesticide poisoning.
8. The right to freedom from thermonuclear war.
9. The right to limit families.
10. The right to educate our children.
(11) The right to have grandchildren.

It is Dr. Ehrlich's belief that people will not continue to enjoy these rights unless population growth is brought to zero. This means the same number of births and deaths.

Other people disagree with the idea that there can be too many people, or that a greater number of people will cause starvation. They believe that God or science will "find a way." They point out that the great disaster did not occur when Malthus predicted it would. They also relay on such scientific developments as improved farming methods and new types of crops that produce greater yields. They also note that there are vast areas of land in the West that are not being farmed.

The question of population is just as important in Utah as in other places. Utah's population has steadily increased since the first white settlers came. Your parents and grandparents can tell you about the changes they have seen while living in Utah. They will surely mention the crowded freeways and the many new housing developments that have been so noticeable in the past twenty-five years.

There are no simple answers to the questions raised here. Some of the world's brightest people are studying these questions.

What can you do? Organize a debate on the question, "Should population growth be limited?"

There should be two teams of three people each (a total of six people). One team will debate the "yes" side and one team will debate the "no" side.

Each debater will argue the side he disagrees with. If you believe the answer is "yes," you will be on the "no" team. If you believe the answer is "no," you will be on the "yes" team. In this way, everyone
who debates will gain a better understanding of the problems and will be better able to look for solutions in real life.

Note. A debate must be based on facts, not just opinions. A "debate" based on opinions alone can develop into an emotional argument which can cause anger and hurt feelings.

A real debate uses opinions backed up by facts. To have enough facts for a good debate, you will have to read to find them. When you are debating for an opinion you disagree with—as in this activity—it is doubly important to have enough facts before you begin.

13. Other Topics To Study For The Year 2100.

farming
forests and wildlife
health
life in cities
longevity
mineral resources
recreation
schools

Recommended Reading For Students
And Teachers


Recommended Reading For Teachers

Module No. 3 (Utah's Geography)

1. Bear River
2. The Middle Rocky Mountains
3. Sevier Lake
4. Colorado Plateau
5. Kings Peak
6. Lake Bonneville
7. The Great Salt Lake

Module No. 7 (Early Man in Utah)

1. Anasazi culture
2. cliff dwellings
3. petroglyphs
4. desert gatherers
5. pueblo
6. Fremont culture
7. Ten thousand years of peace.

Module No. 10 (Explorers in Utah)

1. Hastings Cutoff
2. mountain men
3. Pilot Peak
4. Fremont
5. Manifest Destiny
6. Mexican War
7. Miles Goodyear

Module No. 13 (The Mormons Come to Utah)
1. Zion
2. Pioneer Company
3. The Missouri River
4. ship of the plains
5. Hastings Cutoff
6. one hundred days
7. This is the right place.

Module No. 22 (Stamping Through History)
The smoke is blowing away from us, and the American flag is blowing toward us.

Module No. 25 (The Stage to Salt Lake City: A Utah Puzzle)
We are told that the sheriff is in the right-hand side of the rear seat. Thus passenger D is the sheriff.

The miner sat facing the school teacher. If the sheriff is passenger D, the school teacher and the miner must be passengers A and C, though we still don't know which is which.

The school teacher is left-handed, as shown by the clue of the cast on the left hand. Of the names, Lefty Knight would logically be left-handed. Also we are told that Lucky Monson sat on the school teacher's right. By looking at positions A and C, we can see that only passenger C can have someone sitting on the right. Passenger C, then, is Lefty Knight, the school teacher. Seated on Lefty's right is passenger D,
Lucky Monson, the sheriff.

We are told that the miner sat facing the school teacher. Passenger A must be the miner, a man who twists his black mustache. He can't be Red Jackson who has a red beard, so he can only be Quick-Draw Daugs.

This leaves only one passenger--Red Jackson, the bandit. He must be passenger B. Also, he has a red beard, so we must conclude that he is a man.

Who, then, is the woman? "Red Jackson was pleasantly surprised to find himself seated across from a lady." The lady has to be Lucky Monson, the sheriff!

Could a woman really have been sheriff? In America today, why not? We must admit, however, that no such thing ever happened in Utah back in stagecoach days.

Module No. 28 (Cattle Branding)

The rustler found an animal whose brand had a slanted T.

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
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<tbody>
<tr>
<td>X1T</td>
<td>![Crossed Out Brand]</td>
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</table>

Module No. 30 (Clues: A Game of Utah Events)

1. Development of the Anasazi culture.
2. Dominguez and Escalante expedition through Utah.
3. John C. Fremont explorations of the Utah region.
4. The founding of Salt Lake City.
Module No. 35  (Famous Utah People)

1. Loretta Young
2. Philo Farnsworth
3. John Fitzgerald
4. John Browning
5. George Dern
6. Ivy Baker Priest
7. Osmond
8. Ezra Taft Benson
9. The people make Utah great.

Module No. 37  (What Kinds of Towns and Cities Does Utah Have?)

Towns and cities can be classified in many different ways. Some examples are:

- By which county they are in.
- By the kinds of industries located there.
- By the dates they were settled.
- By the type of geographic features where they are located.
- By their section of the state.
- By their elevation.
- By their climate.
- By the first letters of their names.
- By the number of syllables in their names.
PART III
SUMMARY
SUMMARY

Purpose of the Study

The purpose of the study was to produce supplementary curriculum materials which would provide junior high school Utah history students with growth experiences in critical thinking, creative thinking, and positive affective behavior.

Results

The study resulted in the production of forty separate, self-contained learning activity modules using the study of presentday Utah and Utah history as a focus of study.

Each Utah history learning activity module consists of two parts: (1) information, and (2) learning activities. The activities engage students to work with factual data to solve problems; to explore moral, ethical, or other controversial issues; or to otherwise develop hypotheses useful in developing critical thinking, creative thinking, or positive affective behavior. Individual differences are met within most modules by alternative activities for students with differing interests and abilities.
RECOMMENDATIONS

The purpose of this study was solely to generate curriculum materials. It is recommended, however, that future experimental research be conducted to determine the effectiveness of the learning activity modules in developing critical thinking, creative thinking, and positive affective behavior in junior high school Utah history students.
LITERATURE CITED IN PART I


VITA

Katherine Ann Young

Candidate for the Degree of

Doctor of Education

Dissertation: Utah History Learning Activity Modules That Enhance Positive Affective Behavior and Develop Critical and Creative Thinking

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Biographical Information:

Personal Data: Born at Twin Falls, Idaho, April 9, 1941, daughter of Ross and Norna Scully Stoner; married Virgil M. Young December 20, 1964; one child--Susan.

Education: Attended elementary schools at Buhl, Idaho, and Castleford, Idaho; graduated from Castleford High School in 1959; received B. S. in elementary education from the University of Idaho, 1965; received M(Ed) in Reading Education from Eastern Washington University, 1969; attended Creative Problem-Solving Institute at SUNY--Buffalo, 1969; completed the requirements for the Doctor of Education degree in elementary education at Utah State University, 1979.

Professional Experience: 1967-1979, Teacher in Boise, Idaho, public schools (special reading, 3 years; intermediate grades, 7 years); 1978-79, Graduate Assistant in Elementary Education at Utah State University; 1973-1978, Vice-President and co-owner of Idaho Book and School Supply, Inc., Boise, Idaho; 1965-1967, Teacher in Coeur d'Alene, Idaho, public schools (special education, 1 year; fifth grade, 1 year; junior high school remedial reading, 1966 E.S.E.A. summer program).