

Planning Your Trip to Mount Rainier National Park!

Living with a **VOLCANO** in Your Backyard
MOUNT RAINIER



Grade Level: 5-12+

Learner Objectives:

Students will:

- Recognize how to interpret maps and guidebooks
- Recognize some interesting places to visit at Mount Rainier National Park
- Understand safety considerations when visiting a natural setting

Setting: Classroom

Timeframe: 1-2 hours plus homework time

Materials:

- Copies of “*My Trip to Mount Rainier National Park*” student pages
- Washington State highway map
- Mt. Rainier National Park, Wash., topographic map
- Books and brochures about Mount Rainier
- Internet resources (Optional)
- Bookbinding materials (stapler, thread, spiral binder machine, etc.)



**Living with a Volcano in Your Backyard-
An Educator's Guide with Emphasis on
Mount Rainier**

Prepared in collaboration with the National Park Service

U.S. Department of the Interior
U.S. Geological Survey

General Information Publication 19

Overview

Students plan a virtual or actual trip to Mount Rainier National Park using maps, books, brochures, and Internet resources.

Teacher Background

This activity builds upon students' familiarity with topographic, highway, and general information maps.

Topographic maps can present a major teaching challenge in the classroom.

However, maps are a useful tool and their interpretation provides excellent practice for building spatial relation skills.

A Preparations Analogy to Discuss with Students

Students take specific items with them when they leave for school in the morning: their books, homework, lunch, etc. They bring different items when going to the beach: a swimsuit, towel, sunscreen, etc. All these items could be put into a bag, just like school gear. Ask students what would happen if they grabbed the wrong bag and arrived at school with beach gear; or what a bummer it would be if they found it was snowing when they arrived at the beach. What if they were unable to find the beach at all? The point is that it is important to be prepared for the specific trip one is planning to take. That means they must do some research to find out what they will need for their visit to an unfamiliar place. It is also important that they check the weather for outdoor destinations and know how to get around once they have arrived.

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Planning Your Trip

Chapter 3

Planning Your Trip to Mount Rainier continued...

Vocabulary: Elevation, glaciers, lava flows, topographic map, volcano

Skills: Measure, organize, identify, interpret

Benchmarks:

Geography:

- 1 – Use and construct maps, charts, and other resources to gather and interpret geographic information
- 1.1.2a – Use globes, a variety of map projections, satellite imagery, and Geographic Information System (GIS) data to interpret information from a spatial perspective
- 1.2 – Recognize spatial patterns on Earth's surface and understand the processes that create these patterns
- 1.2.2a – Locate physical and human features and events on maps and globes



Before beginning this activity, students should be familiar with the basic concept of a map. The activities Play-Dough Topo and Topographic Maps and Mount Rainier can help prepare your students for the optional use of topographic maps in this activity.



Prepare for this activity by assembling maps, books and brochures that can help students plan a visit to Mount Rainier National Park. Include several map types such as a Washington State highway map, a topographic map of Mount Rainier, and a National Park Service park map. Students can assemble these supplies from home, library and Internet resources, and can request some maps in a letter to the National Park Service. Visit the National Park Website as noted on the Internet Resources Page. Note that there is no Teacher Page with answers for this open-ended activity.

Planning Your Trip to Mount Rainier continued...

Procedure

1. Assemble books, maps, brochures, and website resources. The National Park Service's website for Mount Rainier National Park contains up-to-date information and maps. Park maps found on the website should be enlarged one-and-a half to two times for legibility.
2. Read or summarize the analogy for the class from the ***“Teacher Background.”***
3. Students work in groups to answer all or selected questions; or they can do the research at home in preparation for a real or virtual one-day, weekend, or weeklong trip to Mount Rainier!
4. Students create a drawing or collage on the book cover.
5. Students record and archive their trip plans and then “bind them” as a book using staples, thread or spiral binding machine.
6. Students can write trip notes and collect photographs or create drawings of their real or virtual trip to Mount Rainier.

Adaptations

- ◆ Pick and choose questions or modify them to suit students' age group. Adjust expectations for the map, book, and brochure resources you have available.

Assessment

Use answers to assess the students' ability to interpret Mount Rainier information resources and to apply them to their trip itinerary.

Resources:

- Decker, R., and Decker, B., 1996, Road guide to Mount Rainier National Park: Double Decker Press, Mariposa, California, 48 p. [online version: <http://www.dartmouth.edu/~volcano/texts/DekRainier.html>, accessed October 25, 2005]
- Driedger, C., and Scott, K., 2002, Mount Rainier—Learning to live with volcanic risk: U.S. Geological Survey Fact Sheet 034–02, 4 p.
- Field, Nancy, and Machlis, Sally, 1992, Discovering Mount Rainier: Middleton, Wis., Dog-Eared Publications, 32 p.
- Gauthier, Mike, 2005, Mount Rainier: A climbing guide: Seattle, Wash., The Mountaineers Books, 245 p.

Planning Your Trip to Mount Rainier continued...

- Harlin, John, and Martin, James, 2001, *Mount Rainier: Views and adventures*: Seattle, Wash., Sasquatch Books, 128 p.
- Harris, Stephen L., 2005, *Fire mountains of the west—The Cascade and Mono Lake volcanoes*: Missoula, Mont., Mountain Press Publishing Company, 390 p.
- Hoblitt, R.P., Walder, J.S., Driedger, C.L., Scott, K.M., Pringle, P.T., and Vallance, J.W., 1998, *Volcano hazards from Mount Rainier, Washington—1998 volcano-hazards assessment report*: U.S. Geological Survey, Open-File Report 98-428, 11 p.
- Judd, Ron, 2002, *Day Hike! Mount Rainier: The best trails you can hike in a day*: Seattle, Wash., Seattle, Wash., Northwest Interpretive Association Press, 200 p.
- Kirk, Ruth, 1999, *Sunrise to Paradise: The Story of Mount Rainier National Park*: Seattle, Wash., Northwest Interpretive Association Press, 152 p.
- Northwest Interpretive Association, 1999, *Rainier the Mountain (DVD) (re-recorded 2005)*: Seattle, Wash., Northwest Interpretive Association Press, 60 minutes.
- Northwest Interpretive Association, YEAR, *Mount Rainier Hiking Maps*, set of 3 maps, scale: 1:125,000.
- Northwest Interpretive Association, YEAR, *Mt. Rainier National Park—Centennial Edition Map*: scale: 1:30,000.
- Pierce County Department of Emergency Management, 1999, *Mount Rainier volcano hazards response plan*: Pierce County Department of Emergency Services, 103 p. [online version: <http://www.co.pierce.wa.us/pc/Abtus/ourorg/dem/EMDiv/Mt%20Rainier%20VHRP.htm#ii>, accessed October 25, 2005]
- Prager, Ellen J., and Woodman, Nancy, 2001, *Volcano! : Washington, D.C.*, National Geographic Society, 32 p.
- Schneider, Heidi, and Skjelset, Mary, 1999, *Hiking Mount Rainier National Park*, Falcon Press, 246 p.
- Snow, Ray, 1984, *Mount Rainier: The story behind the scenery*: Blackwell's Kc Publishing (reissued edition, 1989), 48 p.
- U.S. Geological Survey, 1971, *Mt. Rainier National Park, Wash*: U.S. Geological Survey Topographic Map, scale 1:50,000.
- Wuerthner, George, and Moore, Douglas W., 2002, *Mount Rainier: A visitor's companion*: Northwest Interpretive Association, 230 p.

Refer to **Internet Resources Page** for a list of resources available as a supplement to this activity.



**My Trip To
Mount Rainier National Park**

Authored by: _____

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4. There are several different types of visitor facilities in the park. Record the names of the visitor centers and note where they are located. What is the purpose of a visitor center? What kinds of services do visitor centers provide? Which visitor facilities are open all year around?



5. Are there campgrounds in the park? Count the number of drive-in campgrounds. Do they require reservations? Are there any services offered in the campgrounds that you might like to use? Where can you obtain this information? Where can you obtain food? Discuss what kinds of supplies you might need to pack for a campout at the park.

6. Use a map to examine the park trail system. You will notice that some campgrounds are located beside trails far from roads. How could you get to these campgrounds? What kind of reservation or permit would you need to camp there? What kinds of extra supplies or equipment would you need for an overnight stay at these campsites?

7. Is there any place within the park where you could stay overnight and have meals?

8. Mount Rainier has an extensive trail system. Find the name of the trail that encircles the mountain? How long is this trail?

9. Look for trails close to the Park entrance nearest to your school. What are some of the trails that you might choose for a hike or are appropriate for a snowshoe walk? Choose one trail. Determine the trail length, and *elevation* change from the trailhead to a destination. How long do you think it would take you to reach it?



10. When you go for a hike or snowshoe walk, it is important to be prepared for unfavorable weather and travel conditions. What items should you have with you when you set out for your hike? List at least ten things you should take along, and explain why each one is important. Use park brochures and other resources to assemble your list.

11. More than 88 square kilometers (34 square miles) of *glaciers* cover Mount Rainier. When you look at Mount Rainier from any direction, one or more glaciers are in view. Which glaciers might you be able to see from the high points on the trails near your park entrance?

12. Find the name and elevation of the highest point on Mount Rainier. Find the elevation of your school. Determine how much higher the summit of Mount Rainier is above the visitor center at Paradise, and above your school. Calculate how many steps would be needed to reach the summit from Paradise and from your school, assuming that a stair step is six inches high. Use park literature and website information to determine the best season of the year for summit climbs. Research what types of additional preparations you might make if you wanted to climb to the top of Mount Rainier.

13. Now that you know something about the layout of Mount Rainier National Park, you should decide what attractions you would most like to visit, and discover the best places to view them. Take into account how much hiking you would like to do, how much time you have, and look for places that fit your own personal preferences. For each of the natural or man-made features listed below, find at least one place in the Park where you could visit or see this sight. Use the maps and any guides or reference books about Mount Rainier to help you find the answers. Remember that some activities vary with the season.

- ◆ Rivers

- ◆ Glaciers

- ◆ Historic monuments

- ◆ Old-growth forests

- ◆ Fire lookouts

- ◆ Waterfalls

- ◆ Alpine meadows and flowers

- ◆ Great views of Mount Rainier

- ◆ Wildlife

- ◆ *Lava flows*

To your list, add any other sites that interest you, and include where to find them!

14. The last thing you will have to do when planning your trip is one of the most important, because it affects what you will bring and what you will most enjoy on your visit. Check the season, snow pack, and weather forecast specifically for Mount Rainier before you go.

15. Plan an itinerary for a three-day visit to Mount Rainier National Park. Include information about your route to the park. Estimate how long it would take you to hike and drive around the park. When would you start? What attractions would you visit? What items must you pack to be fully prepared for your trip? Write your answers on the page entitled *My Trip Itinerary*.



My Trip Itinerary

Getting to the Park:

Food and Lodging:

Activities at the Park:

Return Home:

You are now ready to visit one of the country's first National Parks!

**LEARN ALL YOU CAN, BE SAFE,
AND HAVE FUN!**



Trip Notes



Trip Photo

Scrapbook



