Achieving Standards with Inspiration® 7

Curriculum-aligned lessons for inspired learning

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Inspiration® SOFTWARE, INC

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Introduction

Achieving Standards with Inspiration® 7

The twenty-first century, and beyond, will demand new ways of doing things, looking at the world differently, thinking systematically, and constantly assimilating new information. Lifelong learning will be fundamental to success.

To meet these expanding needs, curriculum standards and benchmarks are changing to include more "learning to learn" skills. One such change is the integration of visual learning and thinking skills into the standards. Research demonstrates that visual learning methodologies help students think out-of-the-box, understand concepts, connect information, and remember facts. In short, visual learning helps students create and learn.

The curriculum standards that frame the lessons in this book derive from those set by professional associations and individual states. They demand far more of learners than the mere memorization of facts. Instead, they require students and teachers to explore systems of thought, understand world views, and implement processes, both creative and investigative—endeavors that lend themselves admirably to visual learning strategies.

This book is just a start. We hope the ideas it contains stimulate your own thinking as you adapt them to the needs, contexts, and styles of your students. More importantly, we hope the learning strategies presented here serve students well, as they embark on a future filled with thoughtful choices and understanding. Building a foundation for lifelong learning is the ultimate standard.

Mona L. Westhaver
Co-founder and President
Inspiration Software®, Inc.

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The lessons in this book use Inspiration 7 and the Inspiration templates. To open an Inspiration template, on the File menu, choose Open Template.

When you see this symbol  , it indicates that an additional, downloadable template is available. These special templates are provided for use specifically with this book. Templates can be downloaded from www.inspiration.com/achieving.

Language Arts

Visual learning techniques such as story webs, character maps, and Venn Diagrams were developed by language arts teachers, and are recognized as tried and true practices. The lessons in this section present these and other techniques for incorporating visual learning into your language arts curricula.

Amazing Words

All languages grow and change in response to the lives and times of speakers. As students build their vocabulary, they can also map the "lives" of individual words that have come into our language.

Standard

Students use knowledge of word meaning to develop basic and technical vocabularies.

Skills

- Awareness of language change
- Research strategies
- Word derivation

Materials needed

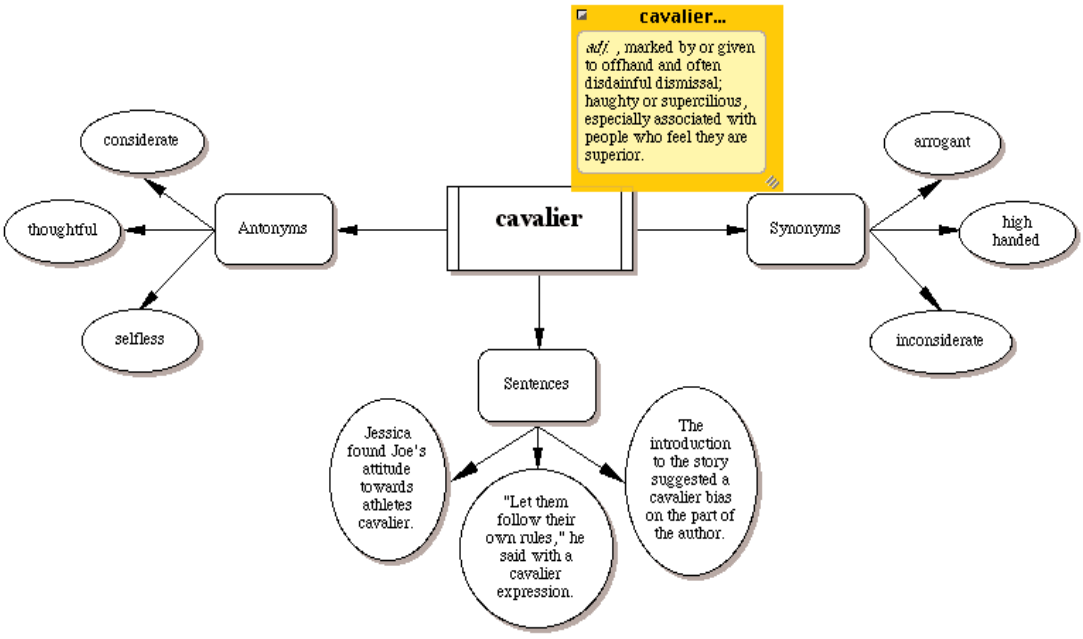
Dictionaries, thesauruses, and other language reference books

Preparation

1. Prepare a lesson on several words with unusual derivations (for example, chortle, bloomers, satellite, etc.).
2. Explain the meanings of the words and their derivations.

Lesson

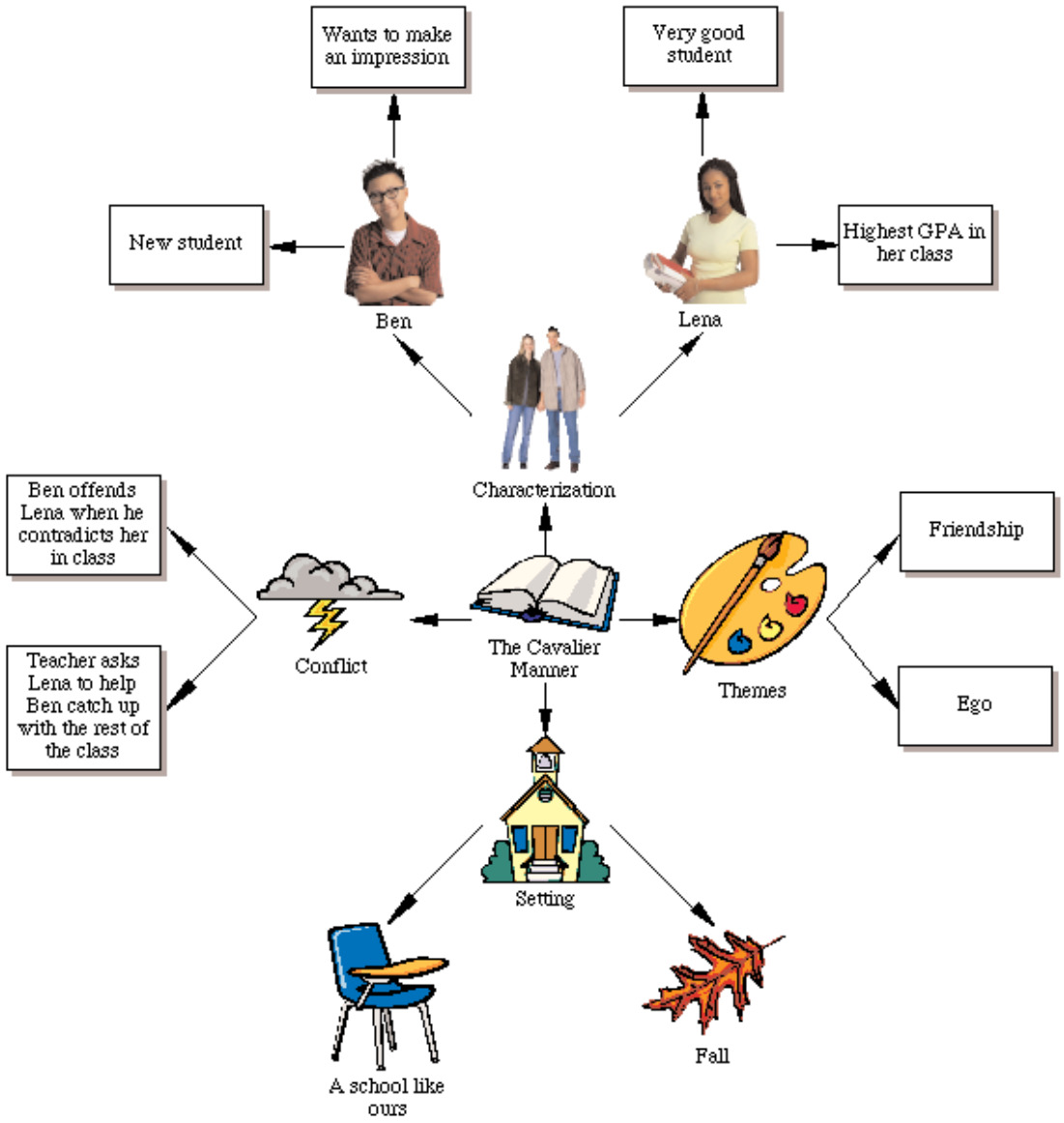
1. Open the Inspiration® Language Arts—Vocabulary template. Enter the word in the correct symbol and add the definition in the open note.
2. Have students fill in the remaining parts of the template.



3. When appropriate, add other categories for additional information about the word.

Follow-up activities

1. Throughout the year, have students submit entries for a "Word of the Week" to post on the classroom bulletin board.
2. Using the selected word as a title, encourage students to write a story or poem with that theme. If students choose to write a story, the Language Arts—Literary Web template can help them get started.



Challenge activity

Have students investigate and diagram the process used by the editors of the *Oxford English Dictionary* as they determine which words should be "officially" added to the language.

Figures of Speech

Figures of speech keep our language rich and lively. They also help students progress in their ability to think abstractly.

Standards

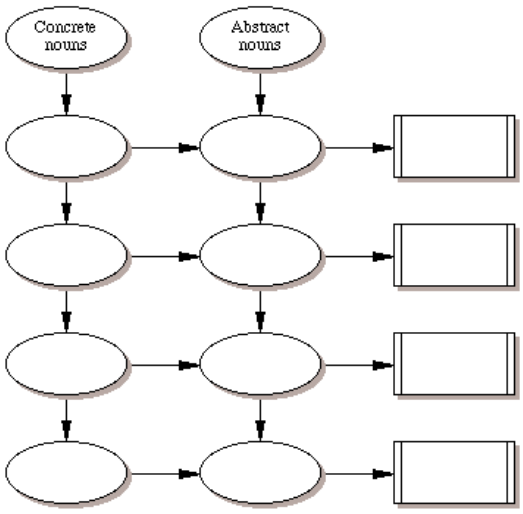
Students recognize, interpret, and use figures of speech.
Students incorporate figurative language into their writing.

Skills

- Abstract thinking
- Creative writing

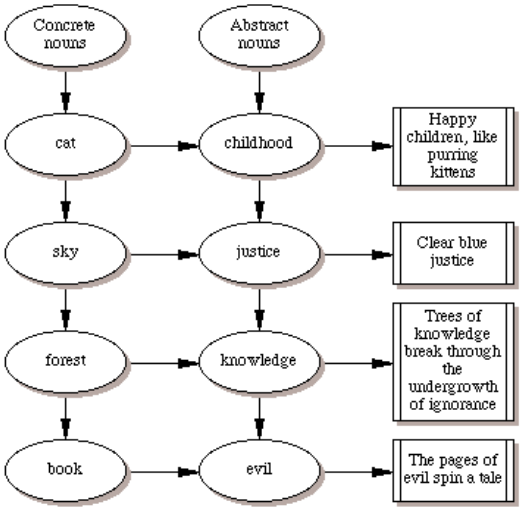
Preparation

1. Create a diagram like the one to the right and save it as a template using the Inspiration® Template Wizard. Name this template Figures of Speech.
2. Review the definitions of metaphor, simile, and personification, and provide examples. If necessary, use the Inspiration® Thinking Skills—Comparison or Thinking Skills—Venn Diagram templates to further show how unlike ideas can be compared to reveal a metaphor.



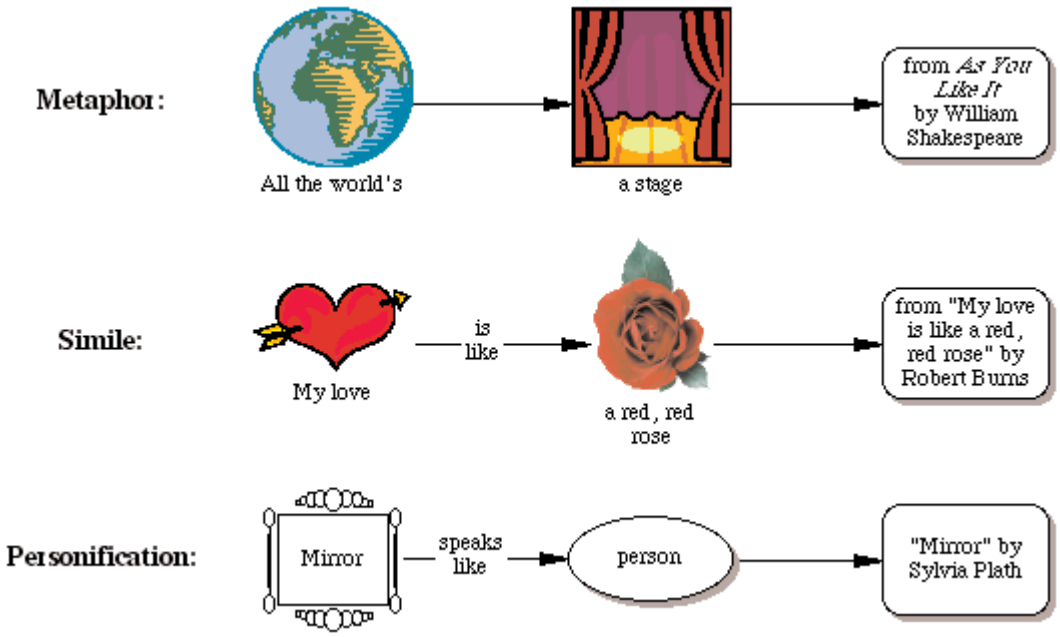
Lesson

1. Discuss the differences between abstract and concrete nouns. Open the Figures of Speech template you created, and ask students to brainstorm concrete nouns and abstract nouns. Enter their suggestions into the subtopics associated with each type of noun.
2. Study each pair of words and ask volunteers to come up with figures of speech that wed the two nouns. Enter the new figure of speech into the rectangular symbol associated with each pair.



Follow-up activities

1. Encourage students to find examples of figurative language in published works and create a diagram to illustrate their work.



2. Ask students to use the Record command to add a sentence using their figure of speech.

3. In small groups, have students go through their writing portfolios and look for places to add figurative language.

Challenge activity

Have students use concept maps to explore figures of speech such as hyperbole, oxymoron, extended metaphor, and so on.

Improving Comprehension

Many scholars have shown the importance of regular written response to reading, both as a way of monitoring student comprehension and providing a forum for skills enhancement.

Standard

Students read a range of literature from many periods in different genres to build an understanding of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience.

Skills

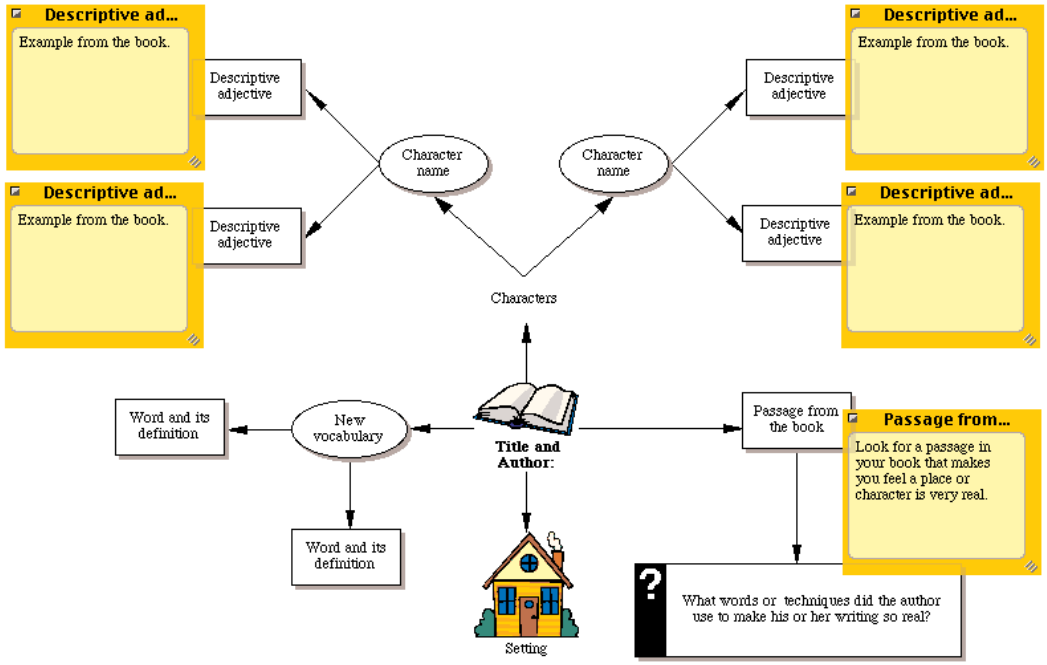
- Support reading process and critical thinking
- Metacognitive skills
- Writing skills

Materials needed

Each student's individual choice of reading material

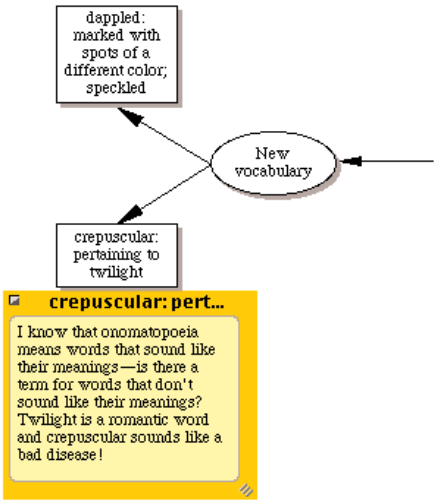
Preparation

1. Make a list of the information students should be looking for in their independent reading. For example, "Find a passage you think is very descriptive," or "List new vocabulary words you find in your reading and investigate their meaning."
2. Update the list every week to correspond with curriculum. Eventually, students can volunteer questions for the group to respond to.
3. Post the weekly list on the bulletin board and remind students to look at it often.
4. Create a diagram with your questions and save it as a template using the Inspiration® Template Wizard. Name this template Reading Comprehension.



Lesson

1. As students finish their reading, have them record their reading responses in the Reading Comprehension template you created.
2. Encourage students to use the Note tool to add information if they have additional comments or questions about their reading.



Follow-up activities

1. Have students respond to one another's diagrams. This allows them to learn about other books they might want to read and gives them further practice in reading and writing.
2. Print out diagrams and create a bulletin board of recommended books.
3. Use this technique in content areas to monitor students' understanding of assigned reading.

Challenge activity

Have students brainstorm analytic questions about literature and apply these questions to the text they read.

Using Traditional Narratives

This lesson helps students understand the archetypal foundations of traditional narrative, useful both to literary analysis and their own writing.

Standards

Students understand the ways in which culture and time period influence a literary work.

Students understand recurring themes and conventions of literature.

Skills

- Awareness of narrative patterns
- Literary analysis

Materials needed

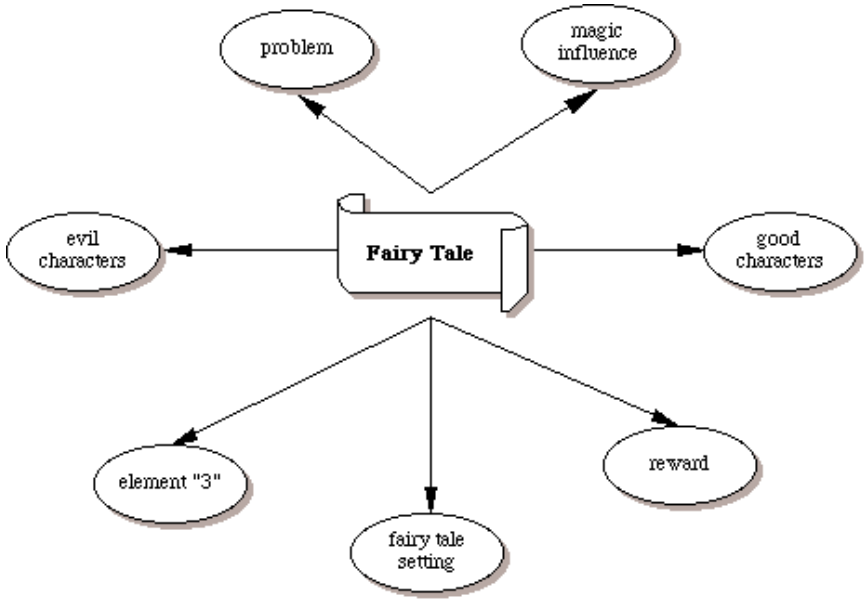
Collection of books containing a variety of traditional narratives (legends, fairy tales, folktales, etc.).

Preparation

1. Plan a half hour silent sustained reading period each day for at least one week prior to the activity. This gives students an opportunity to become familiar with the stories in your collection of traditional narratives.
2. After each reading period, have students record their observations. For example, "the youngest son or daughter is often the hero of the story."

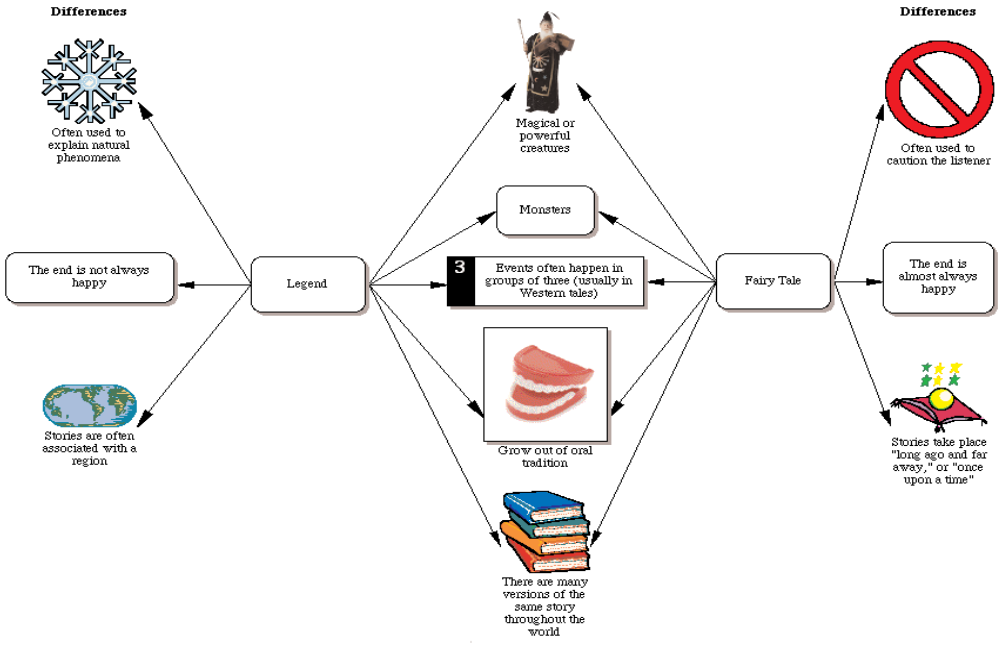
Lesson

1. Choose one kind of traditional narrative and have students brainstorm its characteristics.



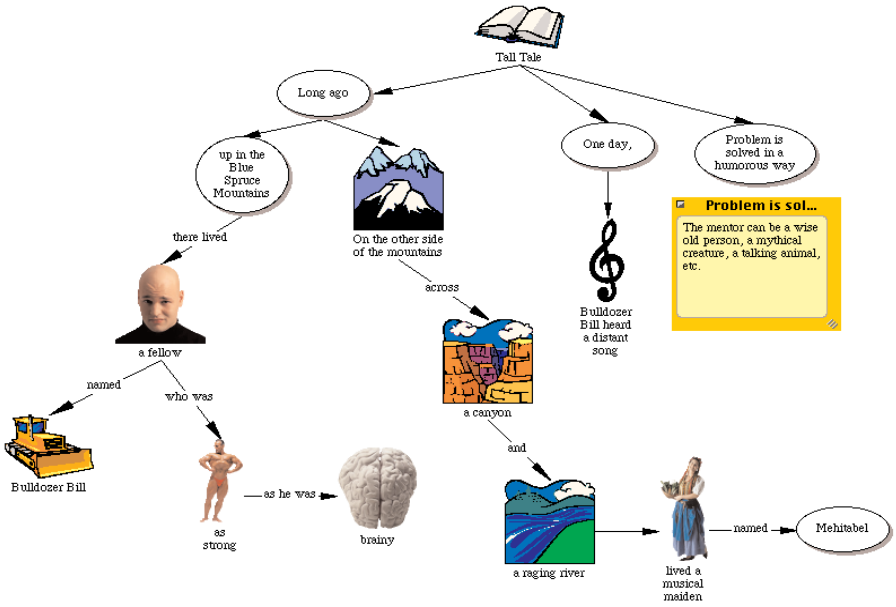
2. Discuss these characteristics and have students offer examples from the stories they have read. Continue with several more traditional narratives.

3. Open the Inspiration® Thinking Skills—Comparison template.
4. In small groups, have students compare two of the traditional narrative types.



Follow-up activity

Have students write their own version of a traditional narrative, using Inspiration to diagram the structure of their story.



Challenge activity

Compare conventions of the European fairy tale with similar tales from other world traditions.

Writing a Mystery Story

Reading mysteries demands close attention to text and the use of problem solving skills. Even more demanding, however, is the writing of a mystery. This lesson helps students get a story started and reinforces skills learned in reading.

Standards

Students write to express, discover, record, develop, reflect on ideas, and to problem solve.

Students use available technology to support aspects of creating, revising, editing, and publishing texts.

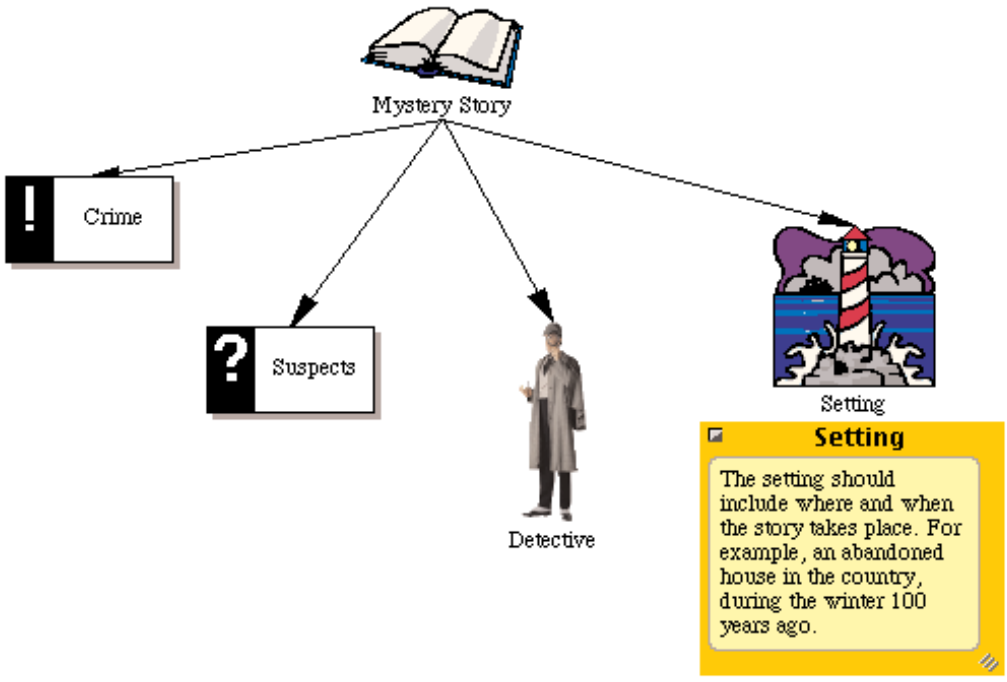
Students use literary devices effectively, such as suspense, dialogue, and figurative language.

Skills

- Application of reading skills to writing
- Reinforce the structure and elements of a short story
- Planning and organization

Preparation

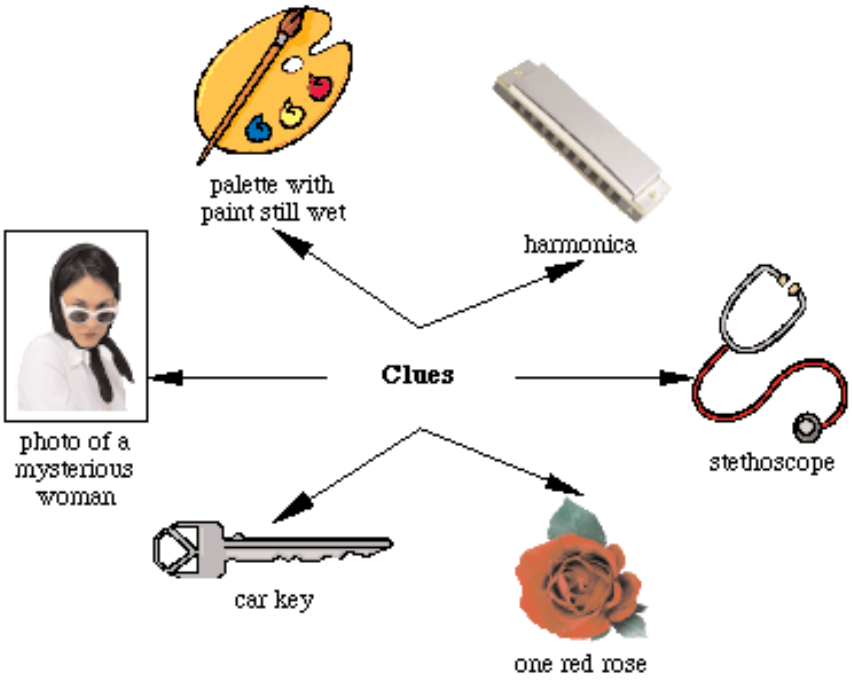
1. Create a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name the template Mystery Story.



2. Select several short mystery stories to share with your class. For example, "Murders in the Rue Morgue," by Edgar Allan Poe or any of the Sir Arthur Conan Doyle Sherlock Holmes mysteries are good stories to start with.
3. Discuss the mystery stories and have students identify common aspects of plot. They may also wish to talk about mysteries seen on television or in theaters.

Lesson

1. Divide your class into several groups. Group members should develop a unique mystery story idea and collaborate to fill in the Mystery Story template you created.
2. Next, start a new Inspiration diagram and encourage each group to brainstorm a list of clues that might be found at the scene of any crime. Have groups exchange clues.



3. Each group should now reopen the diagram they created using the Mystery Story template and devise a plot based on the clues they received.
4. Have groups share their mystery plot with the rest of the class when they finish.

Follow-up activities

1. Encourage students to work individually on their own mystery story. It may be based on the one they began in their group, but they can make changes to create a more believable story.
2. Students may write their mystery in play form and perform it for the rest of the class or for other classrooms.

Challenge activity

Have students describe each of the characters, their motives, alibis, and so on. They can even create a story map that shows how their mystery is resolved.

Responding to Writing

When students work in writing groups, the quality of their responses to one another's writing determines the success of the activity. This lesson helps students formulate specific comments that support other writers.

Standards

Students evaluate their own and others' writing (for example, participation in peer response groups).

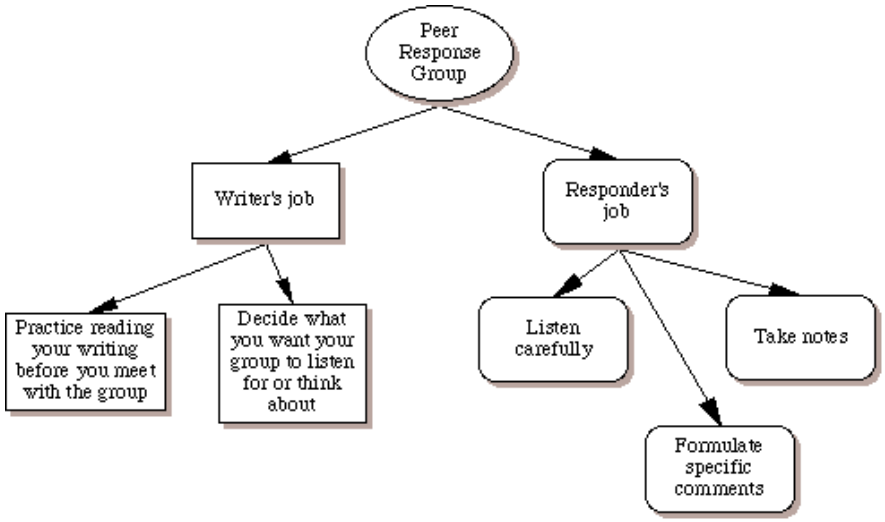
Students incorporate suggestions from teacher and peers.

Skills

- ★ Application of literary understanding to writing
- ★ Critical reading
- ★ Revision techniques

Preparation

1. Prepare a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Peer Responses.

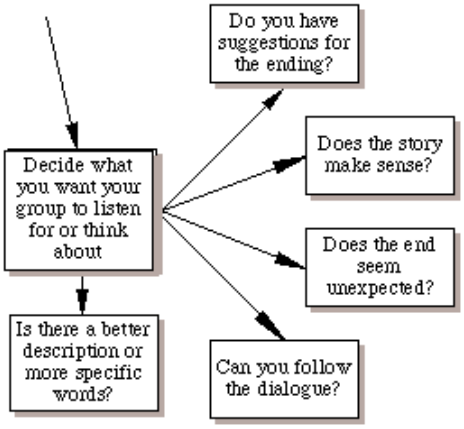


2. Invite another teacher or classroom visitor to come to class and share a piece of personal writing.
3. After the reading, model a response conference. Tell the visitor what you found interesting, point out words and phrases you liked, and ask questions about sections you would like to know more about. Have students volunteer their comments.

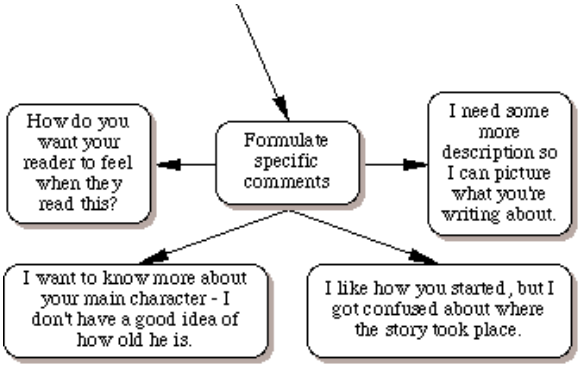
Lesson

1. Discuss the writing conference the students observed. Examine the kinds of comments made to the writer.
2. Point out the difference between general and specific comments. Remind students that unkind or overly critical remarks are not helpful.

3. Distribute the Peer Responses template you created. Talk about the writer's job. Ask students to generate questions a writer might want a group to listen for or think about.



4. Next discuss the responder's job. Ask students to think of ways to phrase comments that are specific and positive.



Follow-up activities

1. Throughout the year ask students to share comments that have helped them with their writing. Post these on a bulletin board.
2. After a good writing conference, ask students to re-enact their discussion.

Challenge activity

Have students role play various famous writers taking part in a response group.

Narrowing a Topic for Research

One of the biggest problems for students is narrowing a topic to a point where it can be addressed in a short paper. This lesson helps students pave the way for a successful project.

Standard

Students demonstrate the ability to focus ideas, narrowing from a broad topic to a more specific one.

Skills

- Critical thinking
- Prewriting
- Research skills

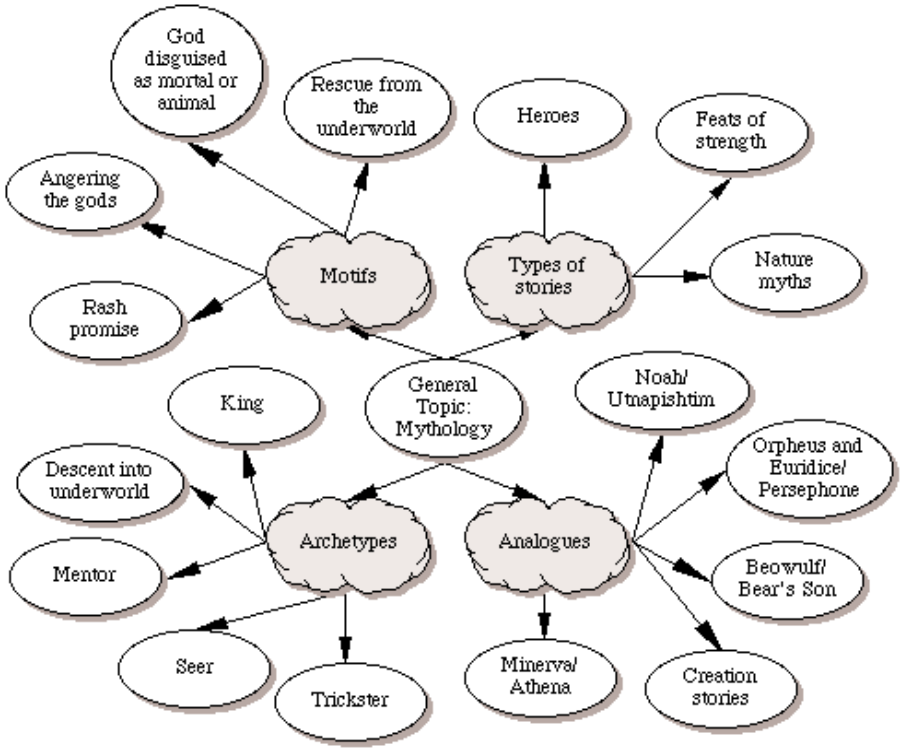
Preparation

Assemble a library of reference books appropriate to the research topic you have chosen.

Lesson

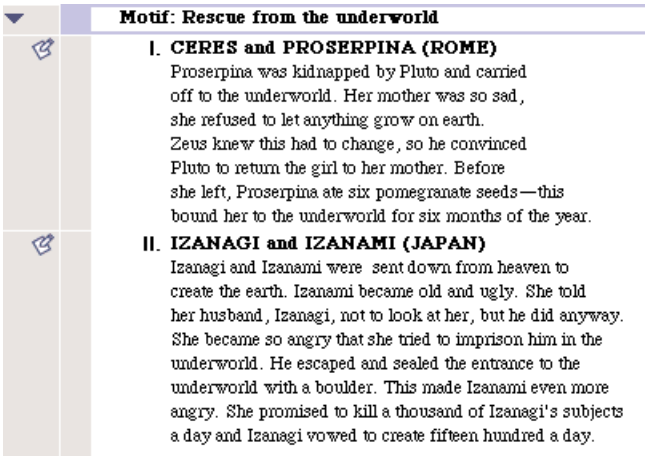
(For the purposes of this lesson, we will assume a class just finished a unit on folk tales, though any broad topic can be used.)

1. Have the class brainstorm areas they remember from the main unit and record their responses using the Inspiration® RapidFire™ tool.
2. Encourage students to group the information into four or five categories.



3. Have small groups choose one subtopic and begin a new Inspiration diagram using that idea.

4. Have small groups consult the library of reference materials you assembled or have them search the Internet, using variations of the narrowed topic as their search terms. For instance, they might define a search using the words: underworld, variations, myth. Advise students to toggle back and forth between the Internet and Inspiration as they expand their diagram.
5. Tell students to enter URLs of the web pages they've consulted into a diagram to begin a working bibliography.
6. As students work, ask them to share ideas for papers. Before long, students begin to see areas that might be explored and analyzed. For instance, comparing all myths that contain the underworld motif is too broad a subject for a research paper, but selecting three versions and comparing them to find similar threads of meaning might lead students to their own theories about the universality of the theme.
7. Once students determine their topic, advise them to use the Note tool to add detailed information into their diagrams or have them switch to Outline View to further develop their ideas.



8. To share small group information with the entire class, use the Hyperlink tool to connect each group's work to the master diagram.

Follow-up activities

1. Ask students to use color-coded text to show similarities and differences among the versions. They might also use the Thinking Skills—Comparison template as a starting point for organizing their information.
2. Have students share the working thesis for their paper in small groups and make note of peers' questions and comments.

For younger students

Encourage students to work together to prepare a group report on a research-based topic.

Persuade Me

Students always have opinions, but often they don't know how to persuade someone else to accept their point of view. This lesson introduces students to persuasive writing and rhetorical techniques.

Standards

Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

Students recognize and practice using emotional and logical arguments in written, oral, and visual communication.

Skills

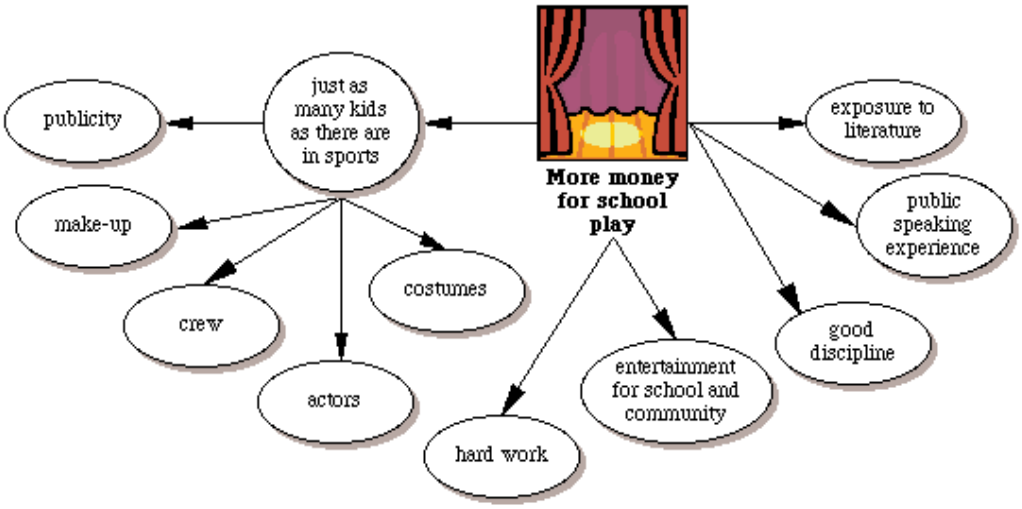
- Writing process strategies
- Persuasive writing
- Idea organization and using detail to support ideas

Preparation

1. One week prior to the lesson, have students read editorials from newspapers and magazines.
2. Encourage them to take notes about their reading, especially where the writing makes them reconsider an issue or change their minds.

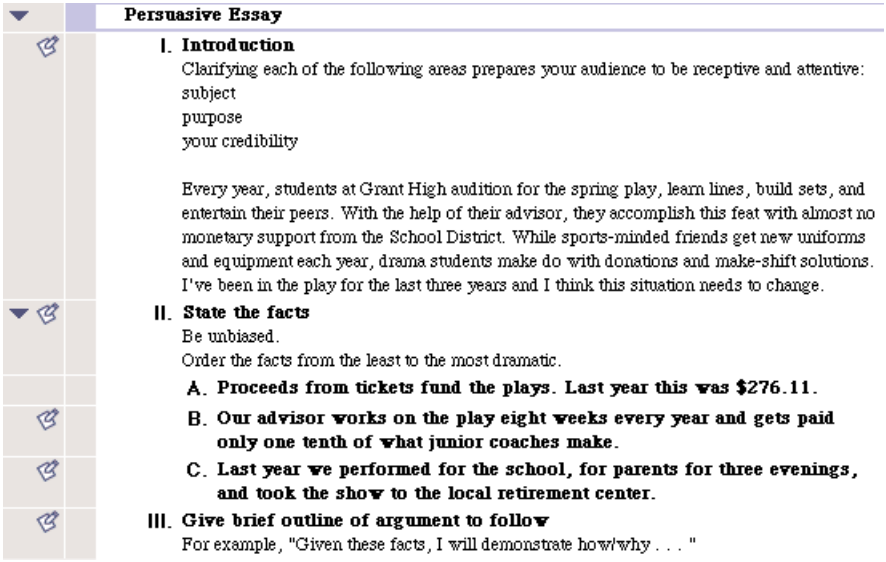
Lesson

1. In groups, have students brainstorm issues they feel strongly about and record their information using the Inspiration® RapidFire™ tool.
2. Each group should choose a specific issue, research the facts, and then begin to list ideas that support their point of view.



3. Ask students to share their lists and ask others to come up with counterarguments. As students confer, you may wish to move among them and interject arguments they have not considered.

4. Help students determine who their audience is and decide what their specific purpose is in writing.
5. Open the Language Arts—Persuasive Essay template and have students switch to Outline View to enter their information. Items left blank in the template show students where they need to do further research or thinking.
6. The completed template will form the rough draft of the persuasive essay.



Follow-up activities

1. Assign topics to pairs of students and have them take opposing sides. They should write an essay and then trade points of view.
2. Direct students to debate alternate resolutions to dilemmas in literature. For example, how else might Hamlet or Romeo have addressed their problems?

For younger students

Choose a topic of interest to students and discuss pros and cons with them. Have students work in pairs to write a conversation between two people who represent the different sides of the argument.

Literary Analysis Essay

Using literature as the basis of analytical reading and writing prepares students to be increasingly critical readers.

Standards

Students identify theme, style, and other literary elements in various types of literature.

Students recognize and understand elements of an author's craft, including symbolism, figurative language, and so on.

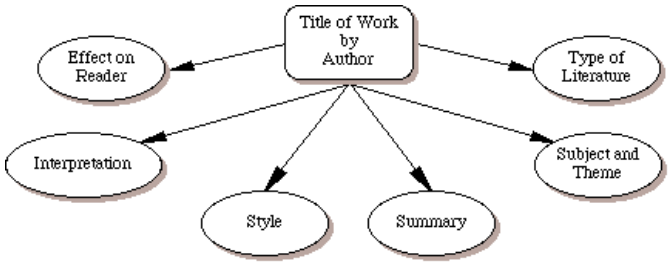
Students synthesize collected information using a matrix or other graphic organizer.

Skills

- ★ Critical thinking and reasoning
- ★ Writing process
- ★ Analytic reading

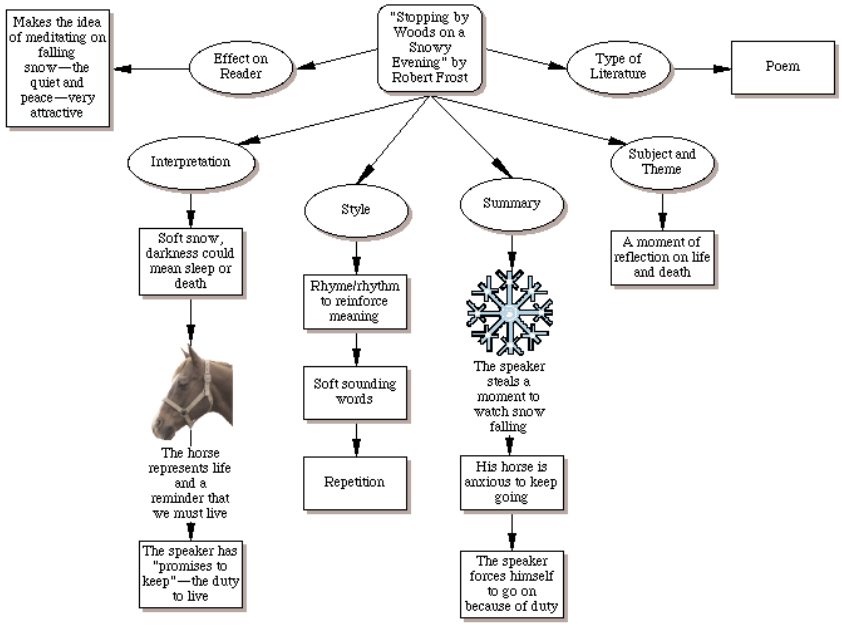
Preparation

Create a diagram like the one below and save as a template using the Inspiration® Template Wizard. Name this template Literary Analysis.

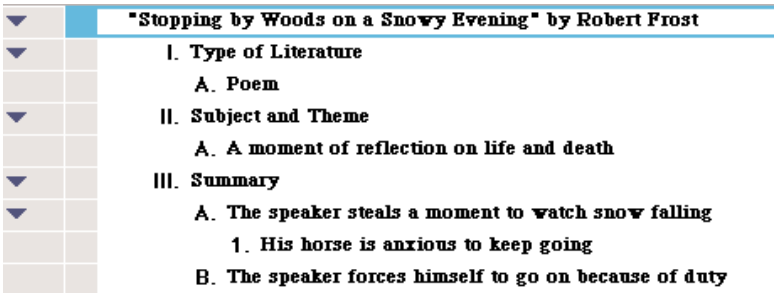


Lesson

1. Select a short piece of literature and read it with your class.
2. Have students enter their ideas about the work into the Literary Analysis template you prepared. This example uses a poem by Robert Frost.



3. Gather students in small groups to compare and discuss their responses.
4. Have students use the Note tool to enter details and other ideas.
5. Ask students to switch to Outline View. The outline forms the first draft of their literary analysis essay. Here, students can easily add more ideas and reorganize by dragging topics to different positions. Encourage students to use the Listen tool to hear notes and edit them for coherence.



Follow-up activities

1. Have students export their outline and continue to revise and edit.
2. Adjust your Literary Analysis template to conform with various genres of literature.

For younger students

Model this analytic exercise several times with literature familiar to the students to confirm understanding.

Genre Comparison

Literary genres are separated by major differences in theme, plot, setting, and more. However, they also share subtle similarities, which this lesson helps students distinguish.

Standard

Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts.

Skills

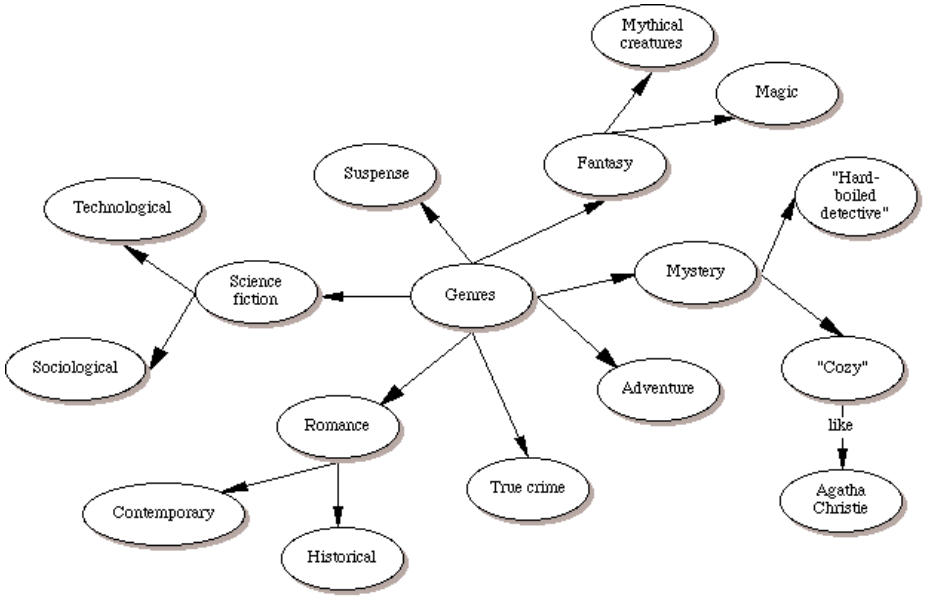
- Literary analysis
- Compare and contrast genres
- Collaboration and group dynamics

Materials needed

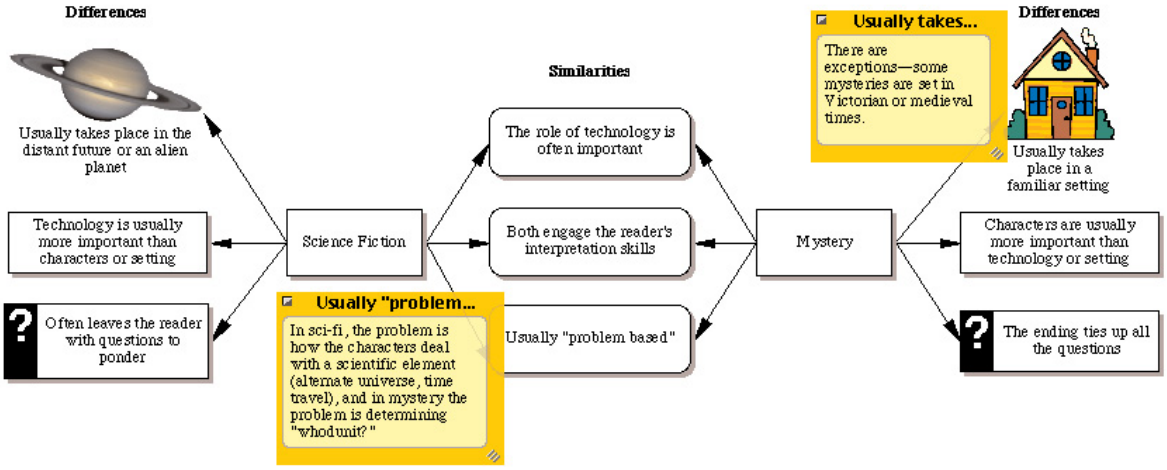
Collection of books and stories that represent many genres

Lesson

1. With your class, brainstorm a list of the major genres (science fiction, detective, mystery, romance, etc.).



2. Have students brainstorm different books or movies that represent each genre.
3. Some works may fit more than one category. Encourage discussion and debate.
4. Group students according to their favorite genre. Using Inspiration®, have each group brainstorm key features of their genre. Be sure they consider plot, characters, conflict, themes, language, and so forth.
5. Tell each student to find a partner from a different genre group (for example, pair science fiction with mystery or romance with horror). Have partners use the Thinking Skills—Comparison template and enter similarities and differences between their chosen genres.



Follow-up activities

1. Have the class discuss similarities among the genres to come up with general guidelines for fiction. Once these are established, students can discuss specific definitions for each genre. Encourage students to modify their diagrams so they can use the Site Skeleton™ export to transform their work into the foundation of a genre web site. Students can then finish and format their site using any web development application and share their information with the whole school.
2. Assign students to read the "Macbeth Murder Mystery," a short story by James Thurber (several electronic versions are available online). Discuss ways in which Thurber mixes genre for a humorous effect. Have students work in pairs to brainstorm possible genre mixes, for example, adding elements of romance to a suspense story.

For younger students

Choose genres that are more familiar to a younger age group and that contrast sharply, such as fairy tale and western.

Modern Classics

Updating classics to suit modern audiences is a long tradition among writers. William Shakespeare's *Romeo and Juliet* re-emerged as *West Side Story* and Jane Austen's *Emma* was transformed into *Clueless*. In this lesson, your students follow the plot "template" of a classic and renovate it for today's audience.

Standards

Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

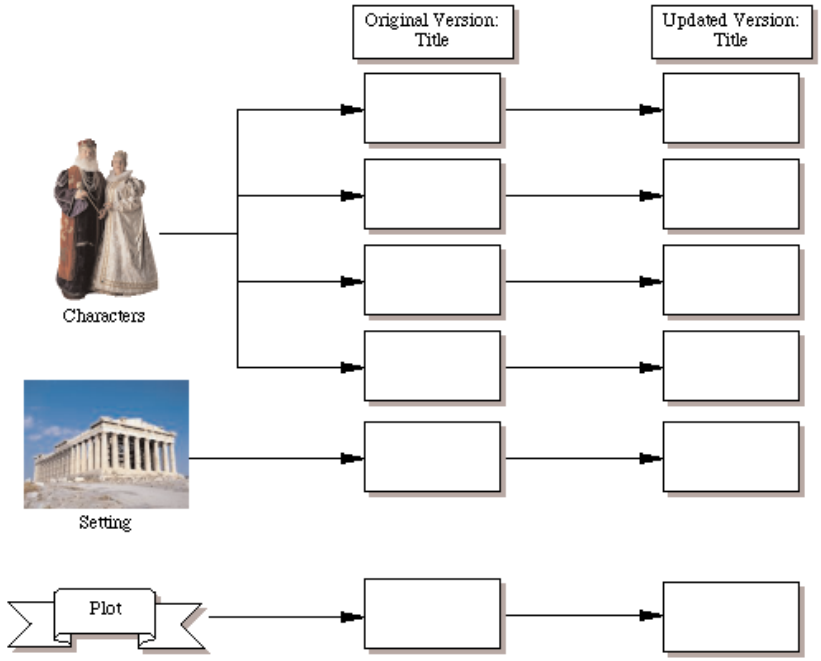
Students read a wide range of literature from many periods in different genres to build an understanding of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience.

Skills

- Literary analysis
- Critical thinking
- Creative writing

Preparation

1. Create a diagram like the one below and save as a template using the Inspiration® Template Wizard. Name this template Modern Classics.

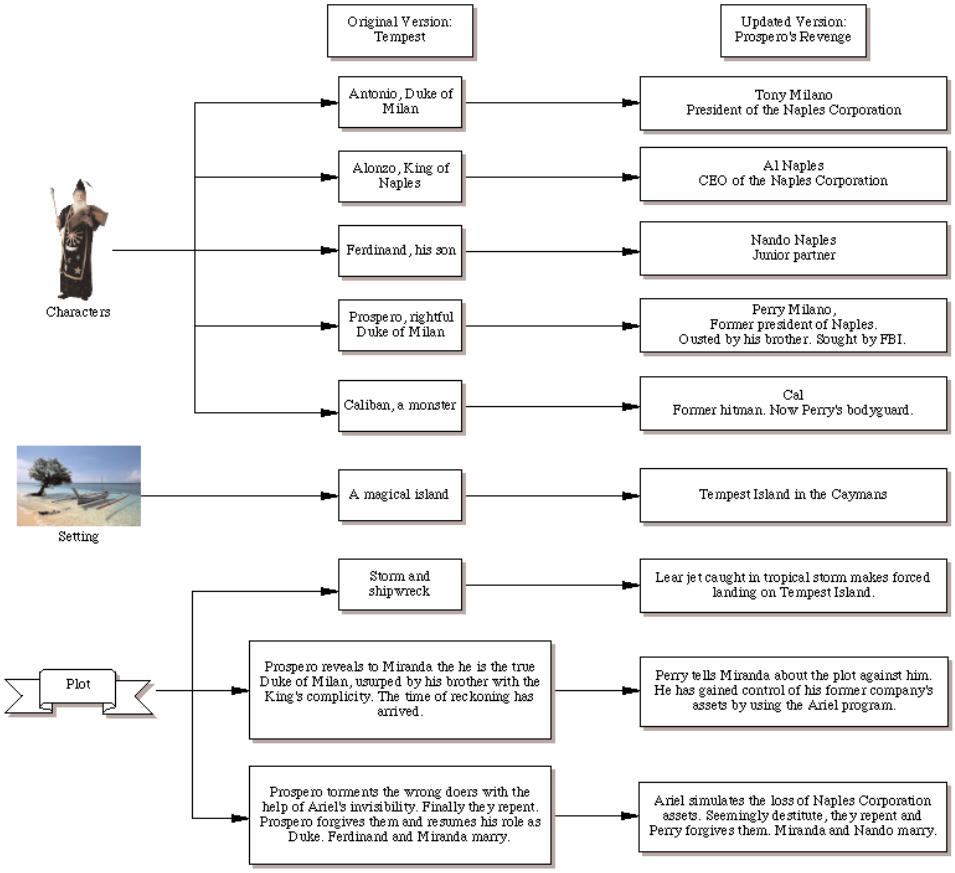


   You may wish to use the Record command to record directions and attach them to a symbol in your diagram.

2. After completing your study of a literary classic, review characters, relationships, plot elements, and major themes with students.
3. Discuss the universality of literary elements in film as well as fiction and drama, making reference to familiar examples.

Lesson

1. Ask students to work in small groups and use Inspiration to brainstorm how character, plot, setting, and themes of the classic might be paralleled in a modern setting for a contemporary audience.
2. Direct students to narrow the elements of their brainstorm and add these details to the Modern Classics template you prepared. Tell them to add symbols as necessary.



Follow-up activities

1. Based on their diagram, have students write their "modern classic" in play format and perform it for the class.
2. Reverse this lesson by taking a modern text and rewriting it in the style of Shakespeare, Jane Austen, and so on.

For younger students

Use the same template for students to update a familiar story at their reading level, for example, a tall tale such as Paul Bunyon.

Visualizing Meaning in Poetry

Learning how to read and think about poetry is often considered a difficult and even painful task. This lesson provides a way into poetic thinking that reduces the stress and provides a path to enjoyment.

Standard

Students apply a range of strategies to comprehend, interpret, evaluate, and appreciate texts.

Skills

- ★ Literary analysis and interpretation
- ★ Critical thinking
- ★ Inference

Materials needed

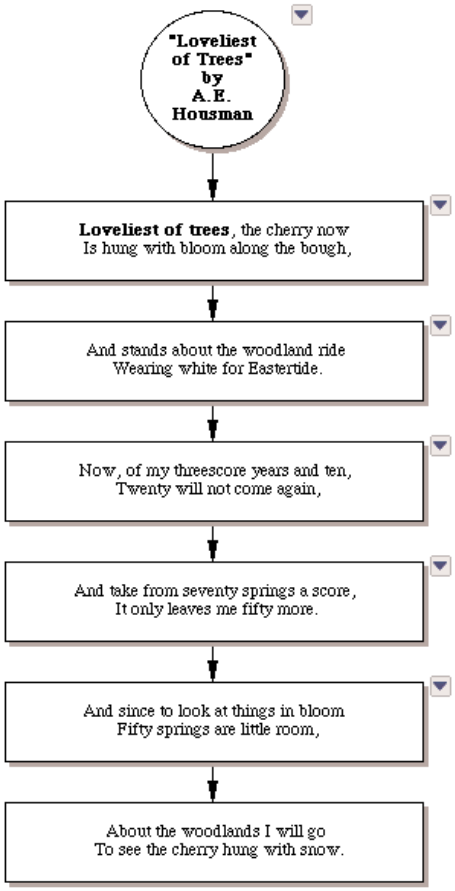
Poetry collection
LCD or other projection equipment

Preparation

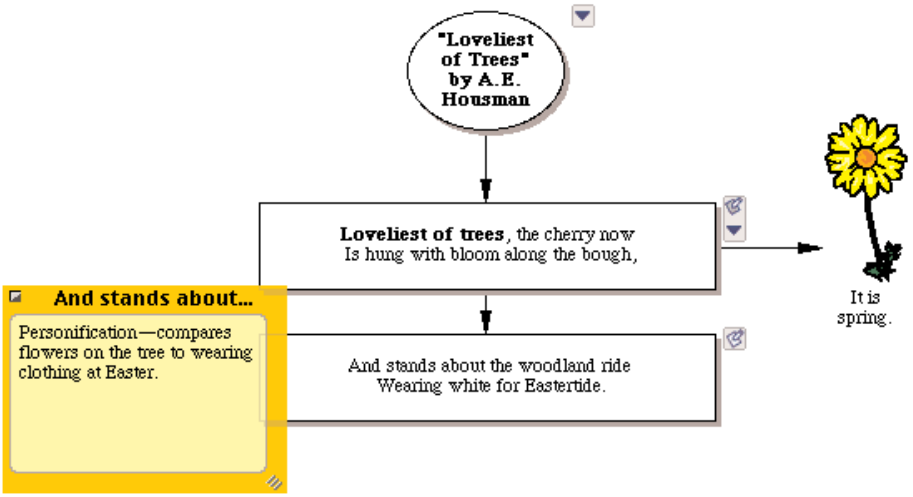
Choose a poem appropriate for your class's ability and interest and prepare a diagram in which each of the poem's lines is a linked subtopic of the previous one. From the View menu, choose Subtopics and select Hide All. This hides each subtopic and allows students to concentrate on one line at a time.

Lesson

1. Go through the poem line by line with the class, using the Subtopic Quick Control on each symbol to show students the next line of the poem. Use the Note tool to track students' reactions, questions, and interpretations for each line of the poem.
2. Display the completed diagram and instruct students to write a brief interpretation of the poem based on the activity.
3. Next, have the students choose a poem of their own to analyze. They should create a diagram similar to the one you just shared.
4. Direct students to use the Note tool to enter their reactions, questions, and interpretations for each line.



5. Ask students to present their poem to the class, using the Subtopic Quick Control on each symbol. For each line, they can also use the Note Quick Control to show their interpretation.



Follow-up activities

1. Categorize subtopics as a preliminary to writing an interpretive essay.
2. Have students compare their diagrams with other students' versions and prepare a debate supporting their interpretation.

For younger students

Ask students to find information on the author and write a report or make a diagram about him or her. Then students can use the Hyperlink tool to create a hyperlink from their poem to the document with the author's biography.

Social Studies

Social studies promotes knowledge of history, civic affairs, geography, and more, making it the most multidisciplinary of all the curriculum areas. As students visually map social studies content, they discover new connections and patterns, and understand the interrelationships of the past, present, and future.

Biographical Connections

The history of a country grows out of the actions and reactions of individuals. This lesson helps students understand how people affect history and how history affects individuals.

Standard

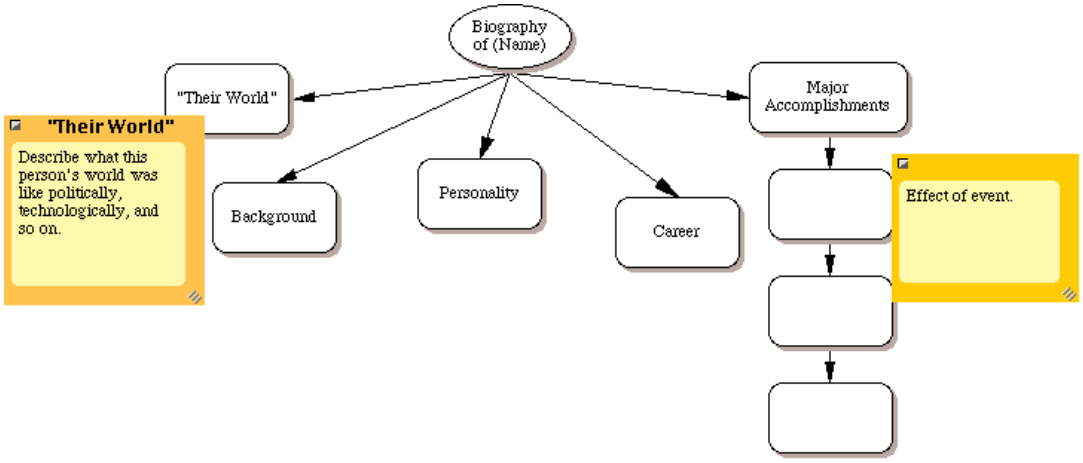
Students understand how the accomplishments and deeds of individuals impact historic events.

Skills

- Analytic thinking
- Research
- Writing in content area

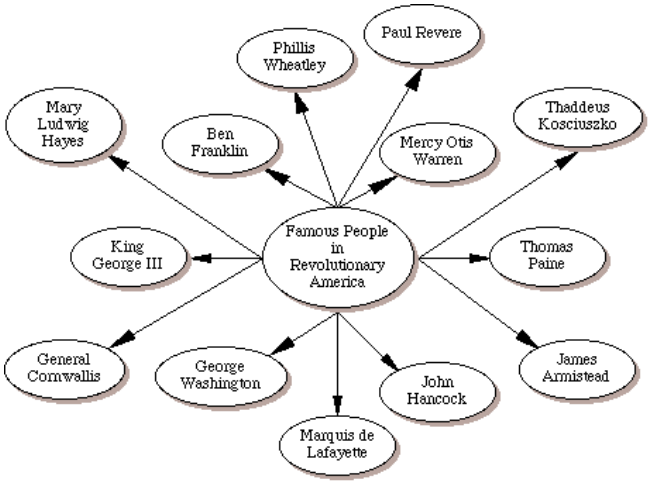
Preparation

Create a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Biographical Connections.



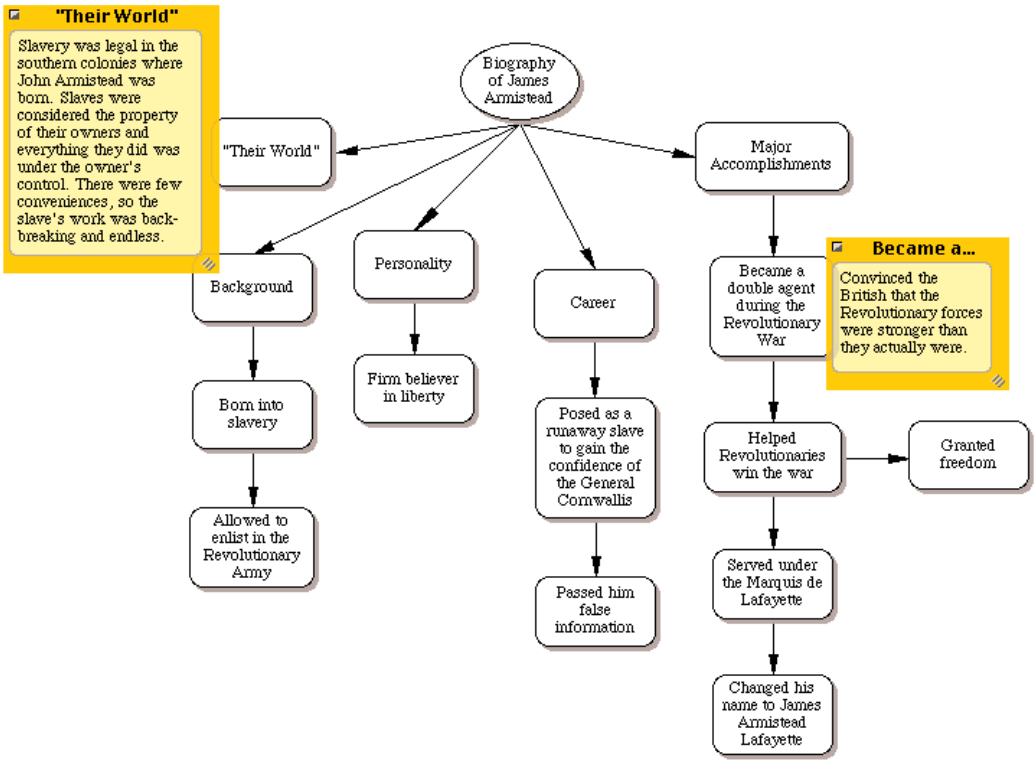
Lesson

1. As a class, students brainstorm famous people from the historical era you're studying. Use the RapidFire™ tool to enter students' contributions into an Inspiration diagram.



Allow students to use their textbooks if they run out of ideas.

2. Ask students to share what they know about the people they named and add your own comments as appropriate.
3. Tell students to choose one person to research. Refer to the Biographical Connections template you created so they know what kind of information to look for. Point out that the symbol labeled "Their World" should have information about what the world was like politically, technologically, etc. when this person was alive.
4. Using classroom resources, have students fill in the Biographical Connections template. Circulate among the students and encourage them to add details using the Note tool.



Follow-up activity

As students share their diagrams with the rest of the class, point out connections among them. Instruct students to open the Inspiration Thinking Skills—Comparison template and enter the similarities and differences between two famous people of the period.

Challenge activity

Encourage pairs of students to share their finished diagrams and create a hypothetical conversation between their personages.

Concurrent Events

Sometimes the memorization of dates and places encourages students to view historic events outside the context of other world events in science, art, music, literature, and so on. This lesson helps students situate an event in the world in which it took place.

Standards

Students view historical events in the context of simultaneous developments in art, science, and literature.

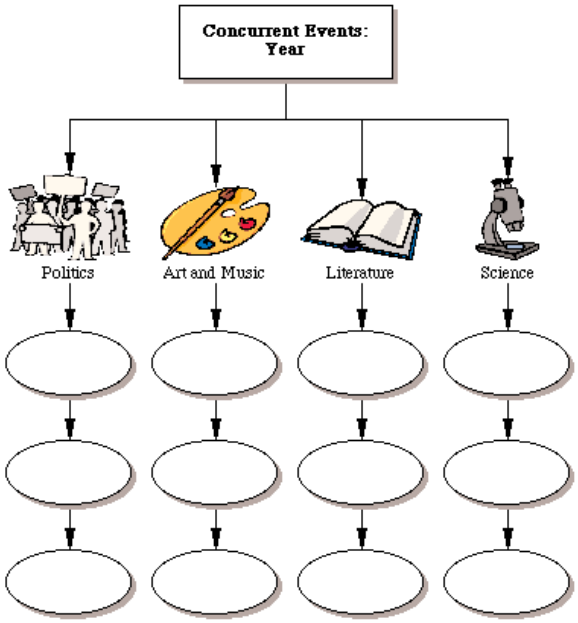
Students understand how events in one area (e.g., science, technology) often affect events in others (e.g., art, politics).

Skills

- Research
- Analytic thinking
- Idea synthesis

Preparation

1. Create a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Concurrent Events.

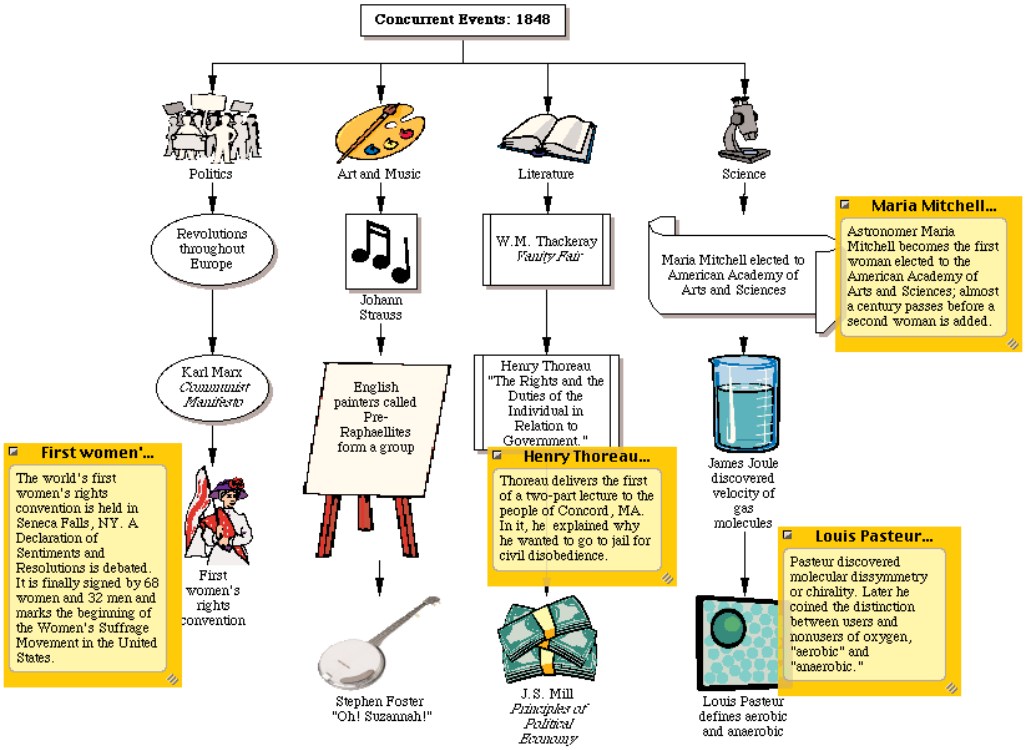


2. One week before the lesson, help students search the Internet and other sources to compile a list of current music, recent inventions, popular books, movie releases, and so on.
3. Discuss ways in which trends in one area are reflected in another. For example, how political or social events influence song lyrics.
4. Using this information as a backdrop, introduce the time frame of the next unit of study.

Lesson

1. Assign each student one year in the period you're currently studying.
2. Allow students time to conduct their research online or in the library.

3. Tell students to complete the Concurrent Events template you created. Encourage them to use the Note tool to add details and insights as they work.



4. In pairs or small groups, ask students to compare notes about the years they investigated and make initial conjectures about trends, themes, and so on.

5. Returning to their diagrams, have students switch to Outline View to begin writing an essay about what their findings tell them.

Follow-up activities

1. Working in groups, have students construct timelines that combine several years. These can be used to make classroom displays.

2. If possible, distribute newspapers from this time period and have students create a typical newspaper to represent the year they researched.

Challenge activities

1. Assign students to read several passages from diaries and other primary source materials that speak to events of the day and analyze them for clues about the writer's opinions and beliefs.

2. Encourage students to modify their diagrams so they can use the Site Skeleton™ export to transform their work into the foundation of a web site.

Our Lives in History

Today's events make tomorrow's history. This lesson helps students see how the events they live through add to the flow of history.

Standard

Social studies programs should include experiences that provide for the study of the ways human beings view themselves in and over time.

Skills

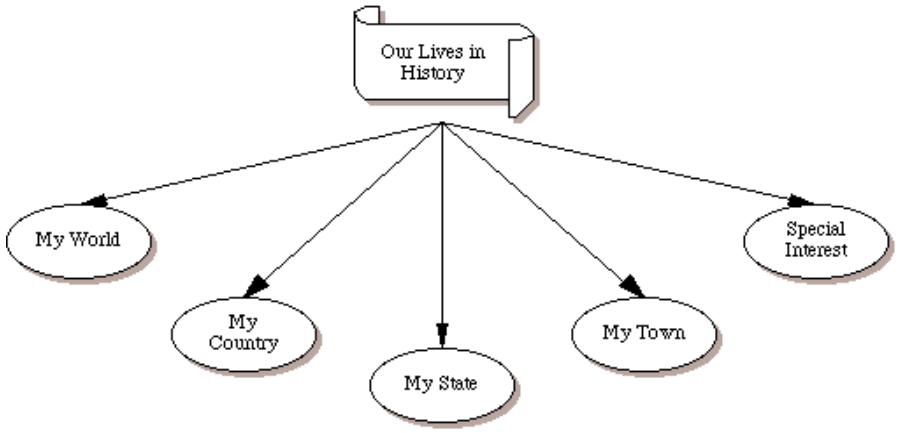
- ★ Research and historical perspective
- ★ Collaboration
- ★ Information synthesis

Materials needed

Research materials from library and Internet

Preparation

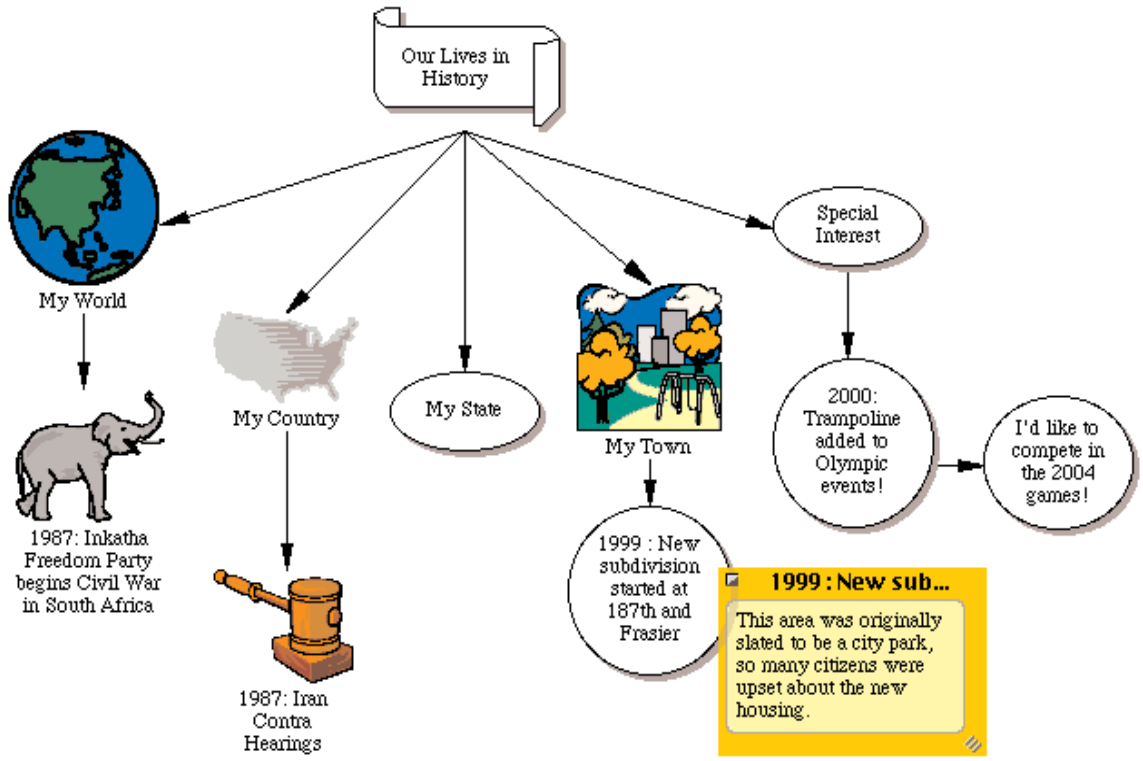
1. Determine years in which your students were born. These mark the beginning years of their research.
2. Create a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Our Lives in History.



3. Gather materials from libraries, your local newspaper's archives, CDs, and URLs from the Internet to create a resource center for students.
4. Instruct students to interview parents and others about major events, local changes, etc. that have affected life in recent years. Have them take notes and integrate the information into their diagrams.

Lesson

1. In small groups, remind students to use the materials you gathered to research the year in which they were born.
2. Using the Our Lives In History template you created, help students organize their information and media. Encourage them to create new subtopics as necessary.



3. Remind students to use the Note tool to record thoughts and questions about each of the events.
4. In the Outline View, direct students to begin to draft a personal essay about the times they've lived through and the effect of the past on the present.

Follow-up activities

1. Look at a recent newspaper to compare prices, advertising approaches, etc. to those they saw in the materials during research.
2. Place projects in the library or media center for other classes to view.

Challenge activity

Encourage students to modify their diagrams so they can use the Site Skeleton™ export to transform their work into the foundation of a web site.

Region by Region

The regions that make up our planet represent a great deal of diversity in history, geography, and economics. This lesson helps students see how regions are alike and different.

Standard

Social studies programs should include experiences that provide for the study of people, places, and environments.

Skills

- Research
- Critical thinking
- Compare and contrast

Materials needed

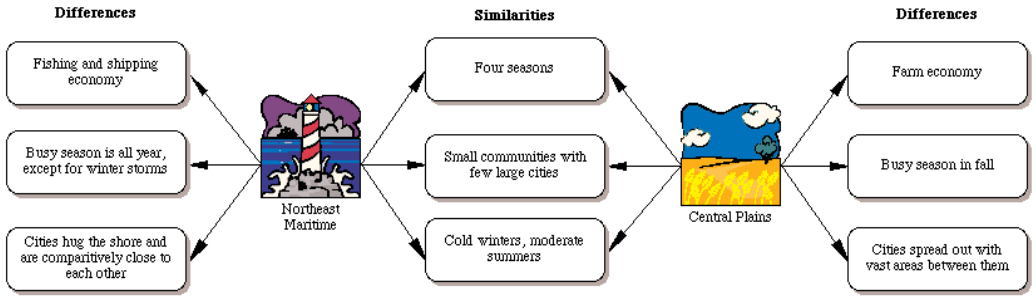
Internet access
Classroom resources, including almanacs, maps, and geography texts

Preparation

1. Discuss the features of the geographic region of your school with students.
2. Write the names of various geographic regions on small pieces of paper and place them in a box.
3. Ask students to form small groups and draw the name of a region from the box. Tell them they will compare the region they live in with the region they just chose.

Lesson

1. Have groups use the Internet and classroom resources to find information about the two regions. Remind them they must find both similarities and differences.
2. Circulate among the students as they look for information.
3. Direct students to open the Inspiration® Thinking Skills—Comparison template and enter their information.



Follow-up activities

1. Help students make a bulletin board display of their diagrams.
2. Modify this lesson to compare countries, states, and so forth.

Challenge activity

Encourage students to find web sites of schools in various regions and exchange emails with these students to learn more about the lives of people in different places.

The Cultures in our Classroom

Who we are as a group depends on who we are individually. In this lesson, students learn about the cultures of their classmates.

Standard

Social studies programs should include experiences that provide for the study of culture and cultural diversity.

Skills

- Research
- Interviewing
- Multiple perspectives

Materials needed

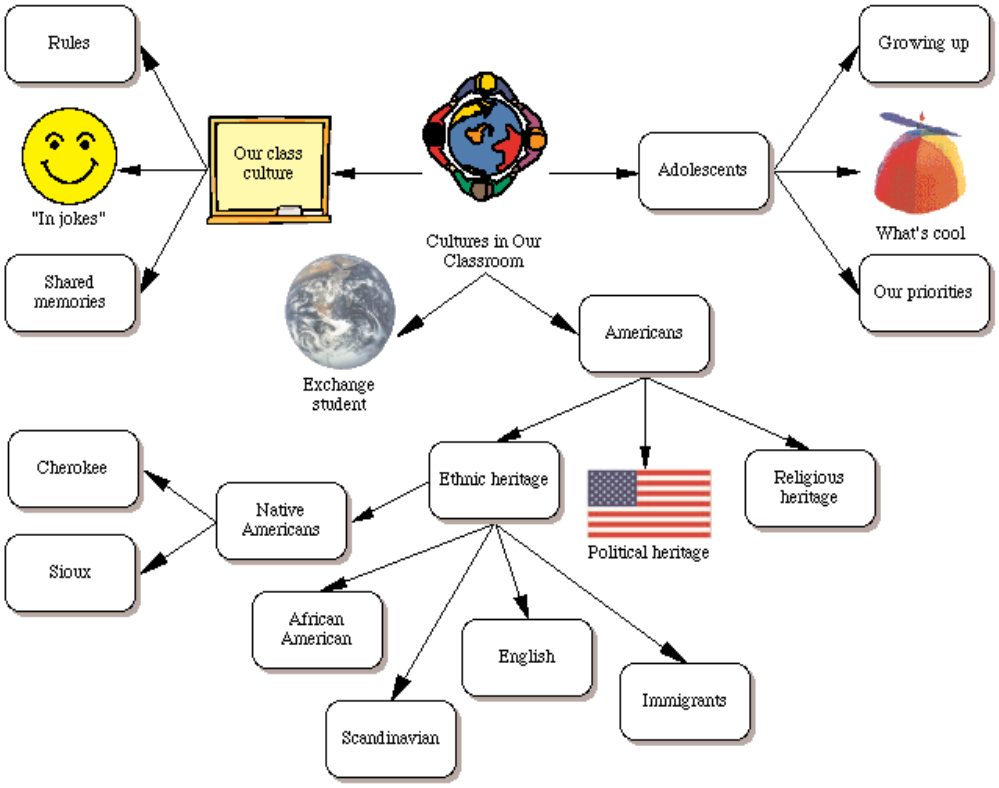
Classroom and library resources

Preparation

Discuss the notion of culture with your class. Address areas where their understanding needs to be broadened or misconceptions addressed.

Lesson

1. Ask students to brainstorm the cultures that exist in their classroom and record their comments in an Inspiration® diagram. Use prompts as necessary to help students identify areas where their list is incomplete.



2. Group students according to interests.
3. Each group should utilize classroom and library resources to investigate their culture. For homework, you may wish to assign an interview with a parent or other adult to add to the student's information.
4. When research is complete, pair each group with a second group to discuss similarities and differences between their cultures. Collaborate to enter results of this discussion into the Inspiration® Thinking Skills—Comparison template.

Follow-up activities

1. Use this approach to study other cultures within the community.
2. Create class definitions of "culture" and "community."
3. Host a party with foods, artifacts, displays, and so forth that represent various cultures.
4. Invite parents or other adults to talk about their culture to the class.

Challenge activity

Assign students to interview neighbors to get a picture of the various cultures and subcultures in their neighborhoods.

Conflict Resolution

Addressing conflict in an orderly way helps students pinpoint the actual problem and ways of resolving it. This lesson is used to examine actual conflicts in which students are involved or conflicts they encounter in history and current events.

Standard

Students understand the role of conflict resolution and compromise both in politics and daily life.

Skills

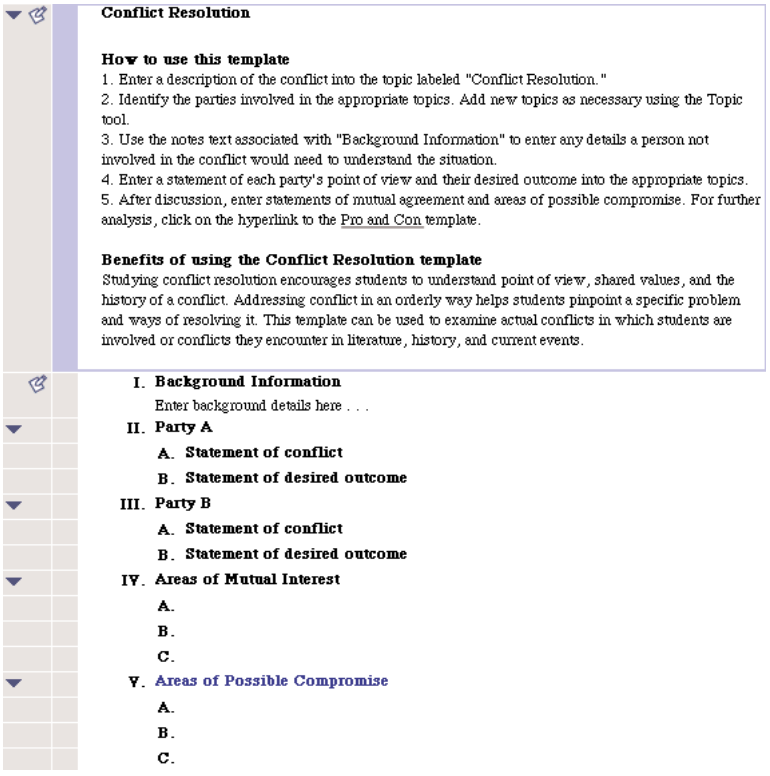
- ★ Critical thinking
- ★ Compromise
- ★ Conflict analysis

Preparation

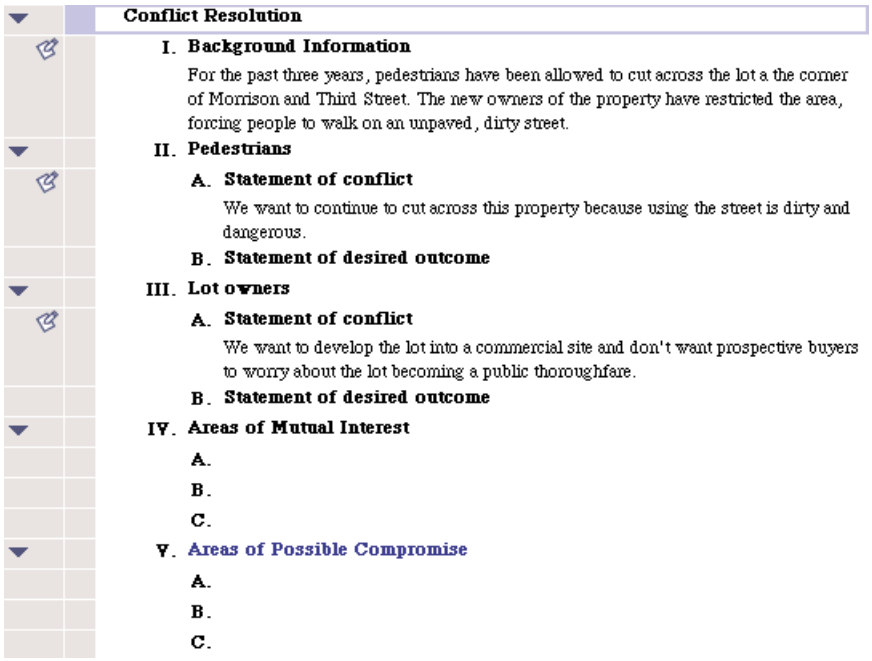
1. One week prior to the lesson, review the definition of "conflict" with students.
2. Help students brainstorm various kinds of conflict. Use the Inspiration® RapidFire™ tool to capture their ideas.
3. Print the diagram and post it on a bulletin board.
4. Encourage students to add to the diagram as they observe or read about conflict during the week.

Lesson

1. In small groups, have students brainstorm conflict situations that interest them. These may spring from issues in student life or from community situations.
2. Open the Social Studies—Conflict Resolution template and go over the directions with students. Point out that they can use the Note tool to add details to any symbol.



3. Ask each group to decide on two members to role-play conflicting parties. The remaining group members work to help resolve the conflict as they fill in the rest of the template.



4. Encourage students to present their conflict and resolution to the class.

Follow-up activities

1. Return to this activity several times during the year as appropriate topics and situations arise.
2. Have students practice their role-play resolution and present it to the class as a skit.

Challenge activity

As students follow current events in the news, have them apply what they know of conflict resolution to global conflicts and compare them to actual outcomes.

The Story of History

Characters, emotions, high drama—it's little wonder history comes from the French word for story. In this lesson, students view the past through a literary lens and get a better understanding of the how and why behind history.

Standard

Social studies programs should include experiences that provide for the study of interactions among individuals, groups, and institutions.

Skills

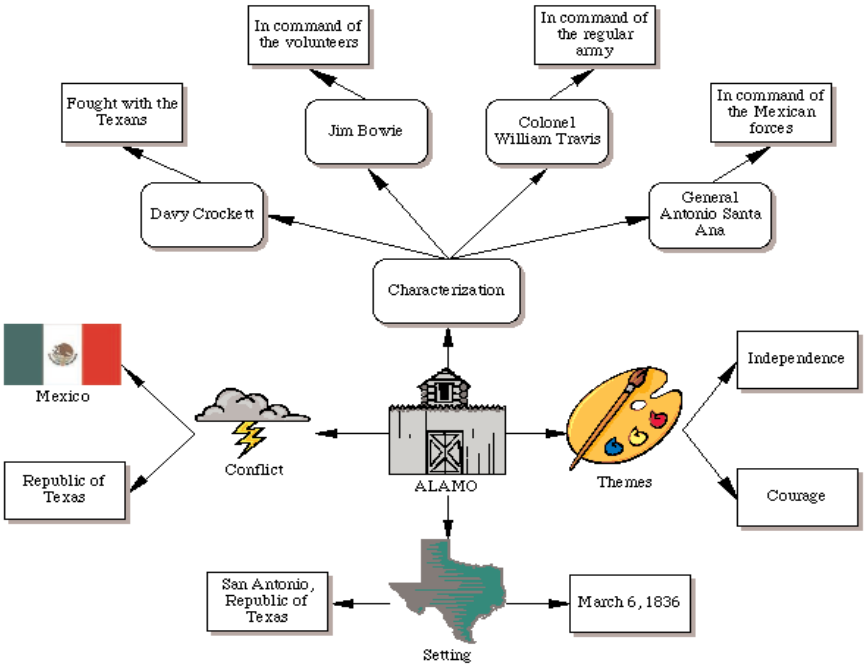
- ★ Research
- ★ History in context
- ★ Critical thinking

Materials needed

Internet access

Preparation

1. Using the Inspiration® Language Arts—Literary Web template, prepare a diagram similar to the one below, using a historical event relevant to your curriculum. The name of the event should be the title of the diagram, for example, "Alamo" or "Boston Tea Party."

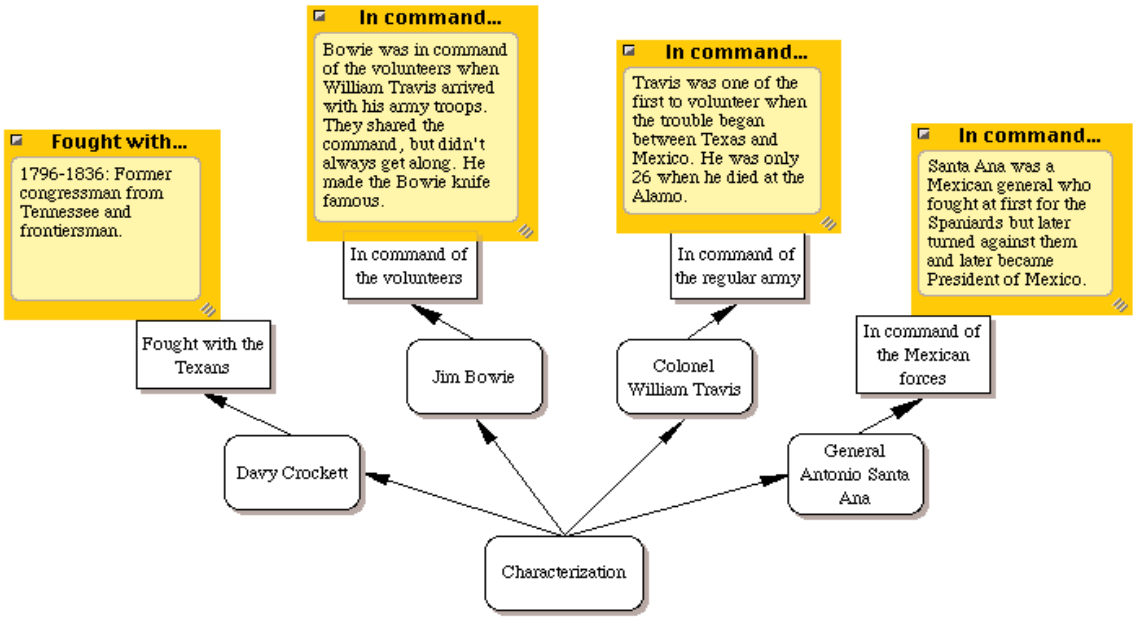


2. Make a list of the events in the unit your students are currently studying.

Lesson

1. Open the diagram you prepared for this lesson and explain to students how you used the Literary Web template as the basis for analyzing the event. Spend a few minutes sharing any new understandings of the material that occurred to you during that process.

2. Have pairs of students choose an event from the list you prepared. They should begin to analyze their event using the Literary Web template.
3. Circulate around the room as students work, answering questions, making suggestions, and prompting them to dig deeper into their "story." Encourage students to use the Note tool to add details to their diagrams.



Follow-up activities

1. Collaborate with a language arts teacher to help students write a fictionalized account of their event.
2. Use other Inspiration templates to analyze historic events, movements, concepts, and so forth.

For younger students

Read a novel based on history with your students (for example, *Johnny Tremain* or *Liddy*). Brainstorm other stories that might be set during that time period, the true events that might form the backdrop of a story, and so on. Allow students to collaborate on a story or play based on the historic period.

Cause and Effect in History

Too often history is viewed as the memorization of dates and places, rather than the outcome of human dreams, emotions, and needs. This lesson prompts students to go beyond the "what" of history and concentrate on the "why."

Standard

Social studies programs should include experiences that provide for the study of how people create and change structures of power, authority, and governance.

Skills

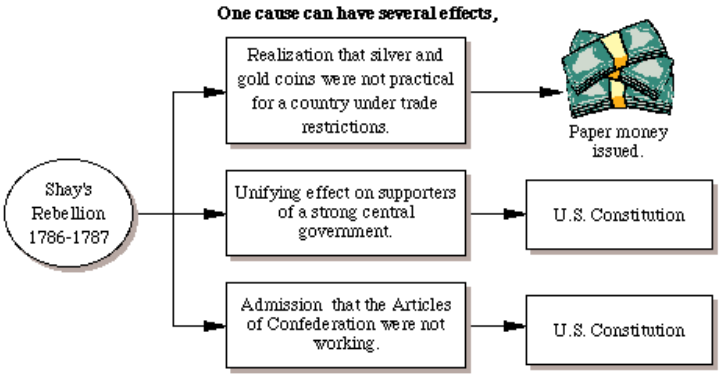
- Place historic events in context
- Explore cause and effect relationships
- Research and synthesize information

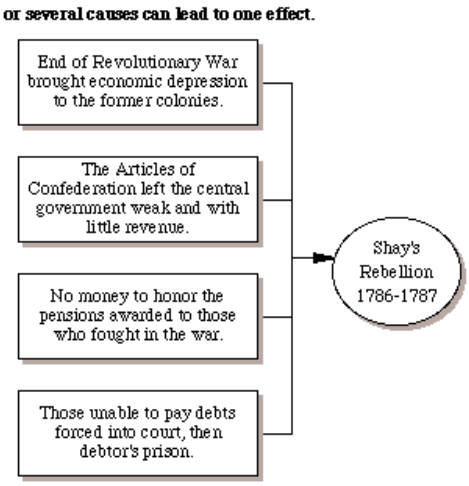
Preparation

1. Make a list of three to five historic events from current classroom reading and have each student select an event to examine more closely.
2. Review the concepts of cause and effect with students, discussing how to look at their historical event in terms of its cause and effect. They may use class notes, textbooks, and the Internet to complete their assignment.

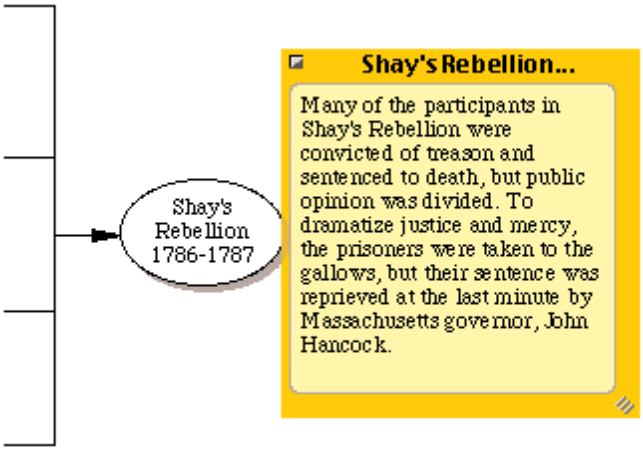
Lesson

1. Open the Inspiration® Social Studies—Cause and Effect template. Review the template with students and have groups use it as a guide to represent the cause and effect relationships involved in the historic event they chose.





2. Using the Internet, instruct groups to search for sites relating to their event and sites with images of the people involved. Show students how to use the Hyperlink tool to connect these sites to their diagram.
3. If necessary, show students how to drag and drop images from the Internet into their diagrams.
4. Encourage groups to use the Note tool to add details to their diagram.



5. As students discover the complexity of their topics, have them assign research subtopics to each member of the group.

Follow-up activity

Each group can write and perform a scene that dramatizes the event analyzed in their diagram.

For younger students

Go over the front page of the newspaper with students and discuss the causes and effects of the information found there. Together, create a diagram based on the Cause and Effect template.

Comparative Governments

Students grow up watching their parents vote, hearing and reading issues debated freely, and watching government leaders pay close attention to the opinions of their constituents. Studying other forms of government helps deepen students' understanding of and appreciation for their governmental system.

Standards

Students know the general characteristics of limited and unlimited governments.

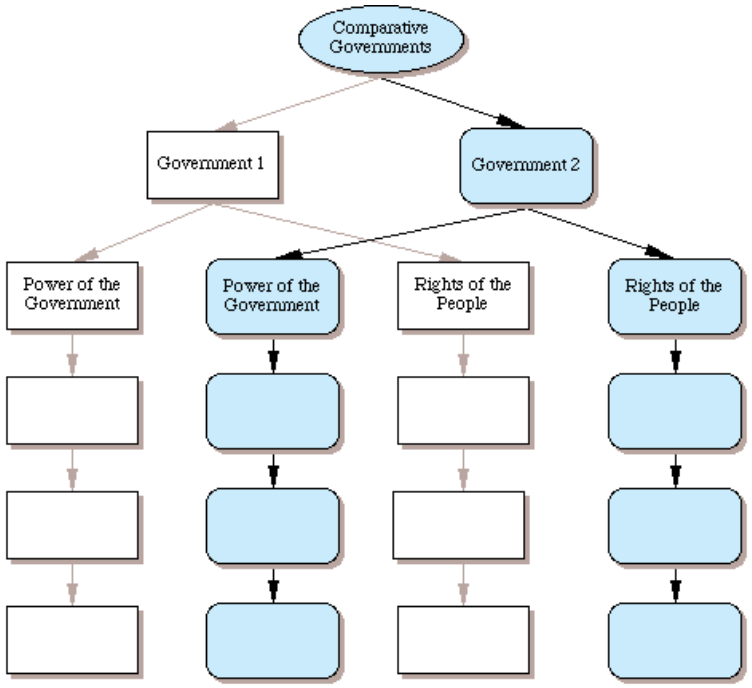
Students understand how relationships between government and civil society in constitutional democracies differ from those in authoritarian and totalitarian regimes.

Skills

- Critical thinking
- Idea synthesis
- Real world application

Preparation

1. Use the Inspiration® Template Wizard to create a template like the one below. Name this template Comparative Governments.



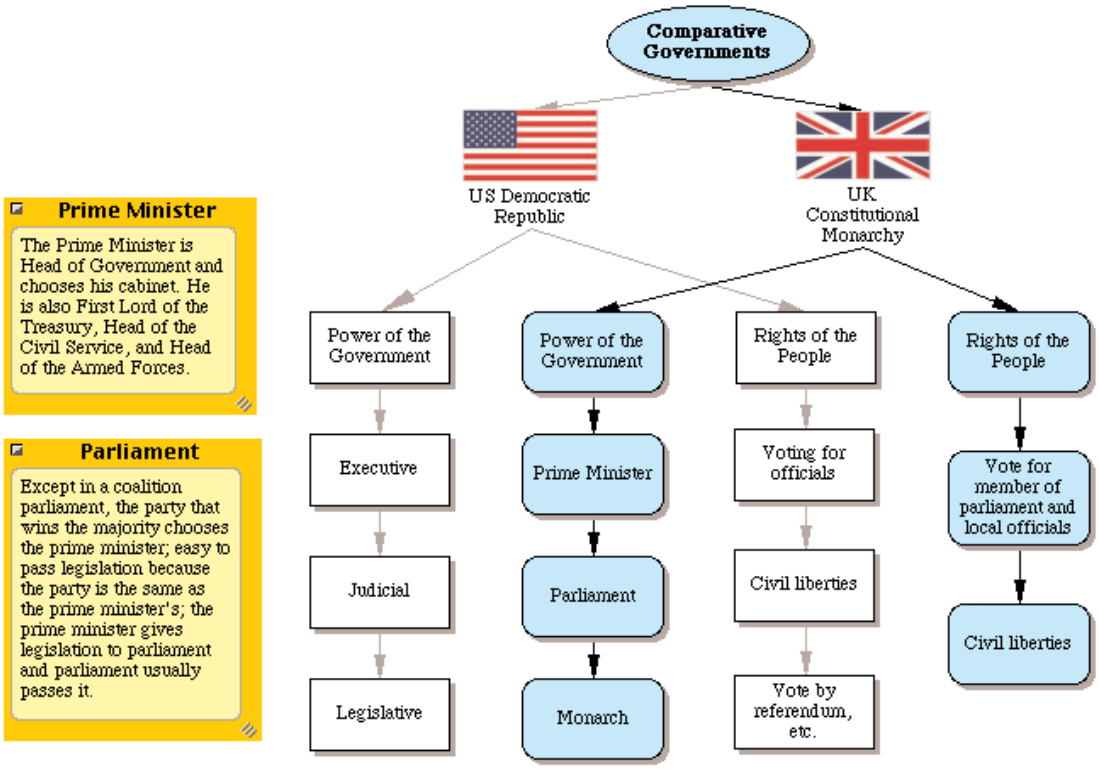
2. Gather classroom resources about different kinds of governments.

Lesson

1. Using Inspiration, help students brainstorm different kinds of governments (democracy, monarchy, oligarchy, and so on) and supplement as necessary.

2. Divide the class into groups to research each of the types of government using the resources you assembled.

3. When the research is complete, have groups open the Comparative Governments template you prepared earlier and use this template to compare the government they researched to their own government. Students should use the Note tool to add details and specific examples.



Follow-up activities

1. After discussion to check interpretation and accuracy, instruct students to switch to Outline View to write a comparative essay about the two types of government.
2. Demonstrate these governments by operating your classroom as a democracy, dictatorship, monarchy, and so on. Discuss the implications of each experience with students.

For younger students

Fill in the Comparative Governments template in a whole class discussion. Assign a creative writing assignment in which students explore what it would be like to live in a country governed by a dictatorship or other form of government.

Political Stances

Students are used to hearing the terms "liberal," "moderate," "reactionary," and "conservative" used as labels, but often do not understand what these terms actually mean. This lesson helps them discover the traditions and tendencies that underlie the terminology.

Standards

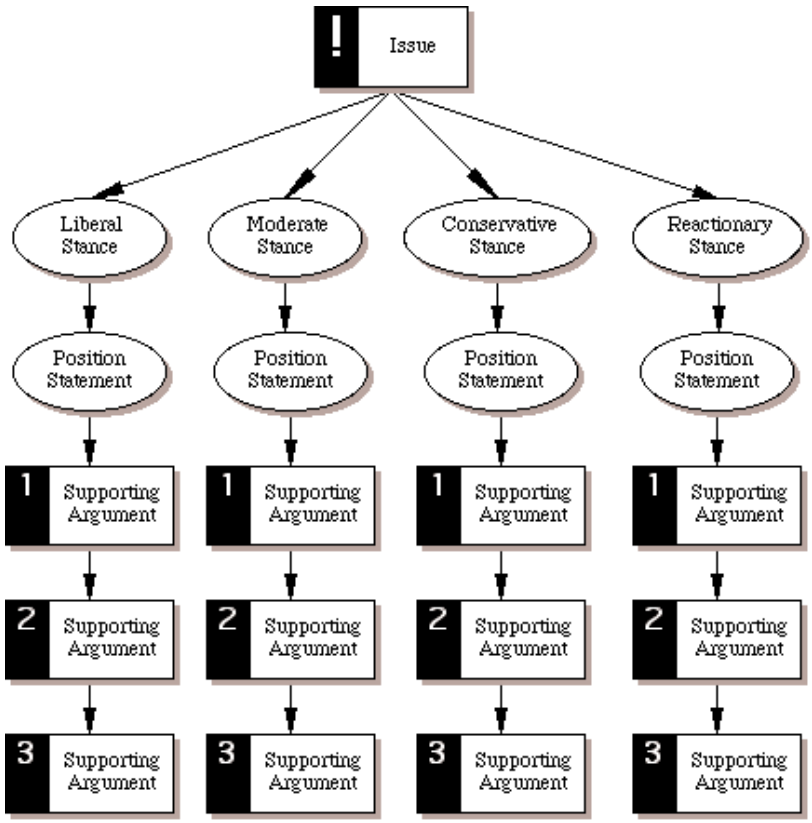
Students develop and define their political beliefs and tendencies.
Students understand ideology associated with political terms.

Skills

- Analysis
- Vocabulary development
- Reading in the content area
- Writing in the content area

Preparation

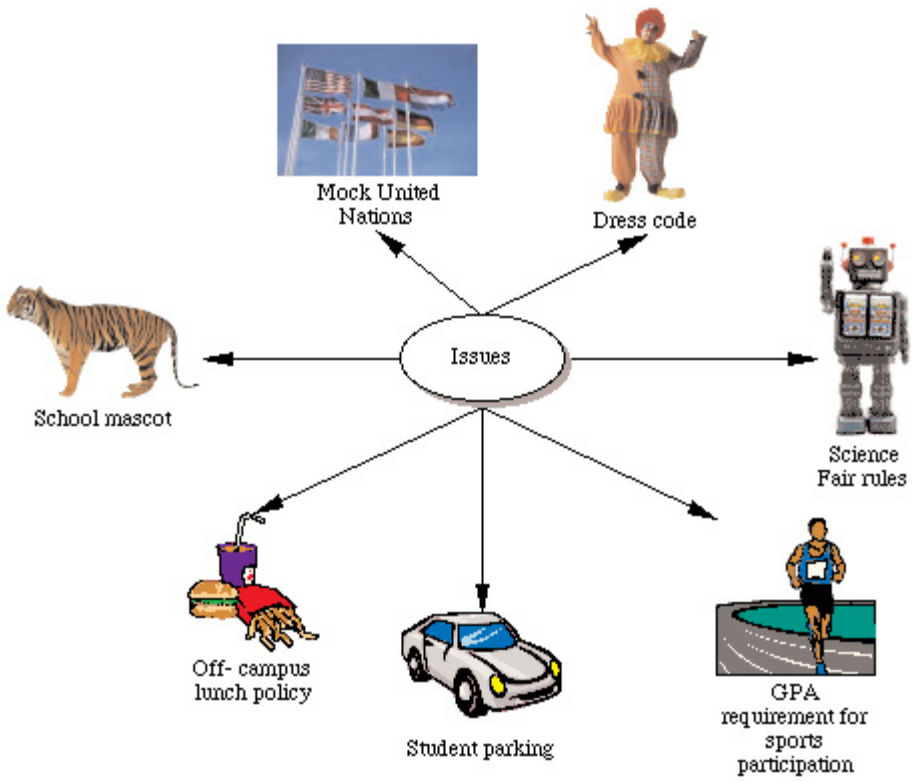
1. One week prior to the assignment, encourage students to talk to parents, teachers, and peers, asking them to give examples of people or ideas that could be termed liberal, moderate, reactionary, or conservative.
2. Find editorials on a current event that demonstrate a variety of political stances.
3. Create a diagram like the one below and save as a template using the Inspiration® Template Wizard. Name this template Political Stances.



Lesson

1. Teach the definitions of the terms: liberal, moderate, conservative, and reactionary. Discuss these terms with regard to individual rights and the rights of a whole society.

2. Using Inspiration, help students brainstorm current issues in the school.



3. Show students the Political Stances template you created earlier. Divide class into groups and assign each an issue to analyze from differing political stances.
4. Based on the definitions learned earlier, ask groups to determine a statement of the issue from the point of view of liberals, moderates, and so on, along with supporting arguments. Students can use the Hyperlink tool to add related web sites to their diagrams.
5. Discuss each group's diagrams with them, checking for understanding and accuracy.
6. After revisions, allow time for groups to present their diagrams to the entire class.

Follow-up activity

Revisit this activity throughout the year and tie it to current events and issues.

For younger students

Limit the scope of the discussion to one issue and consider only the terms liberal, conservative, and moderate.

Legislative Process

In this lesson, students become aware of the process involved in enacting a law and extend their learning by exploring the historical perspective, the effect of politics, and the role of citizens.

Standard

Social studies programs should include experiences that provide for the study of how people create and change structures of power, authority, and governance.

Skills

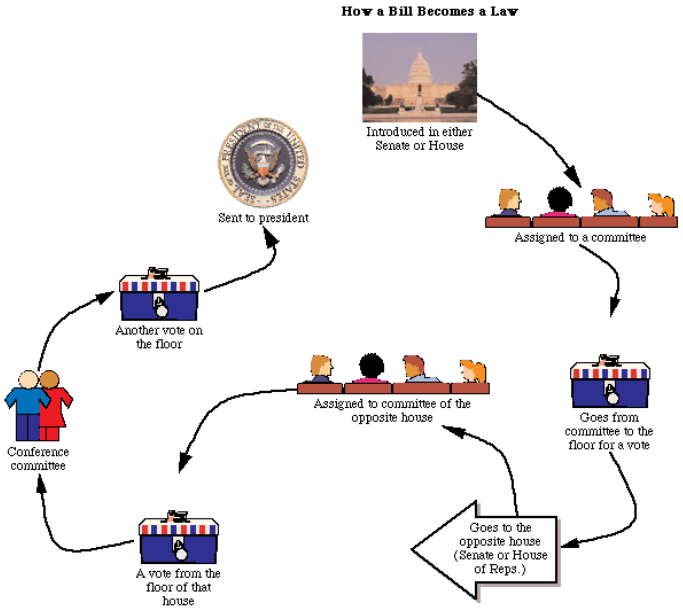
- ★ Understand steps involved in creating and passing a law
- ★ Build awareness of legislative process

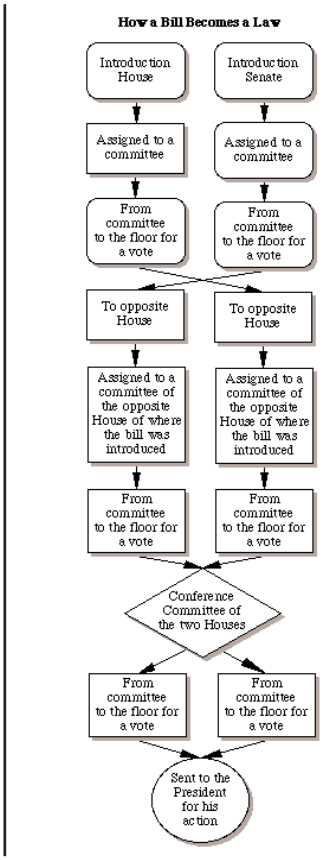
Preparation

Before this lesson is introduced, ask students to write a paragraph explaining how they think a bill becomes a law. Save these for the activity.

Lesson

1. Explain the lawmaking process and direct students to use the notes from your lecture to create a visual representation of the nine steps in legislative process. There are many correct ways to do this.





2. Then, using historical reference books, the Internet, etc., instruct students to check the actual record of any law's passing and have them enter notes showing how the process was circumvented, amended, or otherwise politicized (debate, veto, amendment, and so forth).

Follow-up activities

1. Hand back the paragraph students wrote at the beginning of the unit and ask students to revise them in light of what they learned. These revisions can become the assessment for the unit.
2. Students continue research to identify the following:
   - ★ The role and objective of a congressional lobbyist
   - ★ At least three issues affecting America today and the problems or conflicts that make them issues
   - ★ Their district's U.S. representative and their state's U.S. senator
   - ★ At least three local government officials
   - ★ At least three national or local special interest groups

For younger students

Assign students to work in groups to propose a law and role-play its progress through the Congress.

Lesson inspired by:
Brad Calhoun
Boardman Center Middle School
Youngstown, Ohio

Thinking About Current Events

Students are often assigned to read about current events in the newspaper, but getting them to analyze their reading can be difficult. This lesson helps students think about current events and make connections to other news stories and the past.

Standard

Students read various forms of printed material (newspapers, journals, magazines) to gain an understanding of current events.

Skills

- Reflective thinking
- Event analysis
- Making connections between new information and prior knowledge

Materials needed

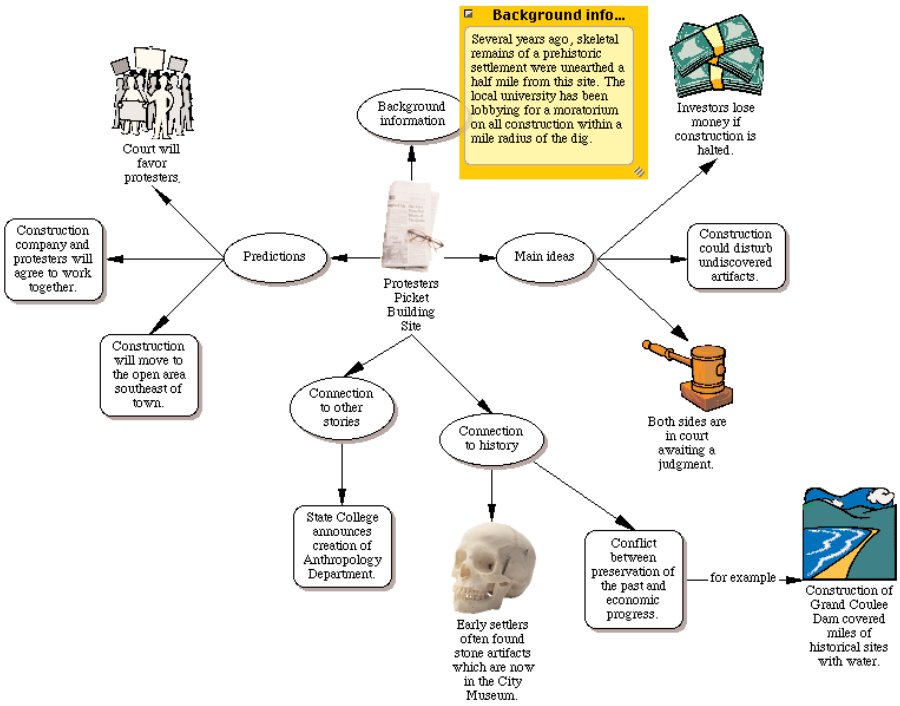
Current newspapers and news magazines (students may volunteer to bring in extras from home so there are enough for all students to read) and online news sources.

Preparation

1. Assign current events reading on a regular basis. Define what kinds of news stories or sections of the paper or of magazines are appropriate.
2. Create a diagram like the one below and save as a template using the Inspiration® Template Wizard. Name this template Current Events.

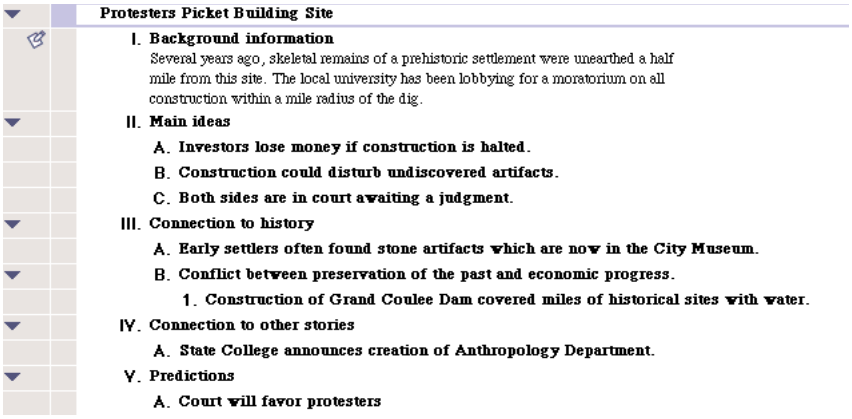
Lesson

1. Read several short articles from the newspaper to your class and reflect aloud about the connections to other news stories or history. This provides a model of the kinds of ideas you are looking for in their reflections.
2. Show the Current Events template you created and have students enter the name of one of the articles they read into the appropriate symbol. To enter details, they can add subtopics or use the Note tool.



Some areas may be left blank, depending on the event.

3. When students finish the diagram, instruct them to switch to Outline View to begin writing a short report on their article.



Follow-up activities

1. Set up interest groups to follow a particular story and do further research on the Internet.
2. Use Inspiration to create chronologies of current events.

For younger students

Choose a current event for the whole class to read about and discuss. Brainstorm questions about the event and find the answers using back issues of the newspaper or the Internet. Use the Current Events template you created to summarize what the class has learned.

Science

Science curriculum is based on learning vast quantities of information and understanding complex relationships. This section shows how graphical organizers and visual learning support students in their scientific endeavors.

Flora, Fauna, and Fossils

To complete a unit on plant and animal adaptation, students use Inspiration® to plan and organize a web site on a selected environment.

Standard

All students should develop an understanding of organisms and environments.

Skills

- Organization and inquiry
- Integrating information using technology

Materials needed

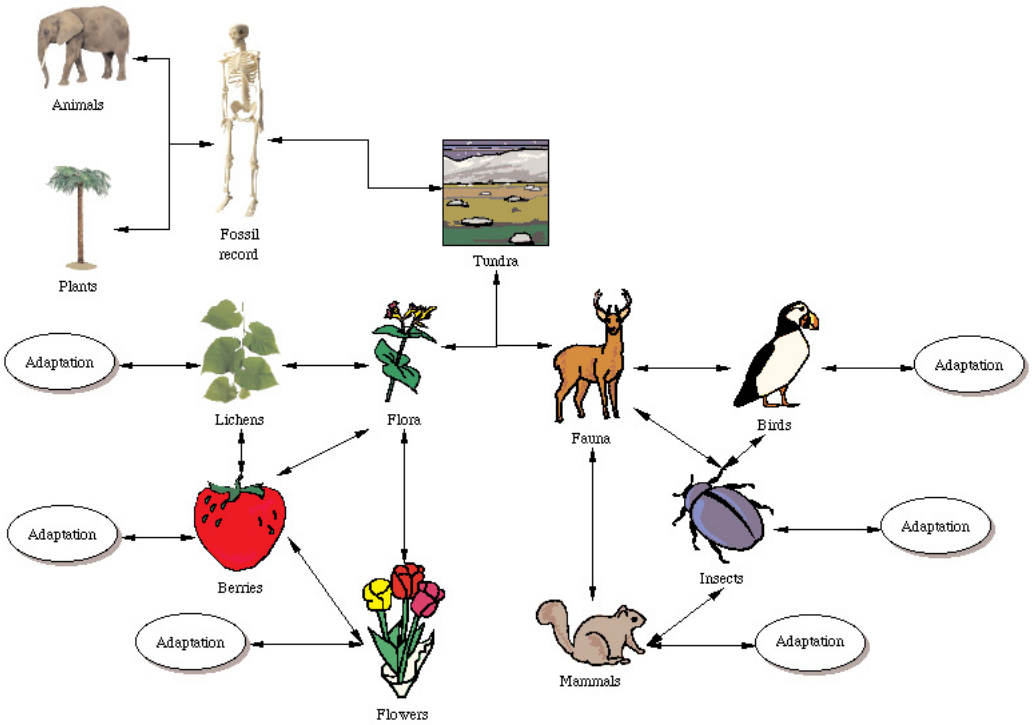
CD-ROM, Internet, and print references on animals, plants, and environments

Preparation

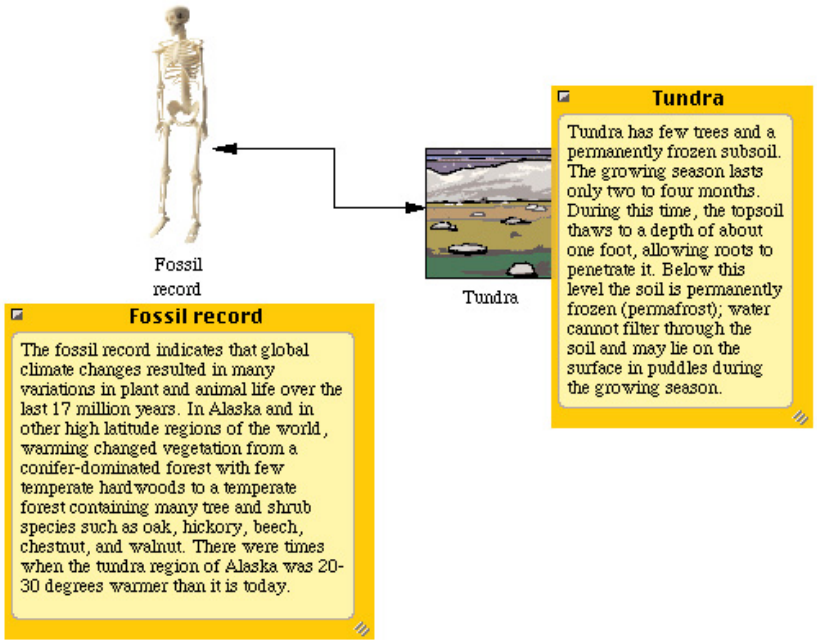
1. Assemble resource materials on environments in classroom learning centers.
2. Have students examine a variety of educational web sites and discuss the kinds of information included.

Lesson

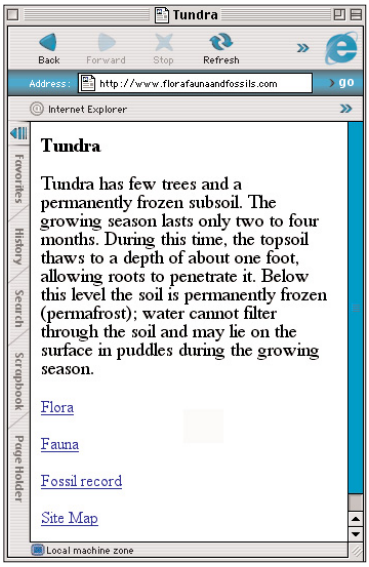
1. Divide students into small groups based on their interest in a particular environment.
2. Assist students as they research the environment they've chosen. Be sure they include flora, fauna, and fossil history.
3. Using Inspiration, have students map out their web sites. As they work, make sure they understand that the Site Skeleton™ export transforms each symbol in the diagram into a separate page in the web site. Also, the links they include become hyperlinks that users click to navigate through the site. For this reason, students should add arrowheads to both ends of the links.



4. Instruct students to enter details into the note associated with each symbol. This information appears as the text on each web page.



5. Select volunteers from each group to present their planning diagrams to the whole class for critique before beginning to build their web sites.
6. When students are ready, show them how to use the Site Skeleton export to create the foundation of a web site.
7. After exporting pages, add additional information or change formatting using any HTML authoring program.



Follow-up activities

1. Encourage students to share their projects in the curriculum section of the school web site.
2. Help students compile their projects to create an integrated animal adaptation web site.

Challenge activity

Assign an activity in which students compare the adaptation of similar species in different environments.

Observational Journal

Scientists learn about the world around them by making careful observations over time. This activity puts the students in the role of scientist as they observe and document the natural world in which they live.

Standards

Students observe natural phenomena and communicate results in written reports.

Students understand that repeated observations reveal patterns in natural phenomena.

Skills

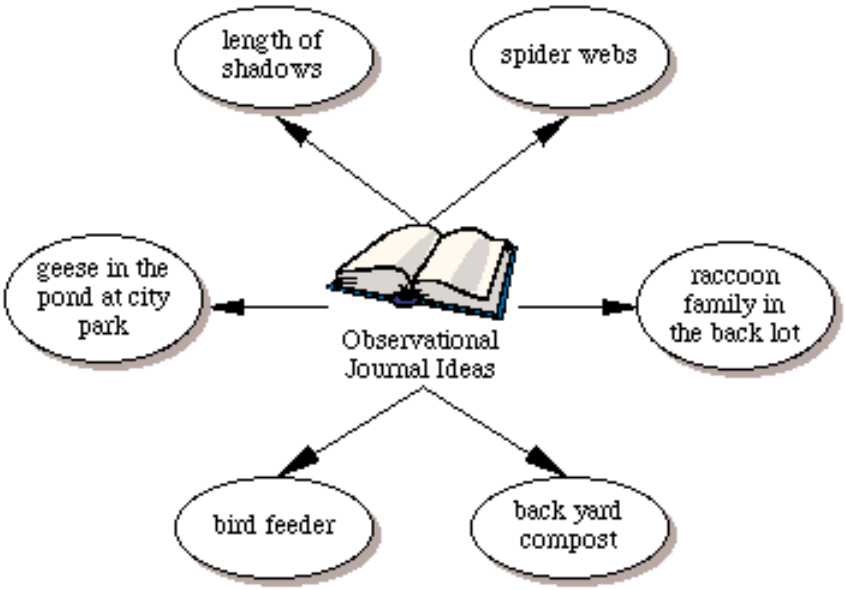
- ★ Observational record keeping and data analysis
- ★ Scientific thinking

Preparation

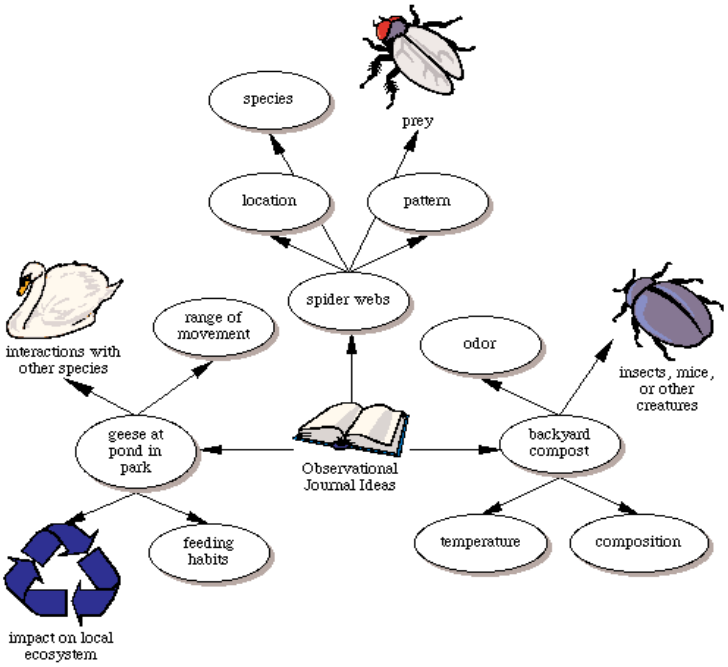
1. The night before introducing this activity, ask students to look at nature near their home (their yard, a nearby park, a yard they pass on the way home, etc.) and make a list of the things they see. Tell them to look for something they can observe on a regular basis. Students who do not have access to an outdoor space could observe an aquarium, indoor plant, etc.
2. Go over examples with students (trees, weeds, animals, etc.) to check for understanding.

Lesson

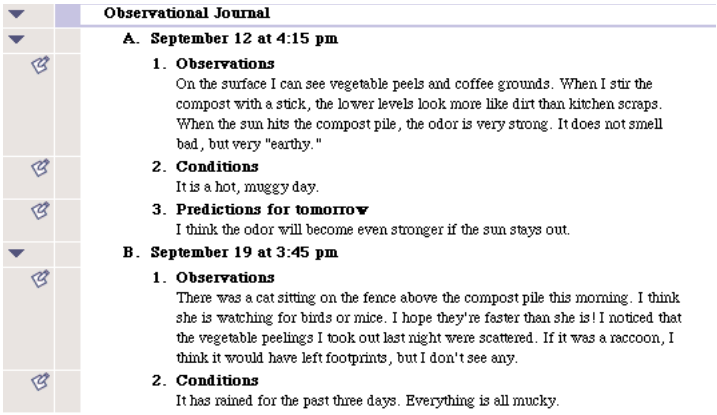
1. In a group, ask students to brainstorm possible topics. As they volunteer information, use the RapidFire™ tool to record it in an Inspiration® diagram.



2. Choose several topics and brainstorm examples of what an observer might look for.



3. Instruct students to use the Science—Observational Journal template to record their observations on a regular basis.



4. Choose one day of the week for students to share observations with the rest of the class. Encourage other students to ask questions and make observations.

Follow-up activity

Have pairs of students observing the same phenomenon (shadows, animal behavior, etc.) compare notes and look for similarities and differences. Encourage them to record their discoveries in the Thinking Skills—Comparison template.

Challenge activity

Students can choose different variables to manipulate and make note of effects.

Rock Cycle

The rocks we see every day may seem static, but they are actually in a constant state of change. This lesson helps students understand how rocks change, and learn that sedimentary, metamorphic, and igneous rocks are all made of the same components.

Standards

Students understand Earth's composition and structure.

Students understand simple cycles such as the water cycle, nitrogen cycle, and rock cycle.

Skills

- ★ Simple cycles in nature
- ★ Relation of theory to real world

Materials needed

A collection of rocks, including samples of igneous, metamorphic, and sedimentary rocks

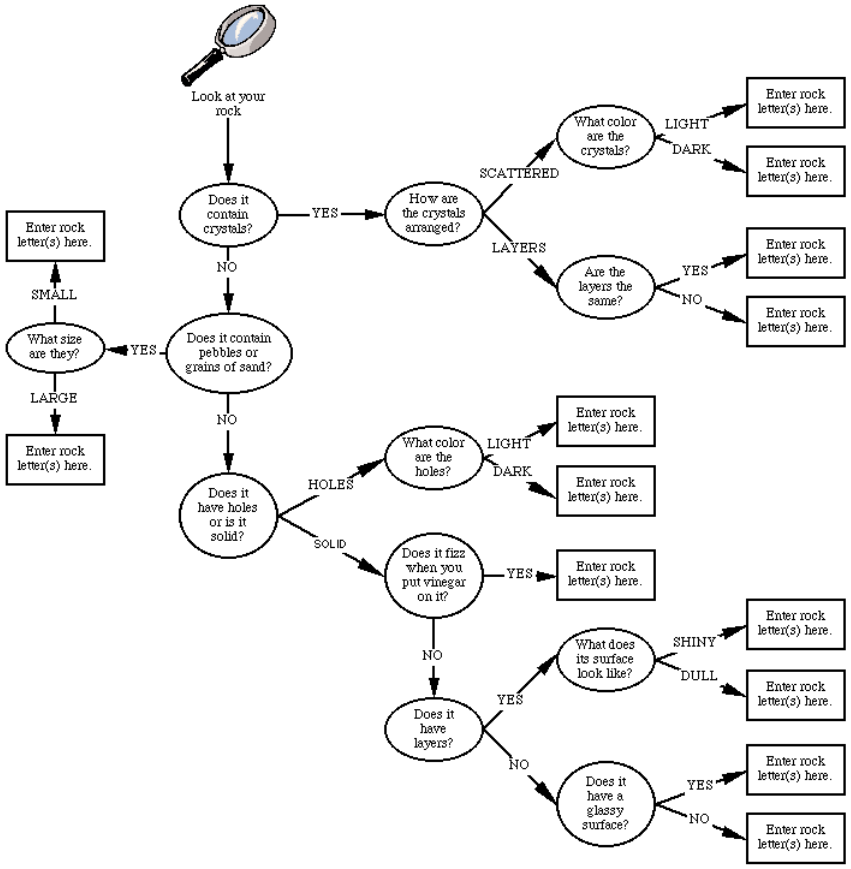
Labels

Vinegar

Magnifying glass

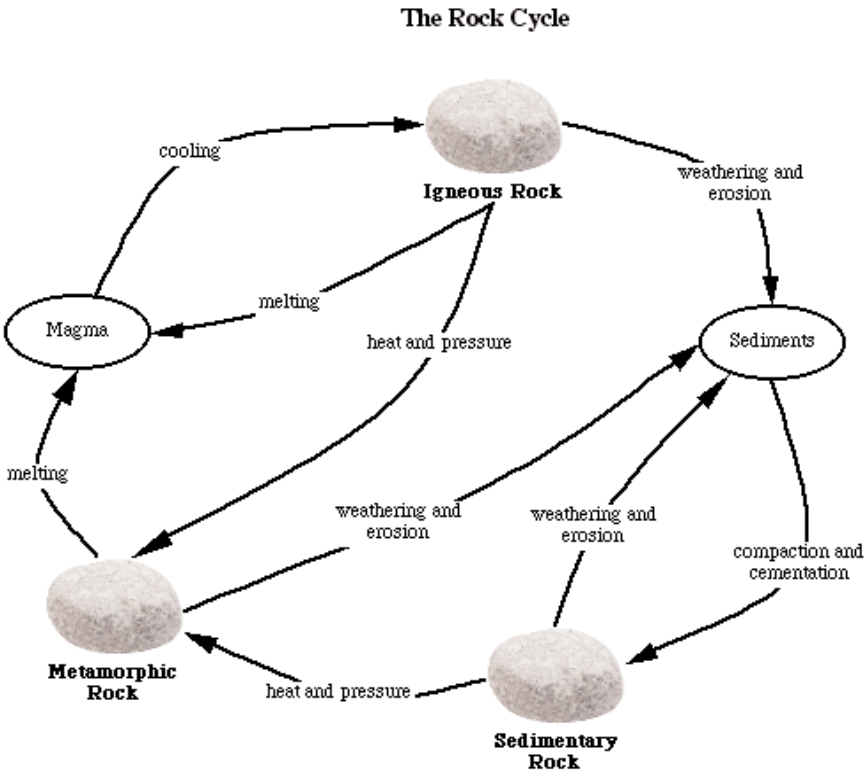
Preparation

1. Label each rock with a letter of the alphabet. Keep a list that correlates the letter with the name of the rock and the group to which it belongs.
2. Create a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Rock Identification.



Lesson

1. Place the rocks you gathered on a table and tell students there are three basic categories of rocks.
2. Have small groups work together to examine the characteristics of each rock. Students should record their findings in the Rock Identification template you created earlier.
3. Ask groups to explain how they grouped the rocks. What are the common characteristics they noticed? After discussion, check the responses against your list.
4. Introduce igneous, metamorphic, and sedimentary rocks and explain the rock cycle. As you do so, use Inspiration to make a concept map like the one below.



5. Return to the Rock Identification diagrams the students created and explain how the characteristics of the rocks (crystallization, layers, etc.) reflect the process by which they changed.

Follow-up activities

1. Ask students to investigate how different rock types provide evidence of plate tectonics.
2. Have students determine the relationship between the location of fossils and the type of rock in which they are most commonly found.

Challenge activity

Assign groups a variety of rocks to research and determine each rock's place on the Mohs' Scale for hardness.

Lunar Cycle

Students see changes in the night sky every time they look at the moon. However, understanding why the view changes from night to night forms the basis of understanding how the solar system works.

Standards

Students develop an understanding of objects in the sky.

Students develop an understanding of changes in the earth and sky.

Skill

★ Identifying and demonstrating understanding of moon phases

Materials needed

Internet connection or CD–ROM with photos of moon phases

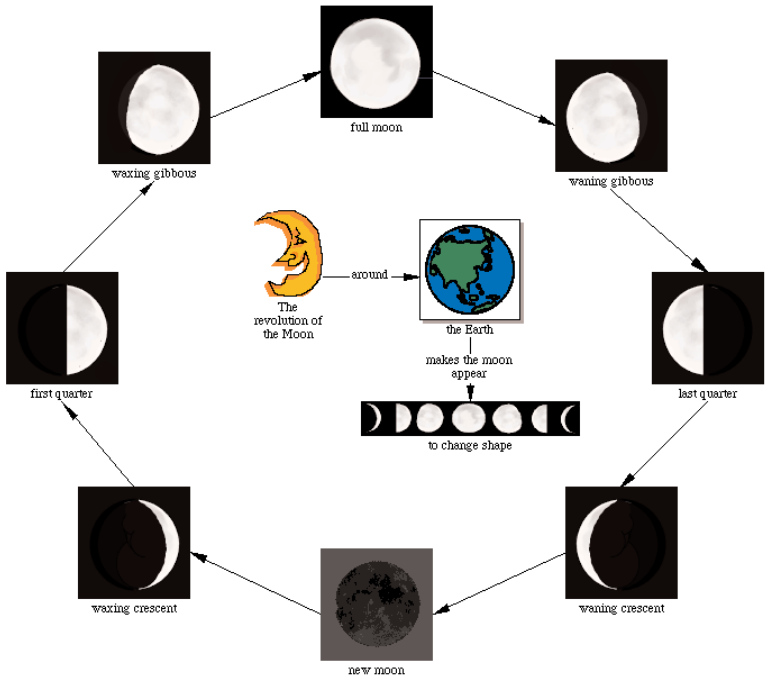
Reference materials about the moon

Preparation

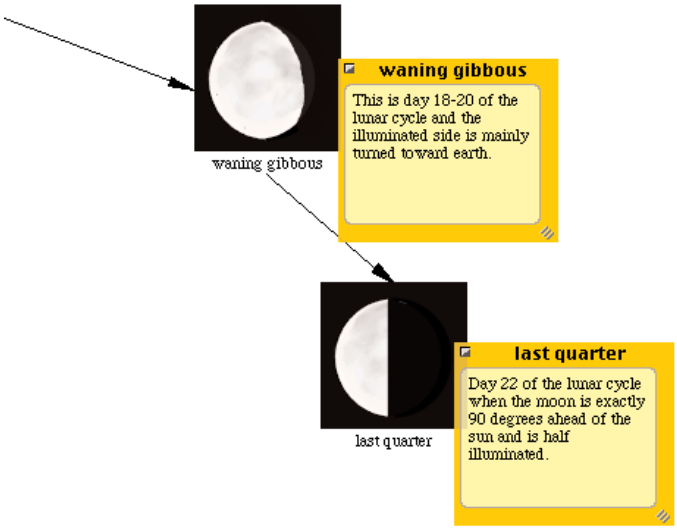
Place digital images of moon phases on the computer for student access or compile a list of web sites where they can download images. You may also prepare a library of symbols representing the phases of the moon. Using the Inspiration® Template Wizard, you could then select this library to be the default for a new template.

Lesson

1. Present and discuss phases of the moon.
2. Assign related reading from your textbook or an article found on the Internet.
3. Instruct students to copy and paste images of moon phases into an Inspiration diagram and arrange them in order.



4. Have students use the Note tool to add information explaining moon phase, related vocabulary, etc.



Follow-up activities

1. Ask student groups to write picture books based on their diagrams to explain moon phases to younger grades.
2. Encourage students to read about lunar eclipses and relate what they have learned about the relationship between the Earth and the moon's appearance.

Challenge activity

Have students create a concept map of solar, lunar, and terrestrial interactivity in terms of appearance and physical effects.

Introducing Variables

Success in science lies more in learning how to act and think like a scientist than in memorizing facts and figures. This activity introduces students to hypothesis testing and the important role of variables in experimentation.

Standards

Students develop abilities necessary to do scientific inquiry.

Students develop understanding of scientific inquiry.

Skills

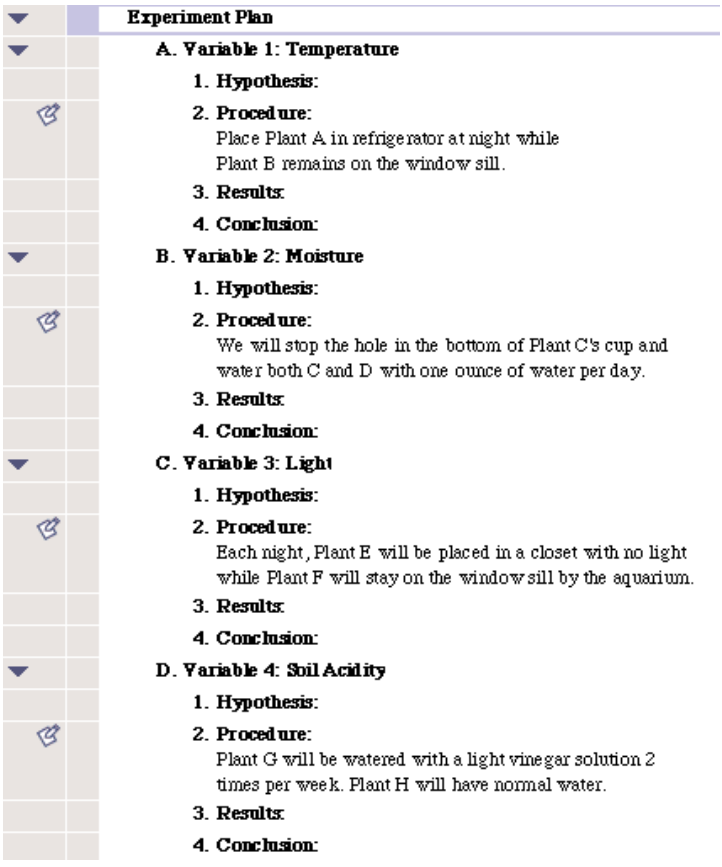
- Observation
- Record-keeping
- Hypothesis testing

Materials needed

Sunflower seeds, potting soil, three-inch pots, or sturdy paper cups with drainage holes cut in the bottom. There should be eight for each group, plus several to form a "control" group, which the teacher will maintain.

Preparation

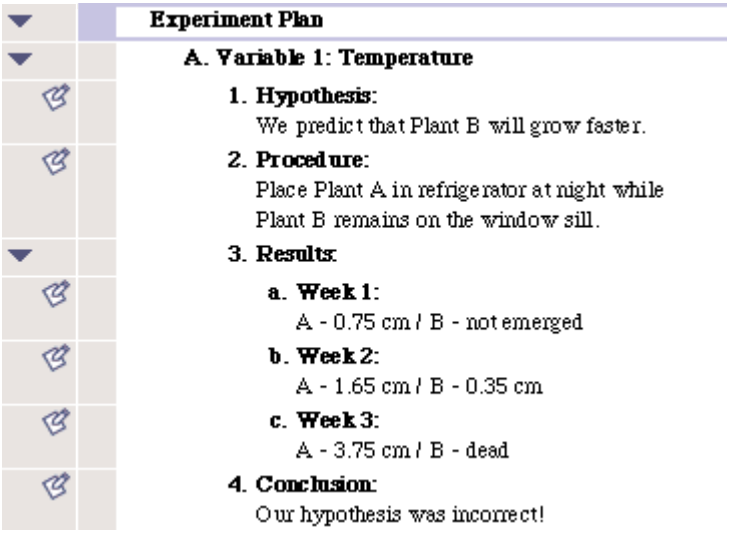
1. Open the Inspiration® Science—Lab Report template and modify it to look like the one below. Use the Template Wizard and save the modified template. Name this template Experiment Plan.



2. Assist students as they fill the pots with moist potting soil and plant sunflower seeds.

Lesson

1. Instruct students to observe plants in their homes, yards, or neighborhoods, and take notes on care, conditions, and so forth. Have them brainstorm conditions that seem to contribute to the health and detriment of plants. When they are finished, their list of variables should include temperature, light, moisture, and soil acidity. If not, prompt them in that direction.
2. Divide students into groups of three to four and give each group eight pots and seeds.
3. Using Inspiration, have the groups collaborate on a plan to test the variables on their plants and form initial hypotheses about the effects of their proposed experimentation.
4. As students carry out experiments, have them document their procedures, results, and observations in the Experiment Plan template you created.



Follow-up activities

1. Encourage students to investigate other variables that may affect the growth rate of plants.
2. Brainstorm other simple experiments that could be performed in the classroom.

Challenge activity

Have students apply statistical analysis to the results of this activity to see if results are significant. Students can also repeat the experiment to test if the results are replicable.

Biographies in Science

The advance of science depends more on the work of individuals than any other factor. This lesson helps students understand how individual scientists have driven scientific progress.

Standard

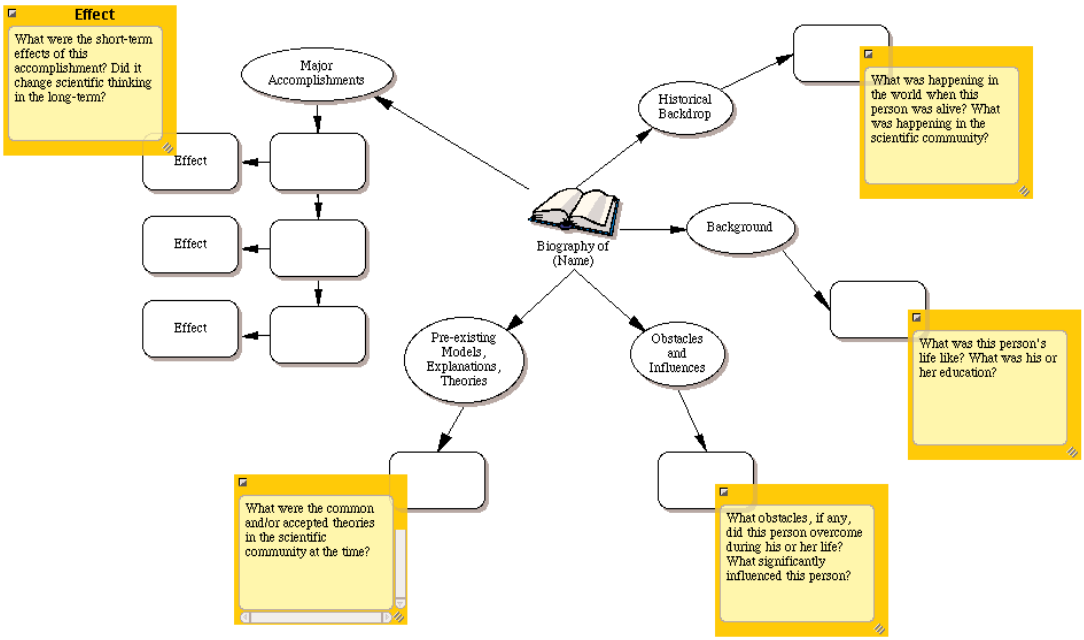
Students understand how the accomplishments and deeds of individuals impact science and add to human knowledge.

Skills

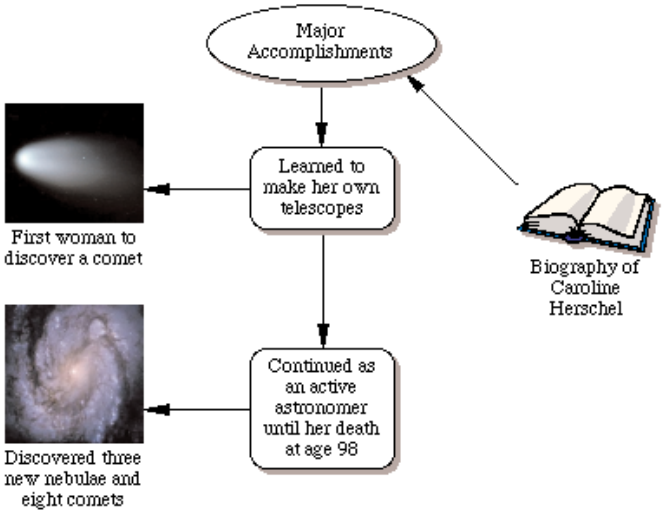
- Analytic thinking
- Research
- Writing in content area

Lesson

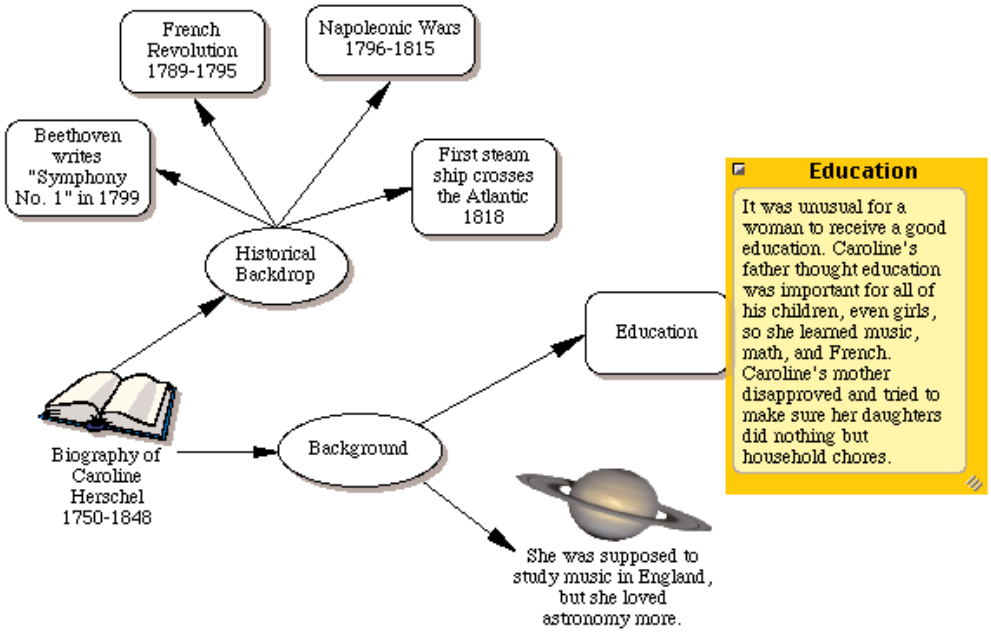
1. As a class, have students brainstorm famous scientists and inventors. Use the RapidFire™ tool to enter students' contributions into an Inspiration® diagram.
2. Ask students to share what they know about the people they listed and add your own comments as appropriate. Save this diagram and name it Science Giants.
3. Have students choose one person to research. Open the Science—Biographical Web template. Point out that in the symbol labeled "Historical Backdrop," students should include information about what the world was like during this person's time.



4. Using classroom resources, have students fill in the Biographical Web template.



5. Circulate among the students and encourage them to add information using the Note tool.



Follow-up activity

Open the Science Giants diagram created at the beginning of the lesson. Use the Hyperlink tool to link student diagrams to the appropriate symbol in the Science Giants diagram. Then export the diagrams to HTML using the Export as HTML option to form a history of science web site.

Challenge activity

Have students research the influences their subject had on the scientific community. For example, students could examine how J.J. Thomson's calculation of the charge to mass ratio of the electron enabled Robert Millikan to calculate the mass of the electron years later.

Periodic Table

In this investigative activity, students learn how to read the periodic table and discuss general properties of the elements.

Standards

Students understand the structure and properties of matter.

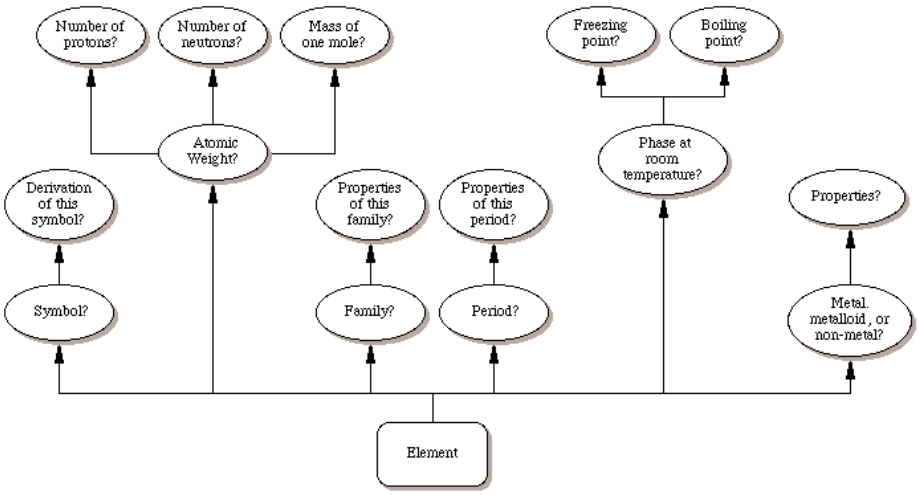
Students understand how elements are arranged in the periodic table, and how this arrangement shows repeating patterns among elements with similar properties.

Skills

- ★ Deductive reasoning
- ★ Understanding atomic properties

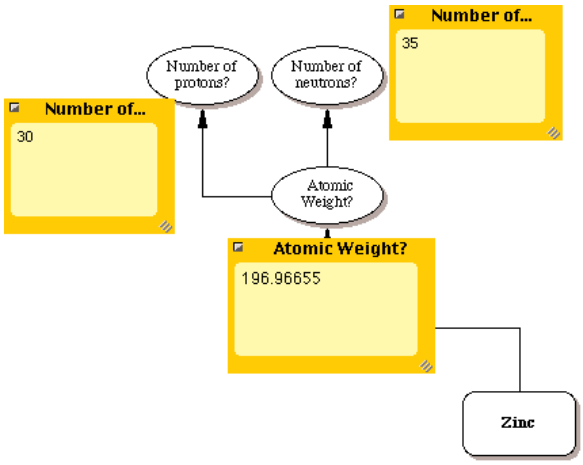
Preparation

1. Make sure each student has access to a copy of the periodic table of elements.
2. Prepare a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Periodic Table.



Lesson

1. Introduce the periodic table to students and explain how properties of an element can be found in its entry. Describe the meaning of each property.
2. Assign each student an element on the periodic table. Direct them to open the Periodic Table template you prepared. Instruct them to use the Note tool to answer the questions about the element.



3. After they have answered the questions, instruct students to remove the name of their element from the diagram. They should then use the Note Quick Control to hide their answers.
4. Assign each student a partner. Each pair should start from the bottom of the diagram, using the Note Quick Control to reveal answers one at a time. After they reveal each clue, students should try to identify the element.

Follow-up activity

Have students determine the relationship between an element's placement in the periodic table, its quantum electron configuration, and its reactivity with other elements in the table.

For younger students

Assign students to work in groups to study and diagram the properties of a single family on the periodic table.

Cell Function and Structure

In biology, the parts that make up the whole have important structures and functions. Learning about cells gives students the basis for understanding many other biologic functions.

Standards

Students know the structures of different types of cell parts and the functions they perform.

Students understand the chemical reactions involved in cell functions.

Skills

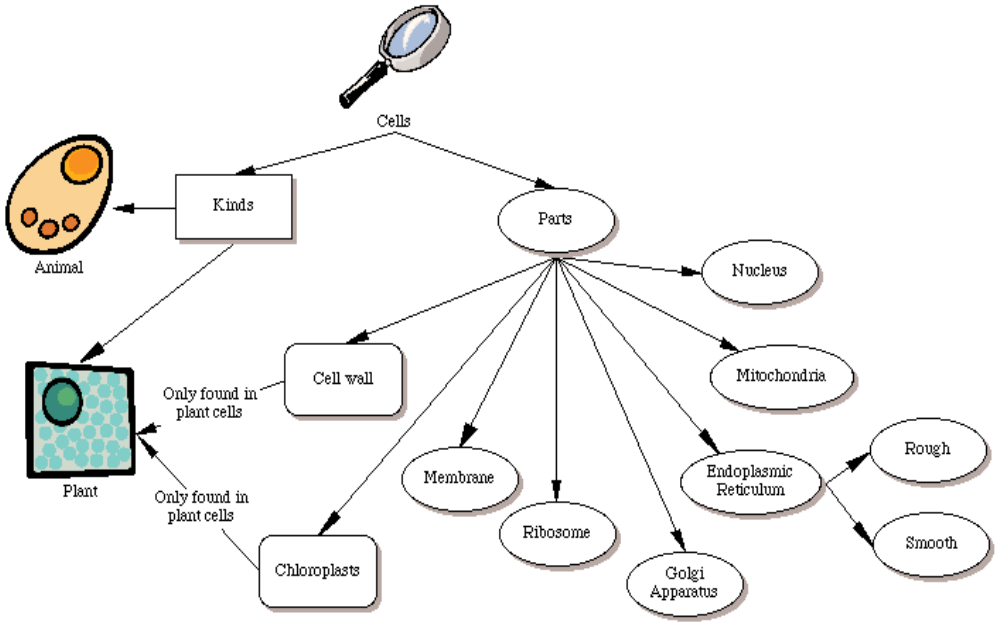
- ★ Analytic thinking
- ★ Understanding structure and function relationships

Preparation

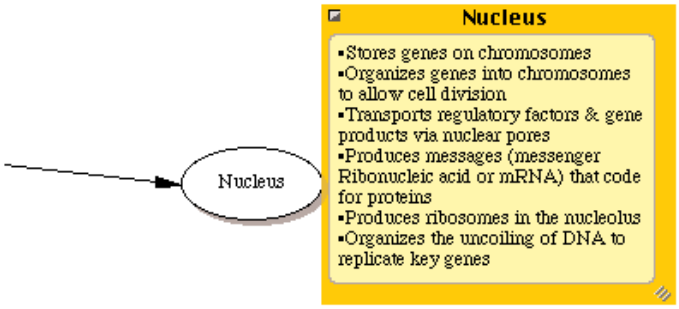
Gather instructional materials and Internet resources about cell structures and functions.

Lesson

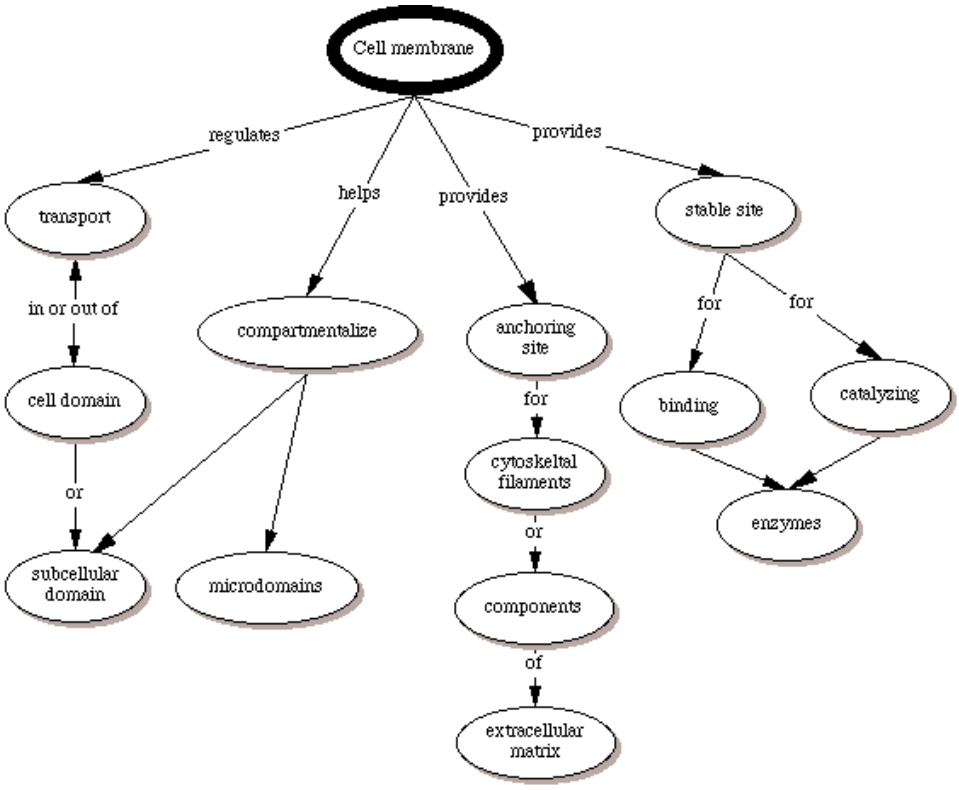
1. Allow students time to investigate the materials you gathered and direct them to take notes about the structure of cells and functions of cell components.
2. Ask students to volunteer information they learned about cells. Use Inspiration® to record their ideas.



3. Check to be sure students listed all cell parts and the functions they perform. Record additional information in the note associated with each symbol.



4. Divide the class into groups and assign each group a specific cell part to study. Instruct each group to create a concept map about their cell part. The Science—Concept Map template can help them start building the basic structure of their maps.



5. When finished, link each group's concept map to the appropriate symbol in the original diagram using the Hyperlink tool.

Follow-up activity

Collect SEM and TEM photographs from textbooks or Internet resources. Have students calculate the sizes of various cell organelles.

For younger students

Divide the class into groups to study the similarities and differences between plant and animal cells. Create a diagram together using the Thinking Skills—Comparison template.

Star Quality

It is difficult to watch a star evolve through its entire lifetime, so astronomers use knowledge of a star's behavior at various stages to piece together a picture of the star's entire life. In this lesson, students act as scientists by analyzing information to answer a variety of research questions.

Standards

Students understand the ongoing processes involved in star formation and destruction.

Students know common characteristics of stars in the universe.

Skills

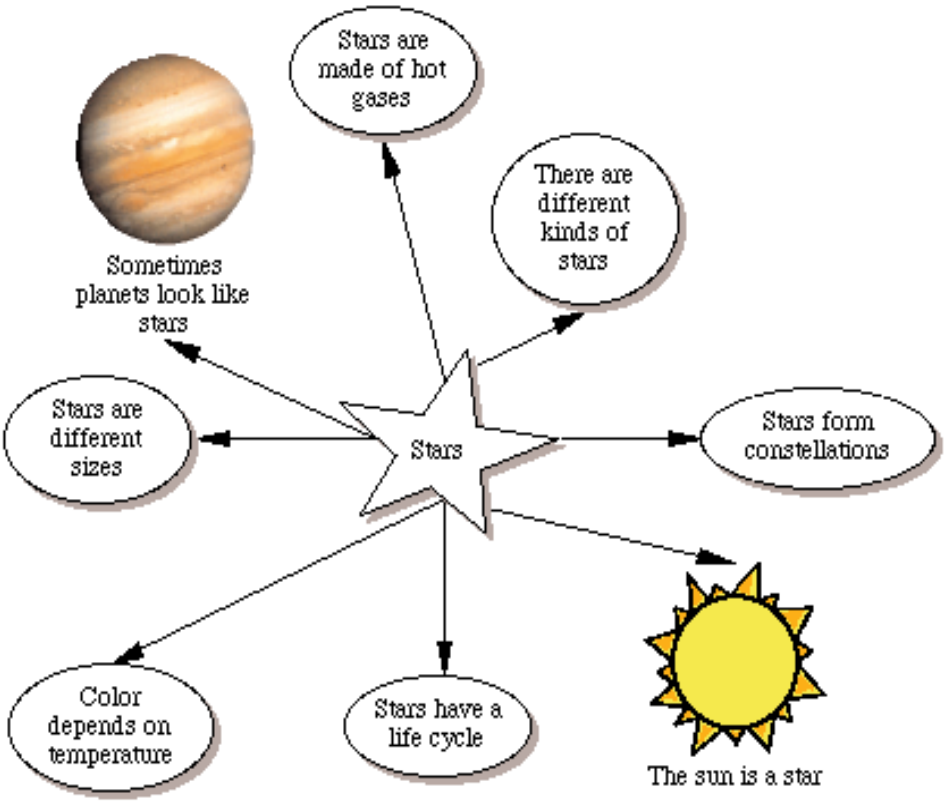
- Analytic thinking
- Content area reading
- Concept mapping

Preparation

Gather books, CD-ROMs, and Internet resources about stars.

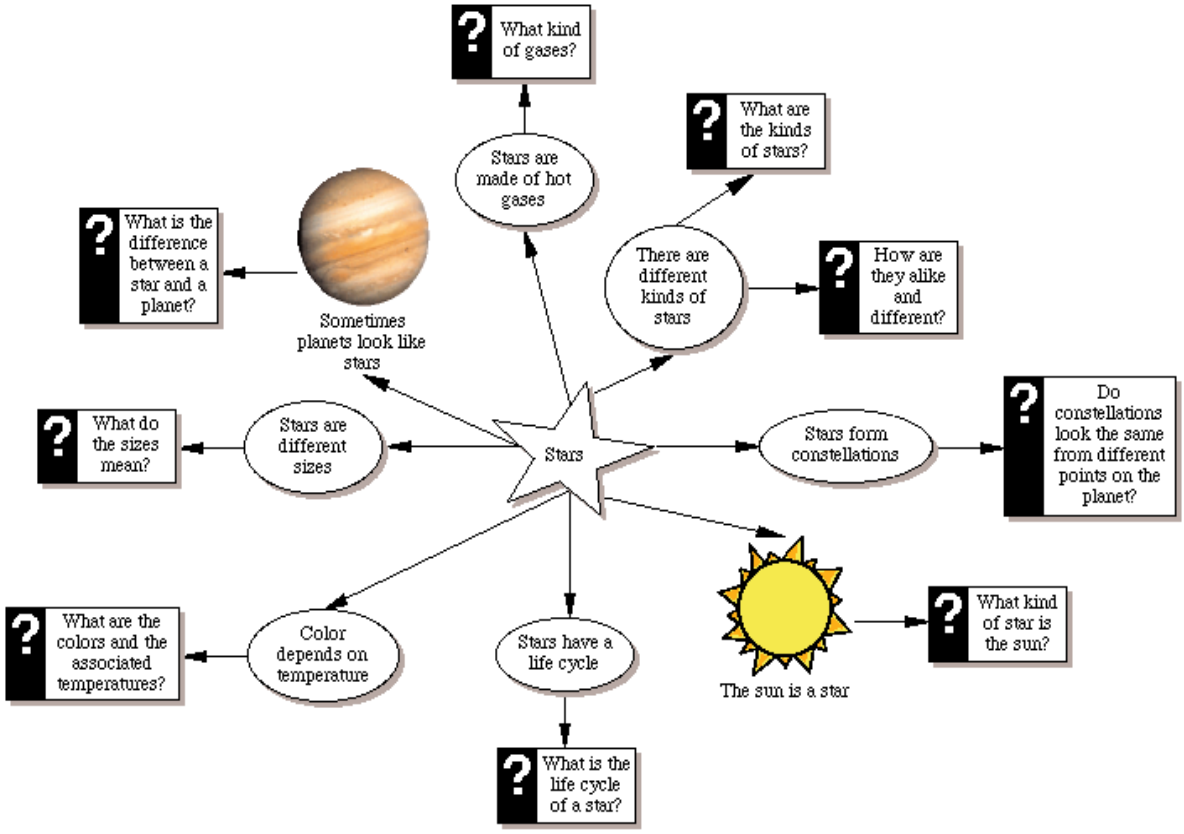
Lesson

1. Begin by asking students what they know about stars. As they volunteer information, use the RapidFire™ tool to record it in an Inspiration® diagram.



2. Go over the diagram with students, clarifying information and pointing out misunderstandings. Add more information as necessary.

3. For each symbol on the diagram formulate a question for the class to research.



4. Assign students to work in pairs to answer the questions, using the materials you gathered earlier.
5. When students have answered the questions, link each group's diagram or outline to the appropriate symbol in the original diagram using the Hyperlink tool. This information can be saved and utilized as a comprehensive reference guide for future star studies.

Follow-up activities

1. Have students create a concept map that shows the life cycle of a star.
2. Encourage students to study a particular star (for example, Proxima Centauri, Betelgeuse, or Cygnus X-1) and write a report on its characteristics.

For younger students

Assign age appropriate reading material on the life cycle of a star. Open the Science—Concept Map template and work as a class to create a concept map using this information.

Gaining Momentum

The laws of motion, as formulated by Sir Isaac Newton, are essential to the study of physics. By creating a concept map about momentum, students make connections between ideas and reinforce understanding.

Standards

Students develop an understanding of properties of objects and materials.

Students develop an understanding of position and motion of objects.

Skills

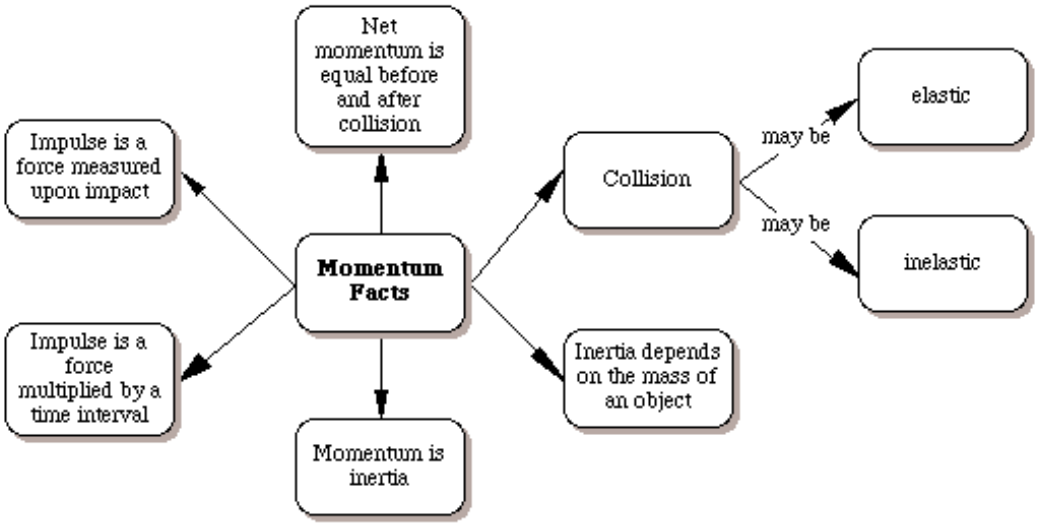
- Collaboration
- Concept mapping

Materials needed

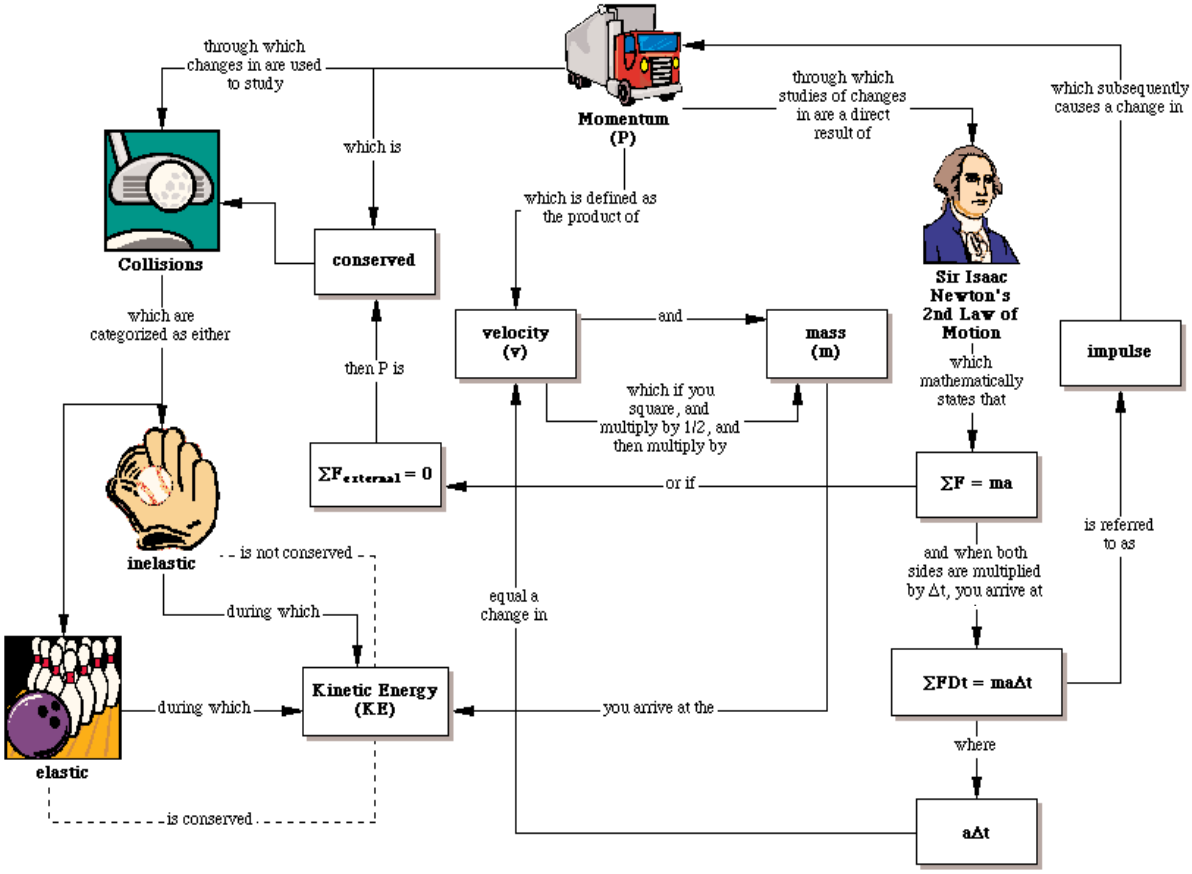
Gather a variety of balls (baseball, tennis, ping pong, etc.). These will be used to demonstrate momentum, and just as important, changes in momentum.

Lesson

1. Divide students into pairs and instruct them to bounce each ball on two different surfaces. They should record the drop height and subsequent rebound height using a meter stick.
2. Tell students about momentum and connect information to the phenomena they observed during their activity.
3. Encourage groups of students to share notes and record information in an Inspiration® diagram. Circulate among the students to check for understanding.



4. Instruct groups to create a concept map that reflects their understanding of momentum.



Follow-up activity

Have students solve problems that involve elastic and inelastic collisions by using the principles of conservation of momentum and energy.

For younger students

After demonstrating momentum with the assembled props, discuss the implications of momentum in safety. For example, you could study driving, running, or throwing.

Lesson inspired by:
Paul M. Rutherford, Ph.D.
Instructor
Summit Technology Academy
Lee's Summit, Missouri

Reading Scientific Texts

Research shows the importance of regular written response to reading, both as a way of monitoring student comprehension and providing a forum for discussion. This lesson provides a way to set up reading response in the science classroom and may be adapted to address your particular goals and students.

Standards

Students understand science vocabulary.

Students read and understand a variety of texts relating to science (lab reports, articles in science magazines, etc.).

Skills

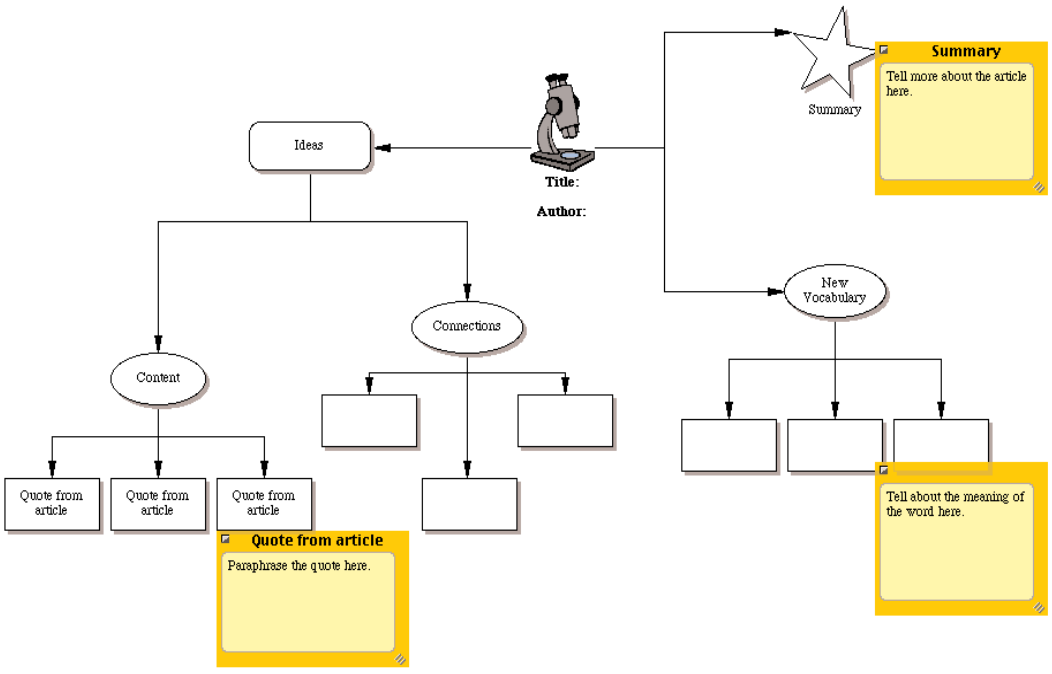
- ★ Support reading process and critical thinking
- ★ Comprehension, inference, and vocabulary enhancement

Materials needed

Gather a collection of popular science magazines and newspaper articles about recent science news.

Preparation

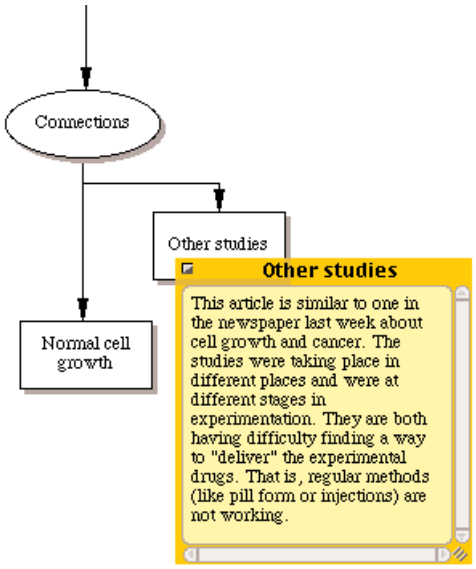
1. Make a list of the information students should be looking for in their science reading. For example, "Does this article relate to another branch of science?" or "List new vocabulary words found in your reading and investigate their meaning."
2. Create a diagram like the one below and save it as a template using the Inspiration® Template Wizard. Name this template Scientific Text.



Lesson

1. Assign students to read one scientific article a week from the collection you gathered.
2. As students finish their reading, have them record their thoughts in the Scientific Text template you created.

3. Encourage students to use the Note tool to add information if they have additional comments or questions about their reading.



Follow-up activity

Ask students who have read the same article to respond to one another's diagrams. This allows them to learn about other insights and points of view.

For younger students

Read an article as a class and discuss it before having students complete the template.

Science Careers

When students think of careers in science, they often imagine a white coat and a laboratory. A career in science, however, can take a person from the polar ice cap to the bottom of the sea. This lesson helps students appreciate the real world uses for science.

Standards

Students understand the relationships among science, technology, society, and the individual.

Students are aware of the role of science in a variety of careers.

Skills

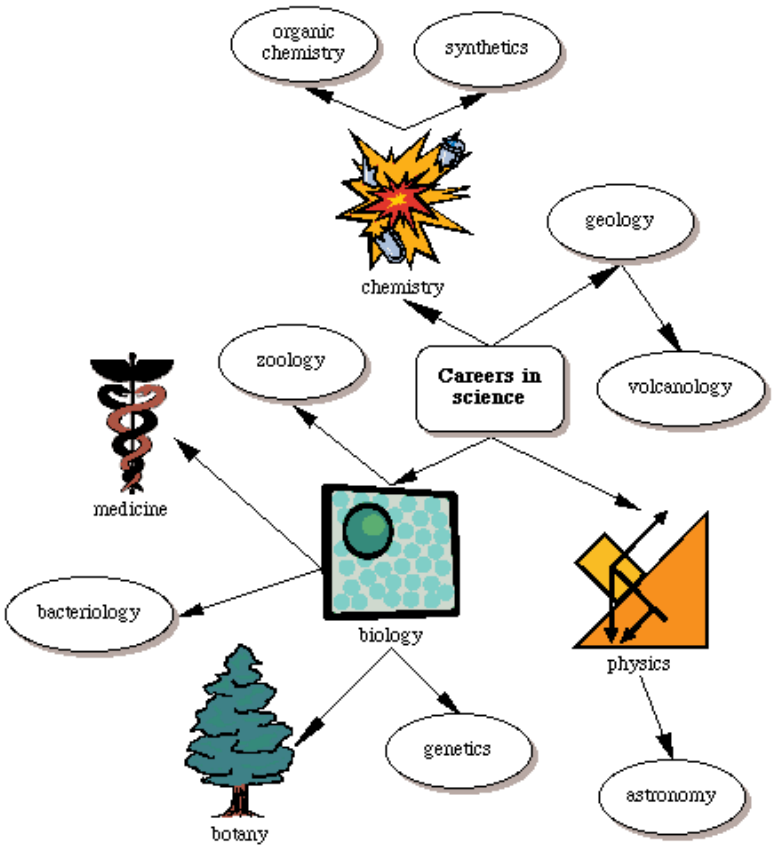
- Research
- Career planning
- Real world connections

Preparation

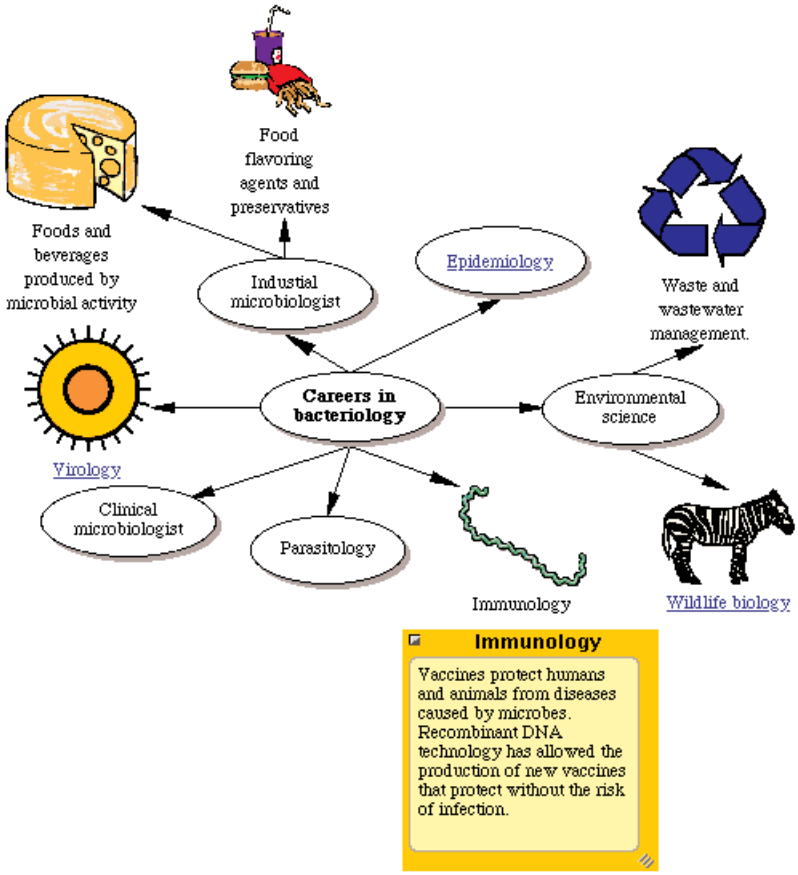
Contact people in your community whose jobs require an understanding of one or more branches of science and invite them to visit your classroom.

Lesson

1. In a group, ask students to brainstorm what they know about the branches of science. Use the RapidFire™ tool to enter students' contributions into an Inspiration® diagram. Continue by adding sub-branches to the main sciences. Save this diagram and name it Careers in Science.



2. Have pairs of students research one of the sub-branches of science and look for careers within that field.



Remind students to use the Hyperlink tool to connect useful Internet sites to their work.

3. Ask each student to choose a career to investigate, checking requirements for degrees, internships, and other necessary experience. Students should also look at online job postings to determine demand and salary range for that career.
4. Encourage students to present their diagram to the rest of the class.
5. Arrange for the people you contacted to visit your class and share information about their careers with students.

Follow-up activity

Look at online syllabi of required courses for a particular science career. Determine which courses in high school would be most useful and what supplemental reading is available.

For younger students

Concentrate on the branch of science you are currently studying.

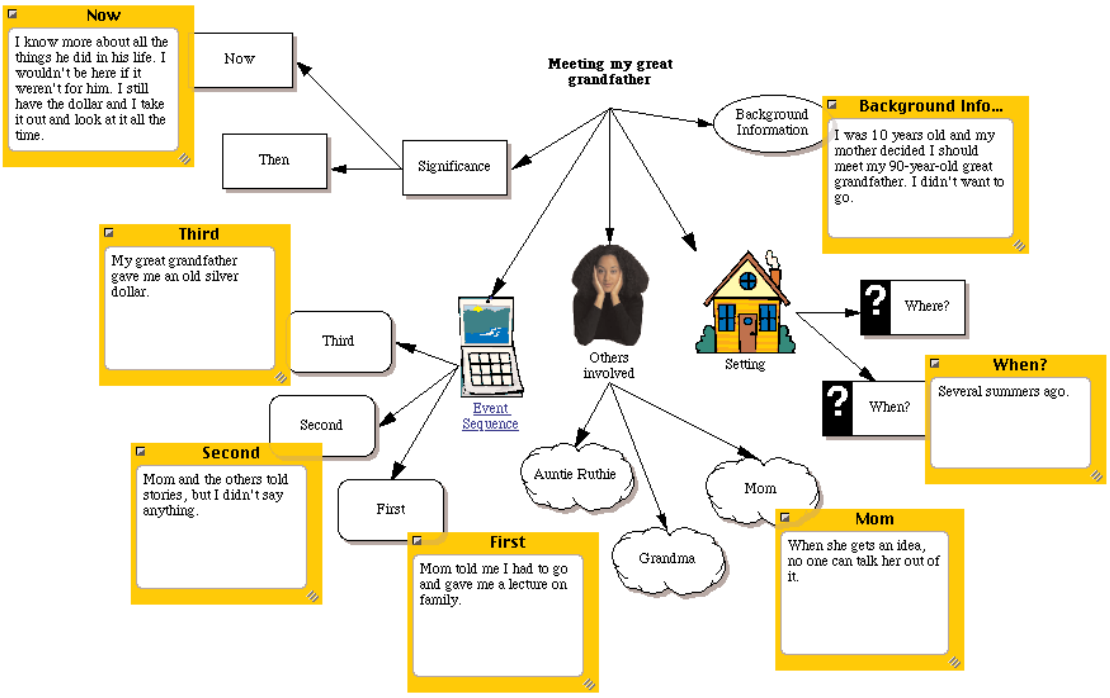
Classroom Examples

Inspiration® contains 50+ curriculum-aligned templates to inspire your students. The pages that follow include a number of completed templates as examples of possible classroom uses.

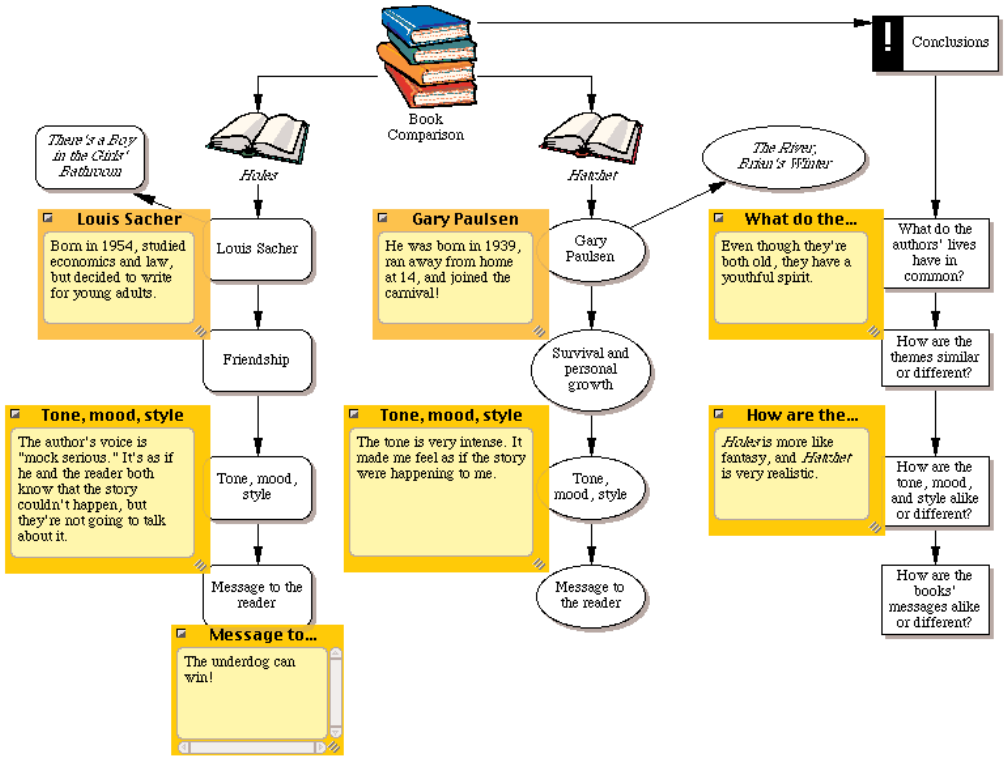
TM

Language Arts

Autobiographical Event

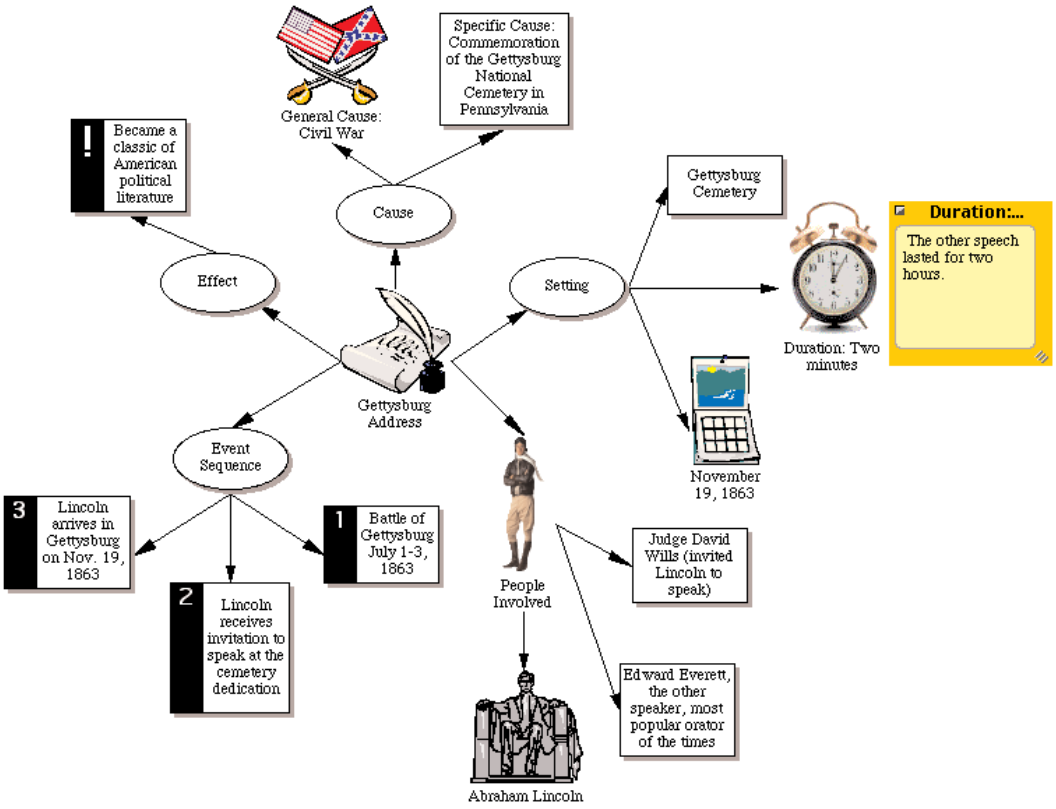


Book Comparison

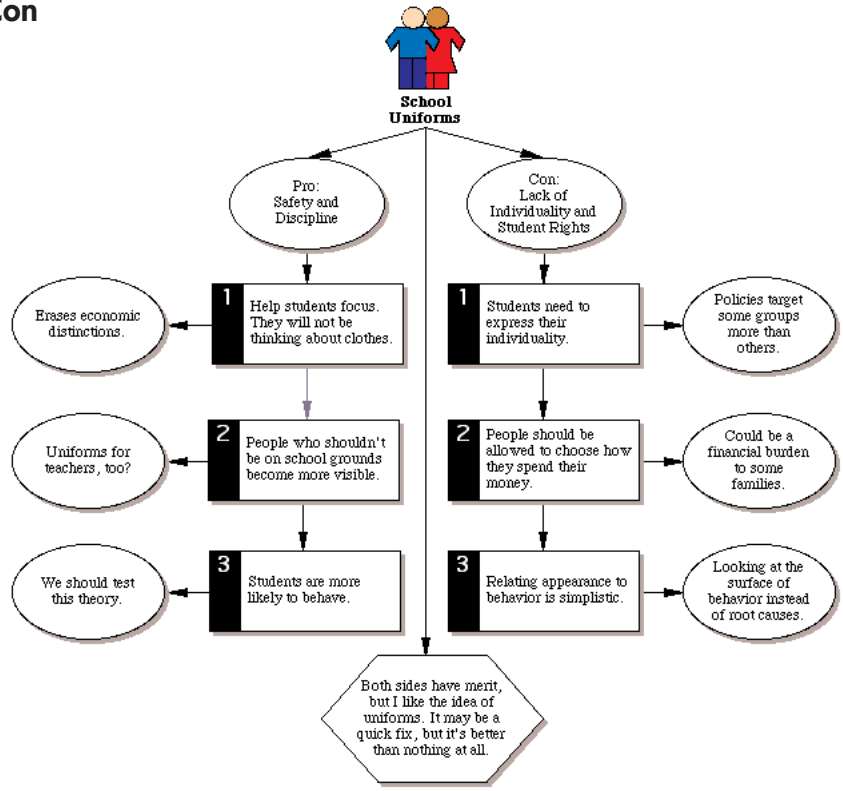


Social Studies

Historical Episode

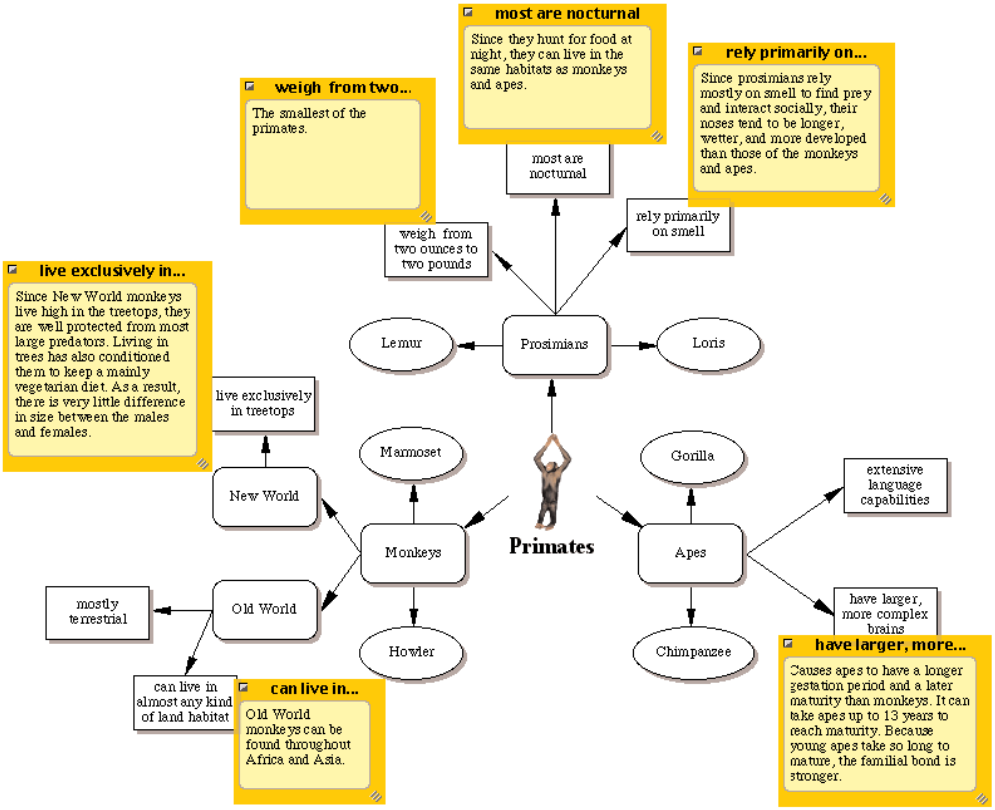


Pro and Con

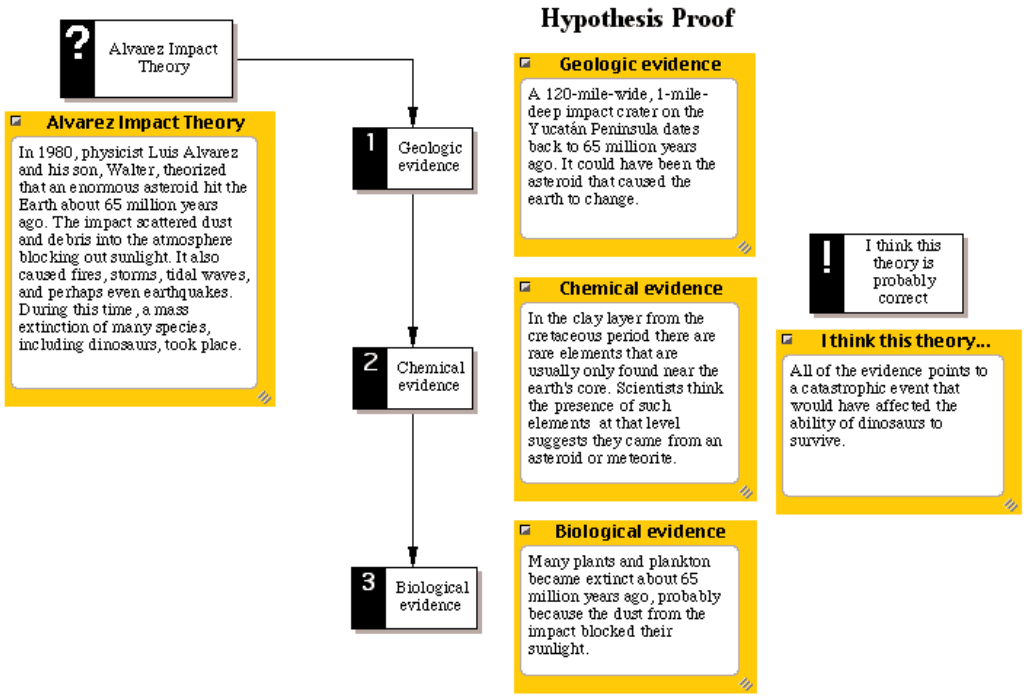


Science

Classification

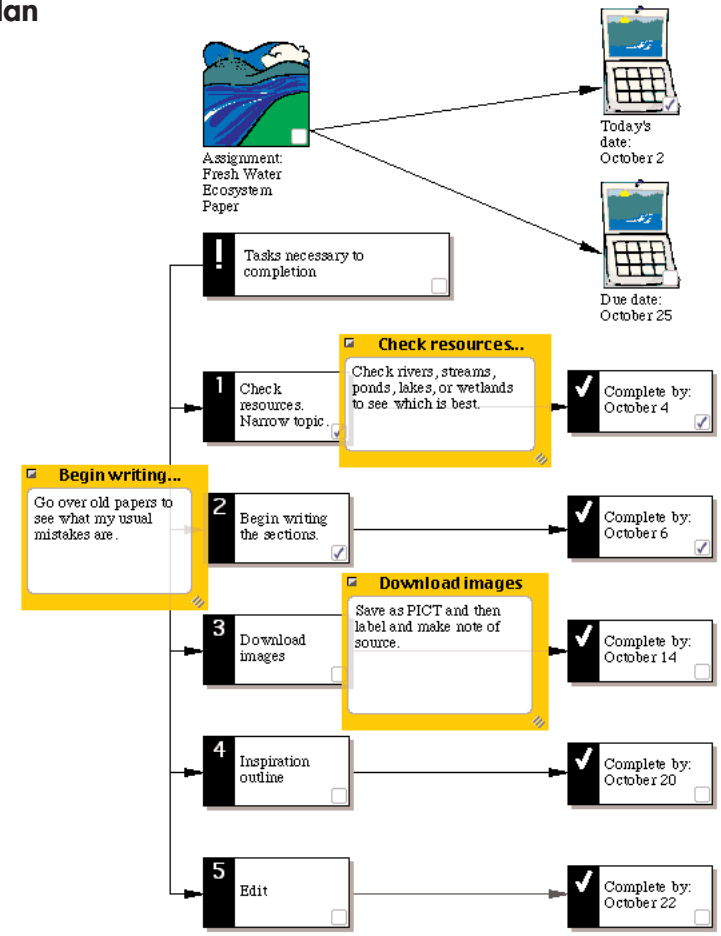


Hypothesis Proof

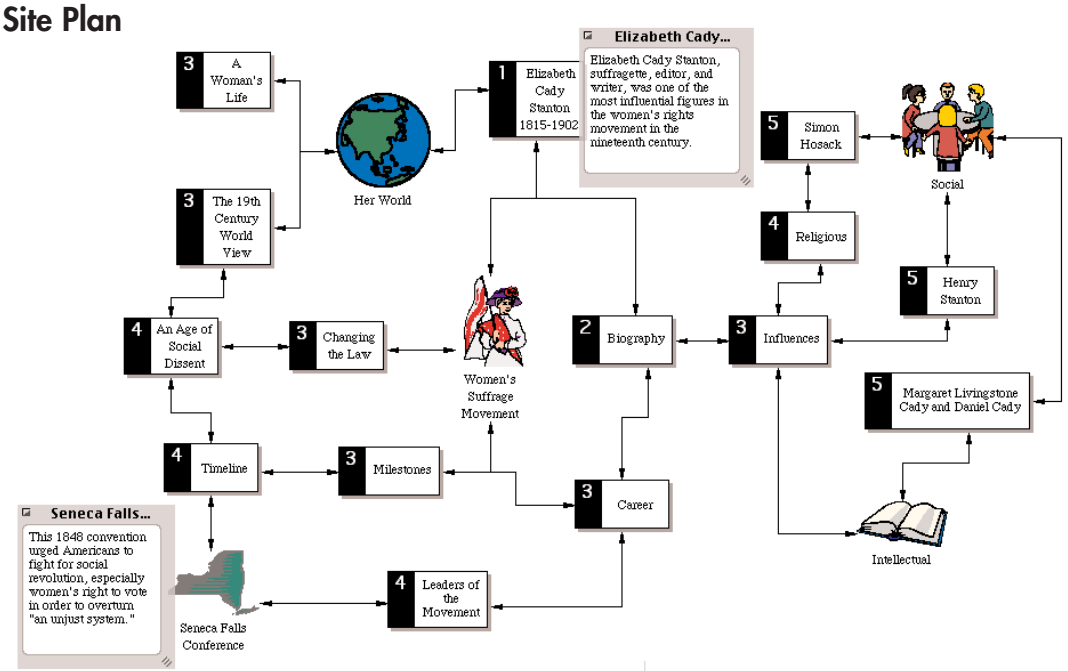


Planning

Assignment Plan

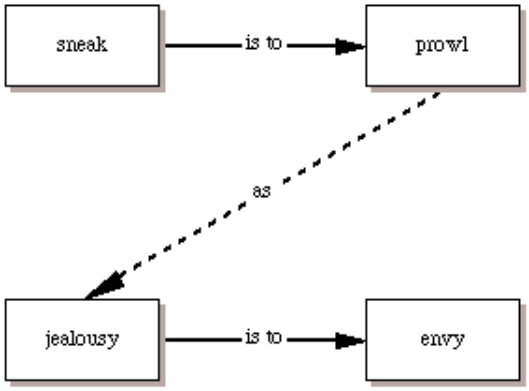


Web Site Plan

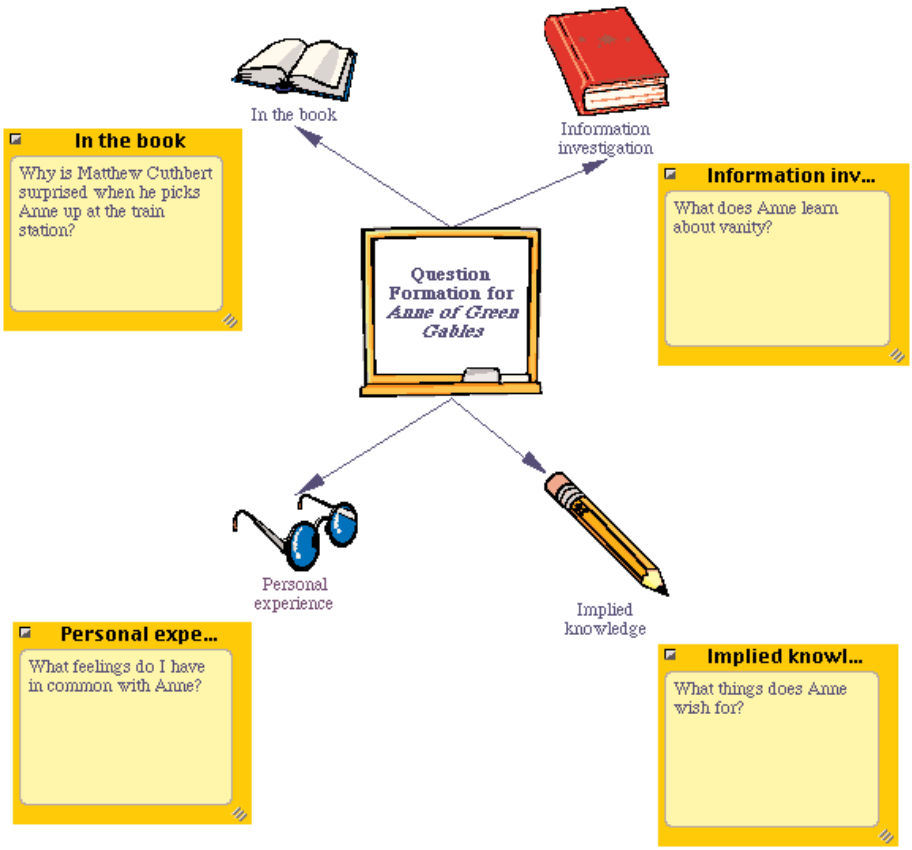


Thinking Skills

Analogy



Question Formation

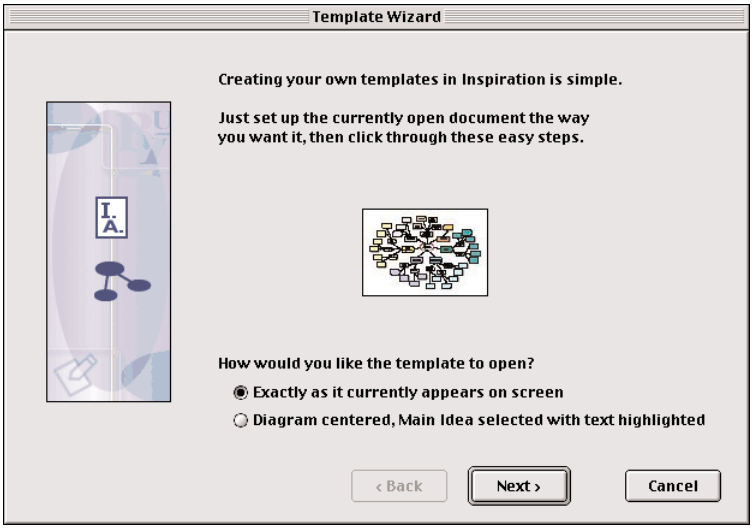


How To

Throughout the book, various lessons reference using the Template Wizard, the creation of custom libraries, and exporting documents to HTML. This section provides a step-by-step guide for using these inspiring features.

How to Create Templates

Educators often create their own templates to use as a starting point for a special project or assignment. The Inspiration® Template Wizard walks you step-by-step through saving any Inspiration document as a template.



To create a template:

1. Create the diagram or outline you want to save as a template.
2. On the Utility menu, choose Template Wizard.
3. Choose how you want the template to open, and then click Next.
4. Choose the symbol defaults for the template, and then click Next.

The document's current default settings are displayed. To use the Inspiration program's default settings, click Factory Settings.

5. Choose the link defaults for the template, and then click Next.
6. Choose the note defaults for the template, and then click Next.
7. Choose the outline defaults for the template, and then click Next.
8. Choose printing defaults for Diagram View and Outline View, and then click Next.
9. In the Save dialog box, choose the folder where you want to save the template. Inspiration automatically opens the Inspiration Templates folder, but you can choose any folder.
10. In the Name box, type a name for the template.
11. Click Save. In Windows the file is saved with an IST extension.
12. To set the newly created template as the default template for the Inspiration program, select the Set as Default check box in the Success dialog box. When you choose this option, all new Inspiration documents will be based on the newly created template.

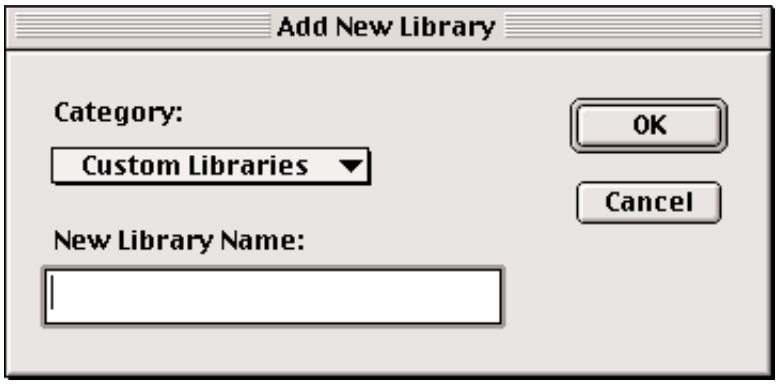
How to Create New Symbol Libraries

It's easy to create custom libraries for imported graphics and images created using the draw tools. Educators can copy frequently used symbols into a custom library, and create custom libraries for special projects or class assignments.

To create a symbol library:

1. On the Utility menu, choose New Symbol Library.

   The Add New Library dialog box appears.



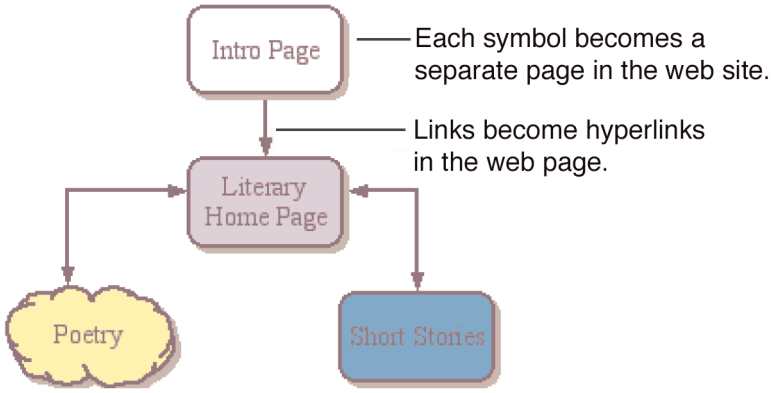
2. On the Category menu, choose the category you want the new library to appear under.

   Note . . . You can place a symbol library under any category on the Symbol palette. If you do not choose a category, Inspiration places a new symbol library under the Custom category.

3. In the New Library Name box, type a name for the library.
4. Click OK to create the library or click Cancel to exit without creating a new library.

How to Use the Site Skeleton™ Export

The Site Skeleton™ export allows educators to transform a diagram into the foundation of a web site, including a clickable site map. The Site Skeleton export makes each symbol or topic a separate page in the web site. All notes text appears on the page corresponding to the symbol or topic to which it was associated. Links in the diagram become hyperlinks on the web pages. Arrows show hyperlink direction.



To use the Site Skeleton export:

1. On the File menu, choose Export as HTML. The Export to HTML dialog box appears.
2. Under Start Pages, choose Site Skeleton.
3. Click Save. The Save As dialog box appears.
4. Navigate to the folder where you want to save the HTML file.
5. Enter a name for the HTML file. Inspiration automatically uses your main idea as the name and assigns the appropriate file extension, but you can change it if you want.
6. Click Save. The project is saved as a set of HTML files which can be finished using an HTML authoring tool.

Note: When creating a web site, you may wish to use links with two-headed arrows. This signifies that there are hyperlinks back and forth between two pages, while single-headed arrows make a hyperlink in one direction only. To create a two-headed arrow, on the Link menu, choose Arrow Direction, and then select Both Arrows.

Suggested Reading

Anders, G. & Beech, L.W. (1990). *Reading: Mapping for meaning: 70 graphic organizers for comprehension*. Kent, CT: Sniffen Court Books.

Bromley, K., Irwin-DeVitus, L., and Modlo, M. (1995). *Graphic organizers: Visual strategies for active learning*. New York: Scholastic, Inc.

Buzan, T. & Buzan, B. (1993). *The mind map book: How to use radiant thinking to maximize your brain's untapped potential*. New York: Penguin Books USA Inc.

Caine, R.N. & Caine, G. (1997). *Education on the edge of possibility*. Alexandria, VA: Association for Supervision and Curriculum Development.

Forte, I. & Schurr, S. (1996). *Graphic organizers and planning outlines: For authentic instruction and planning*. Nashville, TN: Incentive Publications, Inc.

Hyerle, D. (1996). *Visual tools for constructing knowledge*. Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R.J., Pickering, D.J. & Pollack, J.E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.

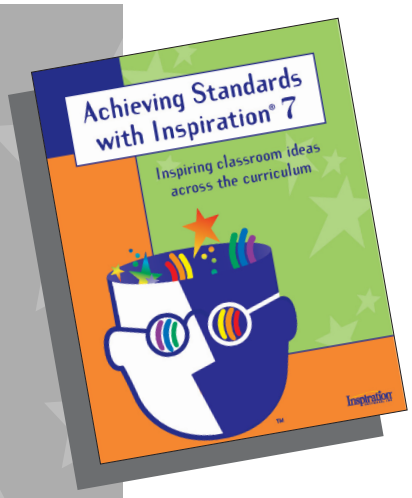
Novak, J.D. (1998). *Learning, creating and using knowledge: Concept maps as facilitative tools in schools and corporations*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Novak, J.D. & Gowin, D.B. (1984). *Learning how to learn*. New York: Cambridge University Press.

Rico, G.L. (1983). *Writing the natural way: Using right-brain techniques to release your expressive powers*. New York: G. Putman's Sons.

Roblyer, M.D. & Edwards, J. (2000). *Integrating educational technology into teaching*. Upper Saddle River, NJ: Prentice-Hall, Inc.

Thornburg, D.D. (1998). *Brainstorms and lightening bolts: Thinking skills for the 21st century*. San Carlos, CA: Starsong Publications.



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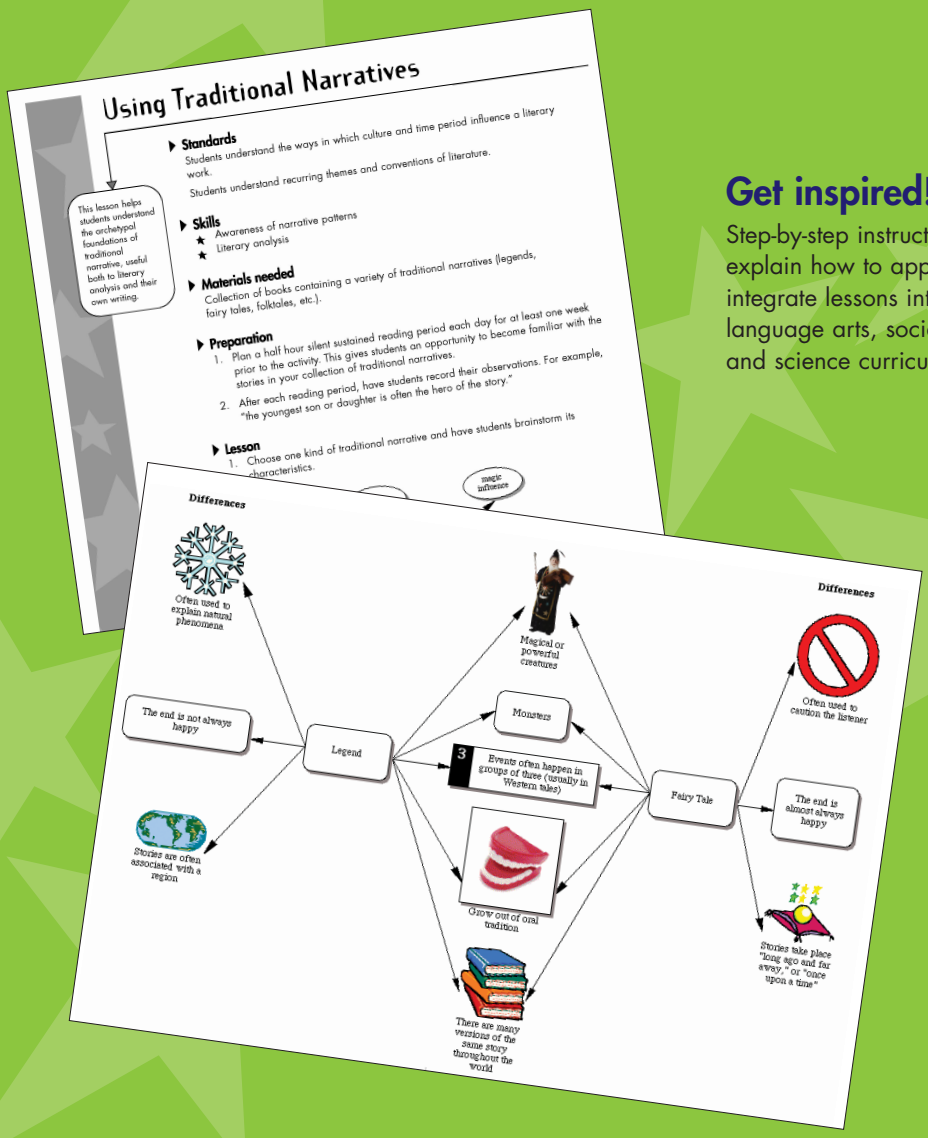

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