

# Explorations Outline

## Big Idea

Human survival in the wilderness depends on preparation, special skills and observation.

## Essential Questions

- Why do people explore?
- How can humans adapt for survival in the wilderness?
- In what ways can we continue to explore today?
- How do observation skills increase a person's chance of survival?

## Vocabulary

- Observation—the ability to notice things, especially significant details
- Survival—being able to stay alive during situations where we may be unprepared
- Topography—the shape of the land's surface

## Lesson Outline

- Introduction: Back in Time
- To Take or Not to Take
- Shelter Building
- Tiny Exploration
- Mapping
- Creative Writing
- Conclusion

## Optional Activities

- Settling the Area
- Camouflage

# Explorations Activities



## Lead In

### INTRODUCTION: BACK IN TIME

20 Minutes

Challenge the group to imagine that they are explorers. Soon they will embark on a journey similar to the one recounted below. Ask students to sit or lie down and close their eyes while they listen to the reading below.

## Procedures

Explain that they are going to go back in time. Each person needs to imagine that he or she is an explorer and part of the expedition. Encourage the students to listen closely and use their imaginations.

Read to them the following excerpt from D. R. Beeson's book, *In The Spirit of Adventure*.

**AUGUST 31, 1914, 8:00 P.M.**

#### **LOST AGAIN. JUST OVER CLINGMAN'S.**

Having got back to the ridge in an easy half hour of walking early this morning, we had got clear seeing and easy walking over Clingman's Dome, elevation 6666, and on a ways on the other side when the cloud settled down on us and we stopped seeing where we were going. Besides, the growth of all sorts was so thick as to give scarcely any view out and the ridge so wide as to make it well nigh impossible to tell where other ridges branched off at the sides. The brush began to get thick as we crossed the point and from there on two miles an hour was good walking. So we strolled about a mile down the wrong ridge before the compass showed us to be wrong. It was the toughest walking we have done yet and the briars and undergrowth so high that we couldn't see out at all. Fallen trees continually blocked the way and often took much engineering to get around, and added to that there was no trail for most of the distance, so we had to break our own. Here and there, an old survey line showed signs of having been cut out in bygone ages.

It was almost five when we got back to the main (we think) ridge so we tramped along it for a half hour or so and camped in a very wet place near a puddle of surface water that is new enough to supply our needs.

The first part of the day's trip, six miles to Siler's Bald, elevation 5500 feet, was about the best yet and enjoyed by all present. Water was plentiful as usual and the trail good and the prospect from Siler's immense. After that, the five miles to Clingman's was all up hill and the trail

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getting worse and worse. We reached the Dome about 2:30 after a feast of uncommon fine blackberries by the way which made up to a certain extent for the disappointment occasioned by not being able to see the surrounding country from this, the highest point in the Great Smokies. The mountain is very much flattened on top and densely wooded so that the sun light gets through in spots only and a person can't see out even in spots. So we didn't even stop at the top but kept on over and down this side.

From Siler's this morning we got our first good view of Guyot, 6636, about thirty miles or more away.

The immense scale of all this scenery up here causes you to want to look at it by the hour in silence. The great expanse is ahead of all I have seen heretofore. The ridges are the sharpest I have ever walked over but there are none of the imposing rock formations that are to be seen on Roane and Grandfather Mountains and Jonas Ridge. Everything else is on a very much greater scale.

## Wrap Up

Why was Beeson exploring? Why would the students want to explore? (perhaps to find mineral and botanical treasures, areas to settle, or just for the adventure of it)

Now tell the students that, in addition to being explorers, as they hike they will also pretend they eventually want to settle somewhere here in the Smoky Mountains. Ask them to imagine that they are traveling through the mountains with their families, looking for a place where they can build a cabin and clear some land for farming. What kind of natural features that make a good homesite would they be looking for? (spring for water, timber for building, fertile ground for crops) As you hike, be watching for these features.



## TO TAKE OR NOT TO TAKE

20 Minutes

## Lead In

Hike to a different area on the trail. Ask if everyone remembers the expedition journal entry read earlier. If not, skim it quickly. Divide the students into groups of three to five.

## Procedures

Explain that everyone must try to imagine that they are part of D. R. Beeson's expedition party.

Read or explain the following scenario: "There are now \_\_\_\_\_ (number of students) of you lost somewhere in the snow-covered wilderness of the Smoky Mountains. As you got ready to continue your

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search for the route this morning, you found that all of your pack horses except one had frozen to death during the night. You soon realize that you cannot carry all the gear with you. As members of the expedition, each one of you has to decide which 12 items on the gear list are the most important. You will take these 12 with you and leave the rest behind to be eaten by animals or covered by snow and ice and lost forever. You will not be able to carry any gear yourself because the extra weight would cause you to sink into the snow. Your horse will be carrying all of the gear.”

Give each pair a gear list and have them work independently of the other groups. Allow them 15-20 minutes to discuss and come up with the 12 items that they think are the most important items for survival.

Have them discuss and write answers to the following questions. Encourage them to be creative. Though no answers are incorrect, some are better than others.

- What could be used for warmth?
- What could they eat?
- How would they know if a plant was poisonous?
- Where can they get drinking water?
- How could they protect themselves?
- Can they start a fire?
- Do they have a sense of direction?
- Do they have a sense of time?
- Do they have a sense of humor?

## Wrap Up

Gather the groups together and have each one share their list. Ask them why they chose the items they did and why they did not choose other items.

Other questions to ask:

- What role did people in the group play in deciding what was kept and what was left behind? (i.e., did one person act as the leader or did everyone participate in the decision-making?)
- Were there arguments or disagreements? Did everyone work well together?

Use this discussion to explore the idea that different people play different roles in a group. What roles could different kinds of people play in a group?

- Some people stay silent and think a while before sharing their

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ideas.

- Some people offer ideas and thoughts quickly.
- Some people can weave others' ideas into a workable plan.
- Some people are so quiet that they don't offer any suggestions or ideas at all.

Present for discussion the idea that many things which were life-or-death situations for the early explorers are now taken for granted, such as obtaining fresh water, food, shelter and safety.

Finally, ask students what items they own that they feel they "need" but, when compared to their 12 Gear List items, realize they could easily survive without, just as their ancestors did for thousands of years. (i.e., car, TV, computer, soft drinks)

**Teacher's Note:** After discussing the gear list, and while walking to the shelter building site, use a story in which the students' tents were lost in river. This will provide segue into the shelter building activity.



## SHELTER BUILDING

40 Minutes

### Lead In

Survival skills were and still are the basis for any kind of expedition. If it were not for these skills, the explorers would never survive to communicate their findings. Tell the students that in some instances, explorers may need to build an overnight shelter. What may be some of the advantages of such a shelter? (blends in with natural environment, does not have to be carried)

### Procedures

Explain to the students that they will now build shelters. Have them divide into groups of three to five, depending on the overall size of the group. The shelters need not be big enough to house the entire group, only one or two people.

There are many ways to build a shelter. Remind them that this is a national park. Nothing living should be damaged by the design of their shelter, and they should use wood lying on the ground rather than breaking dead limbs off trees.

Whatever is built will be taken down and dispersed. When they leave this area they want to leave no trace that they were ever here and make it look as natural as possible.

**Teacher's Note:** Students usually enjoy this activity, and the shelters they build are generally very creative. Your most important role during this activity is monitoring the safety of the students. Watch for these and

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other safety hazards: students who hit a large piece of wood against a tree in an effort to break the wood into smaller pieces; one or more students jumping on a piece of wood to try to break it; propping wood too high against a tree, which may be easily bumped or fall on them when they crawl inside. If students are carrying wood, make sure they know where everyone else is—this reduces the chance of a bystander being hit with a piece of wood when the carriers turn around. Tell the students that they should never go out of the leader’s eyesight to collect wood. It is also very important to monitor the impact the students are having on the area, making certain that it is restored as much as possible. Please also advise students to keep their eyes open for poison ivy, yellow jackets and other animals.

## Wrap Up

Ask students what elements constitute a good shelter. (location, materials, strength, protection from wind and rain, availability of water)

This shelter was taken down for one reason (restoring the area). For what other reasons might the early explorers have taken their shelters down? (Explorers may not have wanted to leave tracks of their passage behind, perhaps for fear of being followed by other people and wild animals.)

When might such a shelter be useful today? What should the students do to survive if they become lost? (do not panic, build a shelter, find a safe location and stay put, blow a whistle, hug a tree, try to stay warm and dry)



## TINY EXPLORATION

25 Minutes

## Lead In

Explain that explorers searched a vast area and covered a lot of ground, but they observed and explored the tiny things as well. Since people often fail to take note of the things right beneath their feet, the students will now look at these details. Explain that the next activity will be about sensory exploration.

## Procedures

Encourage students to imagine that they are an insect walking around on the ground. Let everyone crawl around until they find a spot at least five feet but not more than seven feet from their nearest neighbor.

Give a hand lens and string loop to each student. Explain that the string is to be placed on the ground. This marks off the boundary of the area they will explore using the hand lenses. Tell them to look at everything within this area. Look at the different shades and tints of colors. Can they hear anything, like an insect or a breeze pushing through

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things that grow? What does it smell like? If they were insects, what do they think the plants would taste like? Notice the depth and shape of each object. Study the depth in each object: is it full of nooks and crannies? Imagine walking down one of those crannies.

**Teacher's Note:** If the hand lens is held very close to an object and then slowly pulled away, it will eventually reach the maximum magnification.

## Wrap Up

Have the students identify one or two specific features of their tiny area that demonstrate its uniqueness. Ask them how observing the tiny details around them might help them survive as explorers. (detecting water sources, edible plants, animal tracks)

Ask your students what they are exploring on this class trip, and then ask what other places they would like to explore. (the sea, the arctic, outer space?) Most people assume that North America has been thoroughly explored, but what reasons might there be to keep exploring the Great Smoky Mountains, or even their own backyards, today? (For fun, to develop a sense of place, to locate undiscovered species. For instance, park biologists estimate that ninety percent of invertebrates in the park have yet to be located and recorded.)



## MAPPING

30 Minutes

## Lead In

Explain that explorers drew maps. Ask the students why maps are important. What kinds of information did they need to include on their maps? (water sources, mountain passes, impenetrable thickets, human settlements) Tell the students that as a continuation of their present-day Smoky Mountains explorations, they will practice these skills by mapping their tiny exploration areas.

## Procedures

Ask the students to draw maps in their notebooks to show the terrain (mountains and valleys) inside the boundaries of their loops. Encourage them to create as detailed a map as possible.

Reassemble into one group and go over each map as a whole, emphasizing ways of showing depth. Take out the topographical map provided and explain what a "topo" map is. (The contour lines show elevation at forty-foot intervals. This varies with other topographical maps.)

- Where would steep slopes be? (where contour lines are close together)
- How can the direction of a stream's flow be determined? (The "V" in contour lines points upstream.)

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**Teacher's Note:** This activity may also be done at the conclusion of the Exploration lesson. Have students draw maps of the route they hiked, showing places where they stopped and sights seen along the way.

## Wrap Up

Tell the students they are excellent cartographers (map makers). Place all the maps in a pile and let each student choose another student's map. Have them try to match that map with one of the areas where a string loop has been placed. Encourage them to use their imagination and not criticize their classmates for not being accurate enough.

As they continue to explore and look for a place to build a home-stead, encourage them to continue "mapping" their journey in their minds.



## CREATIVE WRITING

30 Minutes

## Lead In

Ask the students what other methods explorers used to communicate to people beside making maps. Words, pictures, and music were other methods that explorers and early settlers used to communicate their feelings and findings. As explorers we will be writing letters home to describe our discoveries.

**Teacher's Note:** This can also be done as a quiet-time activity later in the day if you are pressed for time during the lesson.

## Procedures

Tell the students that they will write home to somebody: their family, friend, or maybe the person that sent them on this expedition. Allow their creative energies to flow freely if they come up with ideas easily. Otherwise, encourage them to write as if they are a young explorer looking for a place to settle in the Great Smoky Mountains.

Remind them that their folks back home have no idea what it is like where they are or what it means to be an explorer. Sights, smells, and vegetation are very different here, so they must describe everything in as much detail as possible.

Encourage children to make up names for their objects. For example, a stand of dead trees might be called "skeletons of ghosts." If the group is hesitant or unsure, do a few practice descriptions and made-up names. Use pine trees, rivers, moss, clouds, boulders, forests, songbirds, mountains, snakes, or other natural objects that are appropriate.

Separate the students while they write. After 15 minutes or so, re-group and have them share the stories if they wish. Try to highlight

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interesting points from each letter, contrasting styles and different observations each child made about his or her environment.

## Wrap Up

In our culture, we have become accustomed to using television or visual tools to explain things to each other. But what advantages does written language have in communication? (sharing feelings, making new names for things)

Explain that explorers might pass other explorers in the wilderness who are headed back to “civilization.” These kind strangers might be willing to carry the explorers’ letters to the nearest city to be mailed, as the explorers themselves head deeper into the wilderness.

## CONCLUSION

Generate a concluding discussion by asking questions such as the following:

- Do the students think that the challenges people face today are as hard as those of the explorer and settler days? (Ask for examples.)
- Why do they think people went through so much hardship and trouble to explore new lands? What did they get out of it? (excitement, new resources: land, lumber, minerals)
- What are some of the skills or qualities of a good explorer?
- Do people still explore today?
- Do people explore today for the same reasons they did in the past?
- Do they think exploration has much of an impact on the land that is being explored? (After exploration often comes settlement and exploitation)
- Can and should any areas be protected from all the changes that occur after exploration?
- Is it possible to find new, undiscovered things in places which seem to have already been thoroughly explored and settled?

Ask the students how they think they did. Would they be good explorers? In fact, they can continue to be explorers at home by keeping their sight, hearing, smell, and touch senses alive and active everywhere they go.

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## OPTIONAL ACTIVITIES

### SETTLING THE AREA

20 Minutes

#### Lead In

Tell the students their journey is almost over and some suitable homesteading land may be just up ahead. As you lead your group back in the direction of the Institute, ask students to look at the land, especially in the area of the blacktop and field, as an explorer looking for a good place to settle might. What would they see? (flat “bottom” land for raising crops, which is rare in the mountains; trees to use as building materials)

#### Procedures

Relate a little Walker Valley history:

As a boy living in Tuckaleechee Cove (now Townsend), Will Walker watched summer thunderstorms come around Fodderstack Mountain, and he decided that he’d explore up there when he got older. Will and his wife Nancy Caylor Walker moved into this valley in 1859 and made it their home. There was no road into Walker Valley at that time, only hunting and game trails. For over 60 years they raised crops in the fields, hunted in the surrounding woods, and tended a fruit orchard where the dorm now sits. Of course, when they first arrived here, it was all covered by a dense forest.

Tell the students they will begin making preparations to settle in their new home site just as Will and Nancy might have. As explorers, they might not have settled the area when they first found it. What time of year would they probably have wanted to settle in the area? (spring) Why? (time to build a cabin, clear land, grow food for the winter)

Together as one big group or in smaller groups, they must decide what they need to begin a new life in a new part of the country. Remind them that settling the land is very different from exploring it.

On the Settling the Area list, two columns are provided: one lists objects, the other lists their use. This game has two parts:

**ONE:** Match the item name with its use. Do this by matching the number with the appropriate letter.

**TWO:** Decide which items they need to bring with them and which they can get in the Great Smoky Mountains, their new home. They can do this by putting an “N” next to the items that nature will provide, and a “B” next to the items that they will bring with them.

**Teacher’s Note:** An answer key is provided at the end of this lesson.

#### Wrap Up

Generate a concluding discussion by asking questions such as the following:

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- Do the students think that the challenges people face today are as hard as those of the explorer and settler days?
- Why do they think people went through so much hardship and trouble to explore new lands? What did they get out of it?
- What are some of the skills or qualities of a good explorer?
- Do people still explore today?
- Do people explore today for the same reasons they did in the past?
- Do they think exploration has much of an impact on the land that is being explored?
- Can and should any areas be protected from all the changes that occur after exploration?
- Is it possible to find new, undiscovered things in places that seem to have already been thoroughly explored and settled?

Tell the students that they did a great job and would probably make good explorers. In fact, they can continue to be explorers at home by keeping their sight, hearing, smell and touch senses alive and active everywhere they go.



## Lead In

### CAMOUFLAGE

20 Minutes

The students have seen how vegetation differs widely on various forest levels. Explain to them that because it varies, it not only provides food for different animals but it provides shelter as well. For the vegetation to provide effective shelter, animals need to be able to blend in, or be camouflaged, with their environment. Tell the students that they are going to have the opportunity to try to camouflage themselves with the vegetation around them in a game they are going to play.

## Procedures

Choose one observant person who will try to spot the other students once they have had sufficient time in which to camouflage themselves. Have this person sit down and count to 50 with both eyes closed. Tell everyone else in the group that they can walk a total of no more than 25 paces away from this person. They need to find a place somewhere in this distance to camouflage themselves, and everyone must be able to see the 'spotter' at all times.

Explain that the spotter, upon reaching the count of 50, will remain seated with eyes closed and call out, "Is everyone ready?" Stress that no

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one should answer and give away their hiding place unless they are not ready and are still moving about.

When there is no response to the question, the spotter can open his or her eyes and stand up. Other than turning around in a circle, the spotter cannot move from this point.

From this vantage point, the spotter tries to locate the other students. Once discovered, a student must come out of his or her hiding place and quietly watch the rest of the game.

Once no more students can be seen, have the spotter close his or her eyes and count again, while the students that have not been found move in closer and hide again. Repeat the cycle until all students are found.

Depending on time, you may be able to give other students a chance to be spotters.

## Wrap Up

Discuss which students were the easiest and hardest to see. Why? In nature, who benefits from the ability to camouflage themselves? Can you identify some ways in which animals camouflage themselves? (colors, shape, size, etc.) Vegetation not only provides animals with food and lodging; it can provide protection as well.

# Explorations

## GEAR LIST

- 1 rifle
- 125 feet of rope
- 1 rifle (each rifle counts as one item)
- sack of flour (enough for six days)
- ammunition (25 rounds)
- sack of beans (enough for one week)
- 1 keg of salt (enough for two weeks)
- sack of oats
- flintstone and steel
- side of bacon (enough for three days)
- wool blankets
- coffee (enough for one week)
- canvas tarp/tent
- hot chocolate (enough for one week)
- beads and trading trinkets
- water bottles
- Bowie knife
- cook kit (pots and pans)
- shovel
- ax
- snowshoes
- lantern
- hand telescope

# Explorations

## SETTLING THE AREA GAME LIST

### ITEM, TOOL, OR MATERIAL

### USES

- |   |   |
|---|---|
| ___1. barrel of salt  | a. splitting shingles   |
| ___2. chickens  | b. hew logs into boards or beams                                    |
| ___3. white oak   | c. food, plowing, transportation                                    |
| ___4. dogwood wood  | d. hunting, self-protection   |
| ___5. pipe vine   | e. fence rails, floors, and food                                    |
| ___6. froe head   | f. watertight barrels   |
| ___7. pewter, wood, and gourd containers                                  | g. cooking, livestock, preserving gourd containers, meat for winter |
| ___8. ash and hickory   | h. tool handles   |
| ___9. ticking   | i. planting new crops   |
| ___10. broad ax   | j. shuttles, mallets, gluts   |
| ___11. chestnut trees   | k. food   |
| ___12. seeds: corn, potato, squash, gourds, oats, buckwheat, beans, herbs | l. chopping wood  |
| ___13. tulip poplar   | m. rope   |
| ___14. clay   | n. material for mattresses and pillows                              |
| ___15. powder rifle   | o. cabin logs   |
| ___16. turkey, otter, fox, bear, raccoon, deer, rabbit                    | p. sled runners   |
| ___17. sourwood trees   | q. chinking cracks between boards                                   |
| ___18. horses, mules, cattle  | r. eating utensils  |
| ___19. ax head  | s. a "self-generating" food source                                  |

# Explorations

## SETTLING THE AREA ANSWER KEY

1. (g) (B) Salt was very important to the settlers. They brought as much of it as they could possibly carry. It was necessary for livestock and for preserving meat.
2. (s) (B) Chickens were a good item to bring because they provided eggs and meat and could reproduce to make more food. They were relatively easy to keep because they could eat kitchen scraps and sleep in tree branches at night for protection. Later settlers brought in cedar or spruce trees and planted them so chickens could roost in their low branches at night.
3. (f) (N) The early settlers did not have clay utensils that could hold water like the Native Americans had learned to make. Therefore, white oak was highly prized as the only wood that was watertight. The wood was split into boards and made into barrels for storage of liquids and buckets for transporting water from streams and springs. They might have brought along a water bucket, but would have made many more after arriving at the area where they settled.
4. (j) (N) Dogwood also has another special property: it does not splinter, even when cut up into fairly small pieces. Therefore it was used for mallets, gluts (wooden wedges), and weaving shuttles (where it was important that the wool and cotton fibers not be ripped to shreds by splinters).
5. (m) (N) This was woven into rope which had multiple uses. Later settlers brought yucca plants (a type of succulent plant) to get fibers for rope making.
6. (a) (B) A froe is a tool used to split wood (usually white oak) into roof shingles. However, like most tools that were made out of metal and wood, settlers would detach the wooden handle and leave it behind. They would bring the metal parts with them and then make more handles with new wood. Kitchen knives and a kindling ax would probably have been brought in their entirety, to be used on the journey.
7. (r) (N&B) The pewter eating utensils would have to be brought along. Wood and gourd utensils would be re-made.
8. (h) (N) Ash and hickory wood were good for making tool handles

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## SETTLING THE AREA ANSWER KEY (continued)

because they were both strong and flexible. An ax handle made of these woods flexes a little bit and would not create so much impact on the user.

9. (n) (N&B) Ticks are mattresses made of a woven cloth covering stuffed with corn husks or other material. When moving, the ticks would be emptied so as to take up less space. Upon arrival they would be filled with leaves until the next corn harvest, when they could be filled with corn husks again. Sometimes they had feather pillows, but rarely could they gather enough feathers for a whole blanket. They also brought along quilts and coverlets for warmth.
10. (b) (N&B) Again, they would have brought only the head of the broad ax. This tool was very important in making round logs into flat boards. These important metal tools would have been made for them by a blacksmith, and would have been used for their entire lives and passed from generation to generation.
11. (e) (N) Chestnut wood is very hard and rot-resistant, but it splits easily, so it was used for things like fence rails and floors. Of course, the chestnut trees also provided delicious chestnuts before being wiped out by the chestnut blight, a fungus introduced from Asia. Today there are very few remaining adult chestnut trees.
12. (i) (B) Settlers would try to arrive in a new area by spring. They would immediately begin to clear land, put up a small cabin (one room with a fireplace), and plant a few acres as soon as possible. Often they had to rely on wild game to tide them over the winter. If there were already other people in the area, they might be able to lease some already-cleared land to plant a crop, or to buy some food. Otherwise, life was tough going for a few years.
13. (o) (N) Tulip poplars, the Tennessee state tree, grow tall and very straight. They were used mainly for cabin logs.
14. (q) (N) Clay was found down by the riverside and was invaluable in filling in the cracks between the boards in a home.
15. (d) (B) A rifle was taken nearly everywhere by its owner. Each gun was made by hand and had its own sound and irregularities.

## **SETTLING THE AREA ANSWER KEY (continued)**

16. (k) (N) The wildlife found here was a good, but unreliable, source of food.
17. (p) (N) Sourwood trees naturally grow curved and so are perfect for sled runners. All that was needed was to find the right size tree and cut it down.
18. (c) (B) If a family was lucky enough to own livestock they brought it with them. Cows provided milk in addition to labor.
19. (l) (N&B) The ax head would be brought along, but not the handle.