



Chapter Project

A Journey Back in Time

The following steps will walk you through the Chapter Project. Use the hints and detailed directions as you guide your students through planning, research, creation of the brochures and timeline, presentation, and reflection.

Chapter Project Overview

In the Chapter Project, students will work individually to create a “travel brochure” that describes the environment and living things during one period of Earth’s history. In addition, students will collaborate on a class geologic timeline.

To introduce the project, show students travel brochures that focus on states, foreign countries, or national parks. Travel agents or state tourist bureaus can supply these materials. Give students time to examine the brochures’ features, and then discuss which brochures are most informative and attractive. Explain that in the Chapter Project, each student will create a similar brochure that shows what it was like in a specific time period of Earth’s geologic history.

Students’ work on this project must necessarily begin before they are introduced to the geologic time scale and the brief history of Earth. As a consequence, students may have difficulty choosing a geologic time period. Therefore, you may wish to have students preview these topics in the chapter to help them select a time period. As an alternative, you can assign each student a time period, thereby ensuring that all time periods are researched by at least one student.

Invite student volunteers to help you make a timeline along one wall of the classroom. Hang a long piece of butcher or table paper on the wall. Then have the volunteers mark the boundaries between eras and periods and mark the names of the time units on the timeline.

At least one student should research each of the following geologic time periods: Precambrian Time; the periods of the Paleozoic—Cambrian, Ordovician, Silurian, Devonian, Carboniferous, Permian; the periods of the Mesozoic—Triassic, Jurassic, Cretaceous; and the periods of the Cenozoic—Tertiary and Quaternary. Since the Cenozoic periods have such a detailed fossil

record, you may want to have more than one student work on each of those periods.

Students should research and create their brochures individually, but they can work in small groups to illustrate the class timeline. About halfway through the project, have all students working on the same time period meet and decide how each group member will contribute to the illustrations of that period on the timeline.

Distribute the Chapter Project Overview. Review the project’s rules. You may also want to hand out the Chapter Project Scoring Rubric so students will understand what is expected of them.

Set a deadline for the project presentation and some interim dates for the Keep Students on Track at the end of Sections 2, 4, and 5. Have students copy the dates in the Project Timeline.

Distribute Chapter Project Worksheet 1. This worksheet will help students focus their research. After students have read the worksheet, answer any questions they have.

Materials and Preparation

For research, students will need a wide array of reference materials. Collect books and magazine articles on Earth’s history from friends and local libraries. In addition, you may want to do an Internet search and make a list of helpful sites students could visit. Many natural history museums, for example, have Internet sites that provide information about various topics related to Earth’s history.

To illustrate their brochures, students will need colored pencils, markers, or watercolors.

Some students may want to create their illustrations—and even the whole brochure—on a computer. Encourage computer-savvy students to work with students who lack computer skills so that every student has the opportunity to create the best possible brochure.

For the class timeline, you will need butcher or table paper and art supplies. Tape or glue will also be necessary. Some students may want to create three-dimensional illustrations for the timeline. In such cases, provide construction paper, scissors, or other necessary materials.

Keep Students on Track— Section 2

As you review each student's list of research materials, encourage students who have not yet made much of an effort to find information to do so quickly. Make suggestions about which books in the classroom could give such students a good start.

Distribute Chapter Project Worksheet 2. This worksheet will help students get organized to create their brochures and timeline illustrations. After students have read the worksheet, ask if they have any questions. Be prepared to provide each student or group with the materials needed to prepare the brochures and timeline art.

Keep Students on Track— Section 4

By now, each student should have written at least a rough draft of the information that will appear in the final brochure. The design of the brochure should also be set, since illustrations will have to be made to fit in specific spaces.

At this point, have all students working on the same time period meet to decide who will make which illustrations. Each time period will also need some brief annotations. Advise students to work together to compose labels, sentences, or short paragraphs to use as annotations.

Keep Students on Track— Section 6

Make sure each student or group has the necessary materials to make the illustrations for the timeline.

Encourage students to critique one another's rough drafts. Advise students that they should make constructive suggestions, such as where a student might find more information or how illustrations could be improved.

Allow time for students to add their illustrations to the class timeline.

Chapter Project Wrap-Up

Examine each student's brochure before presentation. Have students "talk you through" what they will say, and make suggestions about logical sequence or any missing information in their reports.

Provide class time for the presentations. Have students make their presentations in chronological order of Earth's history to reinforce how Earth has changed over time. Assess the general design and look of the brochure, the quality and scope of the information presented, and the sources used to support the information. Encourage other students to ask questions about the important events of the geologic time period covered.

After all the presentations have been made, discuss with students which brochures were best, both in design and quality of information.

Encourage students to evaluate how well they created their brochures and how they could have made the brochures better after seeing what other students did.

Extension

Have students work together to create a geologic time scale in a school hallway for students from other classes and grades to see. This could include not only the illustrations used on the classroom timeline, but also the best of the brochures that students created.

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Suppose you had a travel company that could take people back in time—far back in time. In fact, your time machine can take tourists back millions, and even billions, of years to times when plants, animals, and the continents themselves were much different than anything you can see today. In the Chapter Project, you will create a travel brochure that focuses on a geologic time period of Earth's past. You will also work with others in the class to create a timeline of Earth's history.

First, you will choose—with the help of your teacher—a specific time period from Earth's history. Next, you will use books and other resource materials to research that time period. Then, you will create a travel brochure for the time period that includes both written descriptions and illustrations. You will also contribute to a class timeline of Earth's history. Finally, you will use your brochure to present your geologic time period to the class.

Project Rules

- With the help of your teacher, choose a geologic time period about which you will become an expert.
- Make a list of reference materials you could use to find information to complete a travel brochure of the geologic time period you choose. Worksheet 1 will help you focus your research.
- Use books, magazine articles, and Internet sites to gather information about your time period.
- Create a travel brochure that gives an accurate and comprehensive picture of your geologic time period. Worksheet 2 will help you organize your ideas for your brochure.
- Create illustrations for the travel brochure. These can be cartoons or realistic pictures. They should be interesting, well-made, and accurate to the time period.
- Work with other students to illustrate the class timeline. You will need to create at least two illustrations for your time period.
- Use your travel brochure to present your geologic time period to the class. In this presentation, you should urge classmates to visit your time period for the reasons included in the brochure. You must support any information in the brochure with a list of books and other materials you used for reference.

Project Hints

- As soon as possible, begin making a list of the reference materials you will need to create your brochure. Read widely at first, taking notes of important points each book or article makes. Then concentrate your attention on those sources that you think can provide you with the best information about your geologic time period. Make sure, though, that

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you use more than one source and that you never directly copy exact sentences from those sources. Your brochure must be written in your own words.

- As you read the reference materials and look at their illustrations, do not concentrate your attention only on animals. Your brochure must be accurate. For instance, flowering plants didn't evolve until the Cretaceous period, so including such plants in illustrations for a time period before that would make your brochure inaccurate. Make sure you get an overall idea of the environment of the time period on which you are working.
- Make your brochure not only accurate, but also fun. Remember, this brochure should be designed to make people *want* to travel back to your time period.
- For the illustrations in your brochure, you may use colored pencils, markers, watercolors, or computer graphics. For the illustrations for the class timeline, you could also make three-dimensional illustrations. Give some thought to which materials would represent your period best, and make the brochure and timeline attractive.
- As you prepare for your presentation, think of what you want to say and the order in which you want to say it. You may want to make notes on index cards to help you remember what you want to say.

Project Timeline

Task	Date Due	Teacher's Initials
1. Choose a geologic time period to research.	_____	_____
2. Find reference materials.	_____	_____
3. Complete Worksheet 1.	_____	_____
4. Complete Worksheet 2.	_____	_____
5. Complete draft of brochure copy.	_____	_____
6. Complete final copy for brochure.	_____	_____
7. Create illustrations for brochure.	_____	_____
8. Create illustrations for class timeline.	_____	_____
9. Present your geologic time period to the class.	_____	_____

Researching a Geologic Time Period

As you work to become an expert on a geologic time period, you can use this worksheet to help focus your research. If you need more space, use another sheet of paper.

- Which geologic time period will you research?

- What were the major geologic events of that time period?

- What did Earth's surface look like then?

- What was the climate like?

- What were the dominant organisms living at that time?

- What was the environment like, compared to the present?

- What are the main things travelers might like to see?

- What should travelers pack for comfort and safety?

- What dangers might travelers face?

A Travel Brochure

Use this worksheet to help you plan your travel brochure for a geologic time period and the illustrations you plan to make for the class timeline. If you need more space, use another sheet of paper.

- What is your geologic time period?

- Describe the general design of your brochure.

- Tell what kinds of information you will include in your brochure.

- Tell how you will encourage people to visit your geologic time period.

- Describe and tell the purpose of each illustration you plan to make for your brochure.

- Describe the illustrations you plan to make for the timeline, and tell why each is important.

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Scoring Rubric

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In evaluating how well you complete the Chapter Project, your teacher will judge your work in four categories. In each, a score of 4 is the best rating.

	4	3	2	1
Brochure Design	The brochure is creatively designed, with attractive headings and print, and includes three to four appropriate and well-made illustrations.	The brochure is well-designed, with attractive headings and print, and includes two to three appropriate and neatly done illustrations.	The brochure is fairly well-designed and includes at least two appropriate illustrations.	The brochure is poorly designed and includes inappropriate illustrations or lacks illustrations.
Brochure Copy	Information in the brochure is accurate, well-written, and interesting, includes the major events of the geologic time period, and gives a good sense of that part of Earth's history.	Information in the brochure is accurate and interesting, includes most of the major events of the geologic time period, and gives a fairly good sense of that part of Earth's history.	Information in the brochure is mostly accurate, includes some of the major events of the geologic time period, and gives a limited sense of that part of Earth's history.	Information in the brochure is mostly inaccurate, includes few of the major events of the geologic time period, and gives a poor sense of that part of Earth's history.
Timeline Illustrations	Makes at least two creative, appropriate, and attractive illustrations for timeline.	Makes at least two creative, appropriate, and attractive illustrations for timeline.	Makes one or two appropriate and fairly attractive illustrations for timeline.	Illustration for timeline is inappropriate and/or poorly made.
Presentation	Makes a well-prepared and thorough presentation that includes an interesting description of the geologic time period through creative use of the brochure.	Makes a prepared and thorough presentation that includes a clear description of the geologic time period through good use of the brochure.	Makes a somewhat prepared but incomplete presentation that includes a description of the geologic time period through reference to the brochure.	Makes an unprepared presentation that includes an incomplete description of the geologic time period with little or no reference to the brochure.