Field Trip Preparations

General — Geology, Level I

What members will learn …

About the Project:

- How to get ready to go on a field trip.
- How to be safe on a field trip.
- How to collect usable specimens.

About Themselves:

- How to plan and prepare for an event.
- Safety habits.

Materials:

- Paper and Pencil
- Member Handout 37 (two pages), *Geology Field Trip Guidelines*
- One set to show whole group:
  Suitable clothing & shoes
  Containers and labels for specimens
  Identification Aids
  Hammer and/or chisel
  Gloves & safety glasses
  First aid supplies

Activity Time Needed: 30-45 minutes

Activity

We are making plans for a geology field trip. I will divide you into small groups. Use the sheet of paper and pencil to list all of the things you will need to take on the field trip to collect some possible samples for your collection boxes. Circle the three most important items you will need. When you are finished with your lists, we will talk about what we will need and why. Are there any items we have forgotten?

Now we are going to list on the back of our sheets safety tips that we need to remember while we are on our field trip. Mark what you feel are the three most important safety tips.

Let's look at this suggested list of things to take on a field trip and also the safety tips to see how many items you listed.

Next, let's talk about what type of clothes you should wear on a field trip. What type of shoes would be bst? Why? Will you need long pants, a jacket, or gloves?

Leader's Notes:

Before going on first field trip, give an introductory session to project members and parents on what to expect. Some new members may not have any idea of how to dress or what to bring.

Distribute Member Handout 37 (two pages), *Geology Field Trip Guidelines*. Go over it and compare it with the members list. Discuss the differences.

Show suitable items to take, or have a demonstration on proper items.

Mention that rock hammers are not absolutely necessary, that they are used mainly to produce a fresh unweathered surface for identification, climbing banks, steadying things, and only occasionally for getting samples of rocks.

Individual first aid supplies can take care of minor injuries, but leaders should have larger kits available if they are sponsoring a large group.

Give members the *Collecting Tips* portion of the Member Handout.

What tools do you think you will need? Rock hammers can be used to lift or break rocks. When lifting a rock, always lift the side away from you until you know what is under it. There may be snakes or other critters under the rock. When breaking a rock, always wear safety glasses or wrap the rock with cloth before hitting it with your hammer

We will talk about what to look for at each site and what size of specimen you will need. How do you plan to protect and label your specimens until you get home?

Let's talk about this list of *Collecting Tips*. Are these the things you thought about? Why is it important to keep the specimens from each stop separate? How can we emphasize marking locations and mark or label each sample?

Dialogue for Critical Thinking:

Share:

1. What field trip materials did you think of? Why?
2. What new collecting tips did you know?

Process:

3. Why should you use a rock hammer instead of a carpenter's hammer?
4. What is the best way to record where you found a specimen? Why?

Generalize:

5. What other times is it important to wear safety glasses?
6. What other times is planning and preparation important?

Apply:

7. Why is planning a field trip important?
8. What safety habits would apply to field trips other than geology? Why?

Going Further:

1. Have an older project member or Junior Leader present part or all of this lesson. Consider developing a demonstration in a bag for the older members to present to the entire group.
2. Play a game to demonstrate importance of lifting rocks away from you with a hammer so wildlife can escape without harming you. Hide a small toy snake and/or scorpion under one of three or more rocks. Members take turns lifting rocks correctly with hammer until they find the snake. Then that person hides the snake for the next person.
3. Make an inexpensive rock hammer for yourself and maybe extras for others. Find a railroad spike and have someone weld a short length of pipe to it at a 90-degree angle near the middle of the spike for a handle. A welding chip hammer may also be used.

References:

Jones, H.E., *Exploring the World Through Geology*, 1971, Cooperative Extension Service, Kansas State University, Manhattan, Kansas, 32 pgs.

Pabian, R.K., *Minerals and Gemstones of Nebraska, A Handbook for Students and Collectors,* 1993, Educational Circular No. 2, Conservation and Survey Division, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Nebraska, 80 pgs.

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Member Handout 37, Geology Field Trip Guidelines

General — Geology, Level I

Materials Needed:

- Suitable clothing and shoes
- Pencil and paper
- Containers and labels (sacks, small bottles, plastic bags, etc.)
- Soft material to wrap delicate samples (rags, facial tissues, newspaper, etc.)
- Field trip guide or maps
- Identification aids (books, drawings, charts, etc.)
- Hammer and/or chisel
- Gloves & safety glasses
- Water and food
- First aid supplies, sun screen & insect repellent
- Full tank of gas and spare tire (if using cars)

Rules and Safety Tips

1. Be on time and stay with the group or you might get left behind.
2. When getting out of cars along roads, exit on the passenger side.
3. Be careful when coming out from behind parked cars.
4. Cross roads with adults and be careful at all times when near roads.
5. Stay away from open shafts, pits, mines, equipment and wire.
6. Don't swing or throw rock hammers.
7. Use some type of eye protection if you hammer on a rock. (This includes the people near you.)
8. Take extra care around steep slopes, stream banks, sink holes, quarry walls and piles of material. The footing may not be good and they all offer places for snakes and other animals to be unexpectedly found.
9. Watch out for people below you on out-crops; rocks that you dislodge may injure someone!
10. Do not throw, roll or push other material down hills, cliffs or material piles.
11. Don't try to lift BIG rocks.
12. When looking under rocks, use a hammer to lift the side away from you, and pull it toward you. This allows snakes and other critters a chance to escape.
13. Take plenty of drinking water.
14. Bring a change of clothing, including comfortable, sturdy shoes. (Preferably high-tops)
15. Leave wildlife alone. Let them enjoy their own freedom and space. When returning from a field trip check for ticks and other unwelcome guests.

Field Trip Preparations

Member Handout 37, Geology Field Trip Guidelines, cont.

General — Geology, Level I

Collecting Tips

1. Collect with purpose, don't try to bring home every rock, mineral, or fossil that you find.
2. Always label specimens promptly with the stop number and location.
3. Collect Specimens that are as close as possible to the size that you will be using in your exhibit.
4. If possible, collect samples that are not connected to another rock. These may already be in good shape to exhibit without your having to try to remove the sample from the rock.
5. If it is necessary to remove a specimen from the rock, do so with care. Remember a careless blow with a hammer can ruin the best of specimens. If the rock is small enough, take it home and take your time in removing the specimen. However, if the specimen must be removed from a large rock, use a coal chisel to remove rock from a trough around the specimen (not right next to the specimen, but a little distance away), then use the chisel to undercut the specimen and pop it free. Most specimens obtained in this way will need additional trimming or removal of the excess rock to get it ready for display.
6. When specimens are collected, they should be wrapped in newspaper or other material and placed in some container to provide maximum protection. No one likes to get home and find a bunch of pieces to remind them of how hard they worked to collect the samples.
7. If you collect carbon-film fossils, consider using clear plastic spray to stabilize the fossil. This may need to be applied to the fossil before it is completely dry. However, try it on a sample that is not a prime specimen first, before spraying that one in a million find. Use several thin coats as needed instead of one thick, runny, coat.
8. If you feel that a specimen needs to be cleaned up, try brushing or washing first. This will be okay for most specimens.
9. If you feel that a specimen needs to be removed from other material, check appropriate references for the proper procedure.