

Use the activities below with the girls in your troop to keep them connected with the outdoors, while sheltering in place.

### Activity 1: Adventure Journals

Gather these materials:

- Colored paper: 1 piece
- White paper: 5-10 pieces
- Staples, ribbon, or twine (for the ribbon or twine, you will need a hole puncher)
- Markers, pencils, stickers, or anything else you'd like to use to decorate your nature journal!

Then follow these instructions:

1. Gather 5-10 pieces of white paper and fold them in half hamburger style. These will be the pages of your journal.
2. Fold your colored paper in half the same way. Place the white papers inside; your colored piece of paper is now your book's front and back covers!
3. If you are using a stapler, staple the pages together as close to the edge as possible. Ask an adult in your house if you need help. If you are using ribbon or twine, use the hole puncher to create 2- 3 holes evenly spaced along the folded side of your book. Then, thread the ribbon or twine through the holes and tie them in a bow or a knot, you choose!
4. Now is your chance to let your creativity shine! Decorate the front and back of the cover however you choose. Since this is a nature journal, you might want to put some trees, animals, clouds, whatever you'd like. Make sure to put your name on it somewhere in case you misplace it.
5. Whenever you go out in nature, you can take your journal along with you or fill it out when you get home. Here are some prompts to write about in your journal:
  - *Nature alphabet*: write out all the letters of the alphabet before you go on a walk or hike. Try to find an item in nature for every letter!
  - *Leaf rubbings*: pick up some leaves or other objects from the ground (don't pull anything from a tree or plant) and place it under your journal page. Then using a crayon, lightly color over where the object is. This should create a drawing or impression of the object! Be sure to leave the nature where you found it.
  - *Sense diary*: when you're out in nature, what do you hear? What do you see? Smell? Feel? Taste? Remember, if you don't know exactly what it is, you shouldn't touch or put it in your mouth.
  - *Nature art*: find a nice place to sit with a view you like. Use a page or two to draw, paint, or sketch what you see.
  - Whatever else you like! This is *your* nature journal.

6. If you'd like, you can fill some of these prompts out as you create your nature journal, so that next time you go on a hike, a walk, or anything else, you're able to grab your nature journal and go! As always, remember to stay on trails, leave nature where it belongs, and stay safe!

Note: These instructions can be adapted however you like! Want a smaller book? Use smaller pieces of paper (or cut standard papers in half!). Want more pages? Add more paper. The options are endless!

## Activity 2: Tree ID Cards

Gather these materials:

- Printer -or- paper & scissors -or- index cards
- Glue
- Hole punch
- Binder rings -or- keyring -or- string
- Pen/markers

Then follow these instructions:

1. Visit this link to learn about how to identify trees in California:  
<https://wandrlymagazine.com/wp-content/uploads/2014/06/how-to-identify-trees-designed-1200x2667.png>
2. Trace the leaf shapes and write the ID facts onto the index cards to help you identify trees on the go!
3. Punch a hole in each card and string them onto a binder ring, keyring, or piece of string.
4. Keep it in your hiking backpack or glue it in to your nature journal. What trees can you identify locally? Do the types of trees you see change when you hike or walk farther from home?

## Activity 3: Contour Maps

Learn how to read contour maps and create one of your own from a model you make.

Gather these materials:

- 2 cups play dough (Make your own if you need to, using any salt-dough or play dough recipe online)
- 2 rulers (or 1 ruler and 1 pencil)
- Thin string, about 12 inches long. (Dental floss works well, if you have it)
- 1 Pencil
- 1 toothpick (or sharp pencil point)
- 2 sheets of paper
- Scotch tape

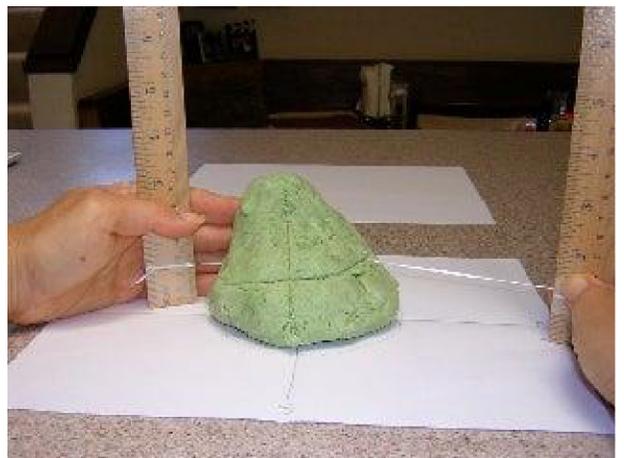
Then follow these instructions:

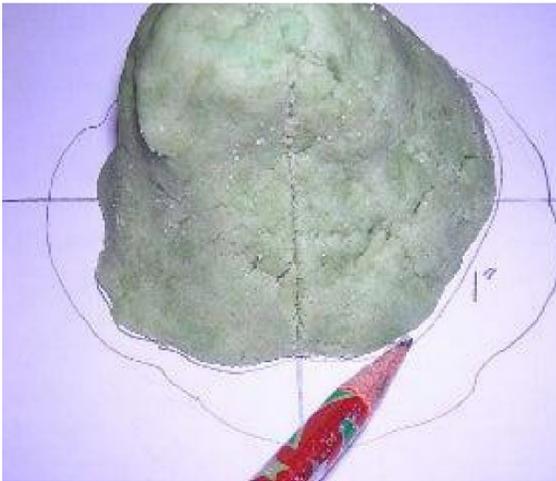
1. Knead your dough, and make it into a mountain shape. You can have a single, pointy peak or a flat or round top - you decide. Try to make your mountain at least three inches high at the highest point.
2. Fold a sheet of paper in half lengthwise, then fold it again widthwise. Unfold the paper, and trace the lines you made in the paper (it should be divided into 4 even squares). Label the lines with the point of the compass: North, South, East, and West.
3. Place your dough mountain on the center of the piece of paper, where the lines cross. Where the outer edge of the dough meets the paper, the elevation is 0 inches. Use the pencil to trace the outline of your dough.



4. Using the toothpick, carve a shallow, vertical (straight up and down) line on the clay, from the tip of the peak to the place where the bottom of your mountain meets the line marked South. This will be your first guideline. Carve a second line from the top of the peak down to the East line.
5. Tie one end of the string around each ruler, at the 1-inch mark. Tape the string in place so it doesn't wiggle. (If you only have one ruler, you can use a pencil instead of the second ruler.)

6. Keeping the short ends of the rulers flat on the ground, pull the string so that it slices through the clay. Put your fingers on the back edge of the dough as you slice front to back, to keep the dough from moving. You will be slicing your mountain into two sections: the bottom inch of your mountain, which is touching the paper, and the top part of your mountain, which is the part higher than one inch.





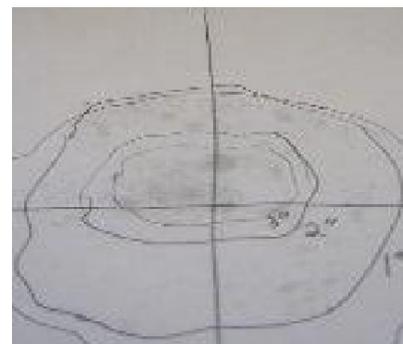
7. Carefully separate the two sections of dough. Move the bottom section off of the first paper and onto the second paper.
8. Using your guidelines, put the smaller, top piece of dough back on the paper. Make sure both guidelines on the clay match up to the guidelines on the paper.
9. Now trace this section of dough with the pencil. Write 1" next to this line. All of the dough at this line started out one inch above the paper.

10. Repeat steps 5 through 8 until you have reached the top of your mountain. Make sure to label your second cut 2", your third cut 3", and so on.



11. After you are done with each slice of dough, put it back on top of the first slice, on paper two, using your guideline to get it back in the same orientation. Note: You don't have to adjust the string on the ruler: each slice on once inch above the previous one.

12. Congratulations! You now have a contour map of your mountain.



## Science Explanation

What is a contour map?

- A contour is a line that shows the border or outline of an object.
- A contour map is a 2-dimensional drawing of land. The map includes contour lines to show changes in the elevation of the land.



Here is a part of a contour map, showing the area of Half Dome in Yosemite National Park. The brown contour lines show every 40 feet of elevation change. The top of Half Dome is at 8836 feet. When the brown lines are close together, the elevation changes quickly.

The photograph will help you understand the contour map of Half Dome. The sheer face of rock is the part that is mapped with the contour lines very close together. The top of Half Dome that is fairly flat appears to have much more white space between the brown contour lines.

Each contour line shows all connected land that is at the same elevation. Contour lines may be drawn at every five-foot difference in height, every 100-foot difference in height, or at some other scale, depending on the terrain being mapped. The closer the lines are to each other, the steeper the terrain.



- **Contour Map:** A contour map is a 2-dimensional drawing of land, which includes contour lines to show changes in the elevation of the land. The use of contour lines allows a 2-dimensional map to show what land looks like in three dimensions: length, width and height.
- **Elevation:** Elevation is a measurement of how high you are above a fixed point, like sea level. It often is measured in feet or meters. At an elevation of 1,453 feet, you'd be standing on the one hundred and second floor of the Empire State Building, gazing down at the New York City skyline. At an elevation of 0 feet, you'd be standing in the lobby, waiting for the elevator. Get it? An elevator is a machine that enables you to easily change your elevation. To elevate means to lift up.

- **Topographic map:** Topographic maps display the three-dimensional characteristics of terrain on a two-dimensional surface. Topographic maps usually show and name both natural and manmade features, such as lakes, mountains, airports and roads. Topographic maps have many uses, including recreation, environmental management and emergency response planning.
- **United States Geological Survey:** The United States Geological Survey, abbreviated as the USGS, is the government agency responsible for producing topographic maps of the entire United States.
- **Scale:** The ratio of distances on a map to the corresponding values on Earth. The best-known USGS maps are 1:24,000-scale topographic maps. One inch on a map of that scale represents 2,000 feet.

### Activity 4: Animal Tracks Guide

Gather these materials:

- Printer -or- paper & scissors -or- index cards
- Glue
- Hole punch
- Binder rings -or- keyring -or- string
- Pen/ markers

Then follow these instructions:

- Visit this link to print the animal tracks cards:  
[https:// explorationamerica.com/free-printable-animal-tracks-explorer-id-cards/](https://explorationamerica.com/free-printable-animal-tracks-explorer-id-cards/)
- Cut out the cards and glue them to index cards.
- If you don't have a printer, trace the tracks or draw them onto the index cards yourself!
- Punch a hole in each card and string them onto a binder ring, keyring, or piece of string.
- Attach the cards to your backpack to bring on your next adventure!

### Activity 5: Backyard Scavenger Hunt

Gather these materials:

- Pen or pencil
- This page printed (or the list below written out on a piece of paper)

Then follow these instructions:

Head out to your back yard and see what you can find! If you don't have a backyard, grab an adult and head to the park or take a walk around your neighborhood. Get creative with what you can find; if you don't see the exact item on the list, what can you find that is similar? Remember to leave everything in its place, especially if you aren't in your own yard.

## Can you find...

____ a bug with wings	____ a dead plant
____ a flower	____ a baby
____ something yellow	____ something crated by humans
____ something created by an animal	____ something orange
____ something a bird might use to create a nest	____ a squirrel
____ a piece of trash (now pick it up and throw it away!)	____ a bug without wings
____ a spikey plant	____ a blade of grass
____ a soft plant	____ a branch or twig
____ something beautiful	____ something fluffy
____ something surprising	____ something green

### Activity 6: 12 Inch Hike

Gather these materials:

- Piece of string, about 12 inches long
- Magnifying Glass (optional)
- Journal and pen (optional)

Then follow these instructions:

When people go out in nature, we tend to focus on the larger things that are easily spotted. We see a lot of really cool things this way, but there is a lot to nature that we miss. Take some time to observe the little things.

1. Get outside and choose a location where you can sit for a few minutes. Be sure to be safe and practice social distancing.
2. Use your string to encircle a small section of ground.
3. Imagine you are the size of an ant and inside this circle is your whole world. Take a few minutes to explore what exists in your world. You can use a magnifying glass to get a closer look at things. Look at the plants, insects, and soil.
4. Describe or sketch some of the things you see.
5. Once your exploration is over, try moving your circle to a different area and see how many different things live there.

## Activity 7: Edible Campfires

This is a fun way to illustrate how to safely and put out a campfire.

Gather these materials:

- Mini marshmallows and/or cheerios
- Thin stick pretzels
- Thick pretzel sticks
- Potato sticks
- Red hots, hot tamales, or other candy
- Candy corn
- Cups
- Plates

Then follow these instructions:

1. Pull back your hair.
2. Create a safety circle outside your "fire circle." (Make sure the area is clear around your plate.)
3. Fill a "water bucket" (a cup) and keep nearby.
4. Make your fire circle ring with cheerios or minimarshmallows.
5. Make a teepee of "tinder" (potato sticks).
6. Add your "kindling" (thin pretzels).
7. Create an A-frame of "logs" with your thick pretzels.
8. Light with a match (red hots or hot tamales).
9. Candy corn will show it's burning brighter. (optional)



## Activity 8: Nature Mandalas

What is a mandala?

Loosely translated to mean "circle," a mandala is far more than a simple shape. It represents wholeness. Externally, the mandala can be used as a tool to help some understand the universe. For others, the mandala is used internally as a guide for meditation. The mandala pattern is used in many religious traditions; visit the links at the bottom of the page to learn more!

Follow these instructions:

1. Get out and enjoy nature! Find a safe place where you can be socially distant; a park with enough space for your family, your own backyard, a trail nearby, etc.
2. Stop and enjoy being where you are. Reflect on how being in nature makes you feel.
3. Collect some natural objects. Be sure not to pick or dig up anything, including rocks! Only take things that are loose.
4. Select an object to be the center of the mandala; set it down, and then build the mandala out by adding objects a few at a time. The mandala can be as symmetrical or as asymmetrical as you like; there are no rules! You can work on this for as long or as little as you like.
5. While you are working, take deep breaths and just enjoy being in nature.
6. Leave your nature mandala for others to see and enjoy when they pass by.



### Additional Outdoor Skills & Nature Activity Resources:

- Use the GPS in your phone to explore the outdoors through [geocaching](#).
- Harness the power of the sun for outdoor cooking with a [DIY solar oven](#).
- Explore the age-old hobby of birding on walks and in your backyard with [this great bird identifier](#).
- Learn [how deer ears work](#).
- Learn what a [watershed is and make a model](#) of one.
- Try your hand at [shelter building](#).