

Hanford Mills Museum is a historic site in East Meredith, NY. From its start as a seasonal sawmill in the 1840s, the Hanford family expanded the Mill to also include a gristmill, feed mill, wood-working shop, and hardware store. Today, Hanford Mills Museum shows how mills, which were once common in rural towns, operated.

You can watch a video version of these instructions online at: hanfordmills.org/reading-maps/. We also have other Learn-at-Home activities posted on our website.



Activity 1: Reading Topographic Maps

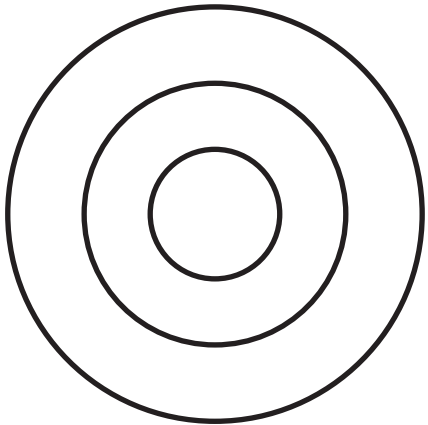
Step 1: Reading the lines

Have you ever looked at a map of a hill, like the one of Cady Hill above, and noticed the curvy lines? Do you know what they are? This map is called a **topographic map** and it is used to show the **terrain**, or physical shape, of an area of land. The lines are called **contour lines**, and they can be very useful when you are hiking or traveling.

The first step in reading a topographic map is understanding how to read the contour lines and contour intervals. A **contour interval** is the vertical distance or difference in elevation between contour lines. For example, if the contour interval is 10 feet, that means one line represents an area that is 10 feet higher or lower than the line next to it.

Let's look at the topographic map of Round Mountain on the next page to see how these lines work:

Map of Round Mountain



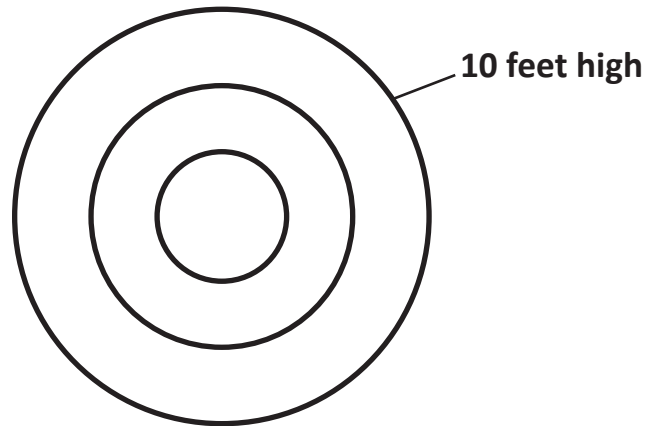
Round Mountain

Map Key:

Starting Height (height of the outer circle): 10 feet

Contour Interval (height change between the lines): 10 feet

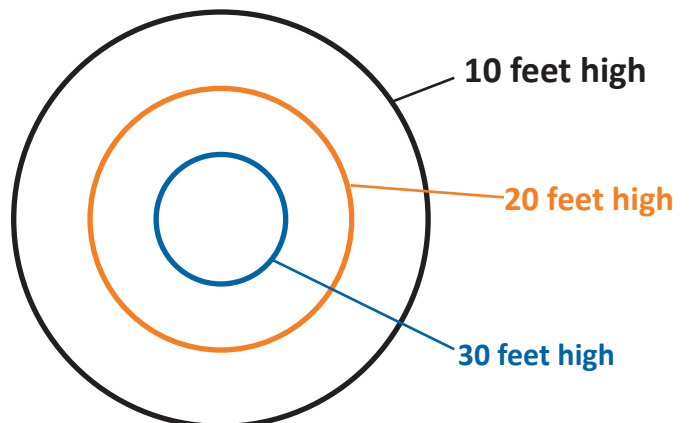
We can use this map to find the height of Round Mountain. If you look at the **map key**, it tells you that the height of the outside circle is 10 feet tall.



Round Mountain

The map key also tells you that the space between each line represents another 10 feet in height. So you can count by 10s for each line to find out the height of the smallest circle at the top of the mountain.

If you count by 10s, the smallest circle is 30. So Round Mountain is about 30 feet tall.

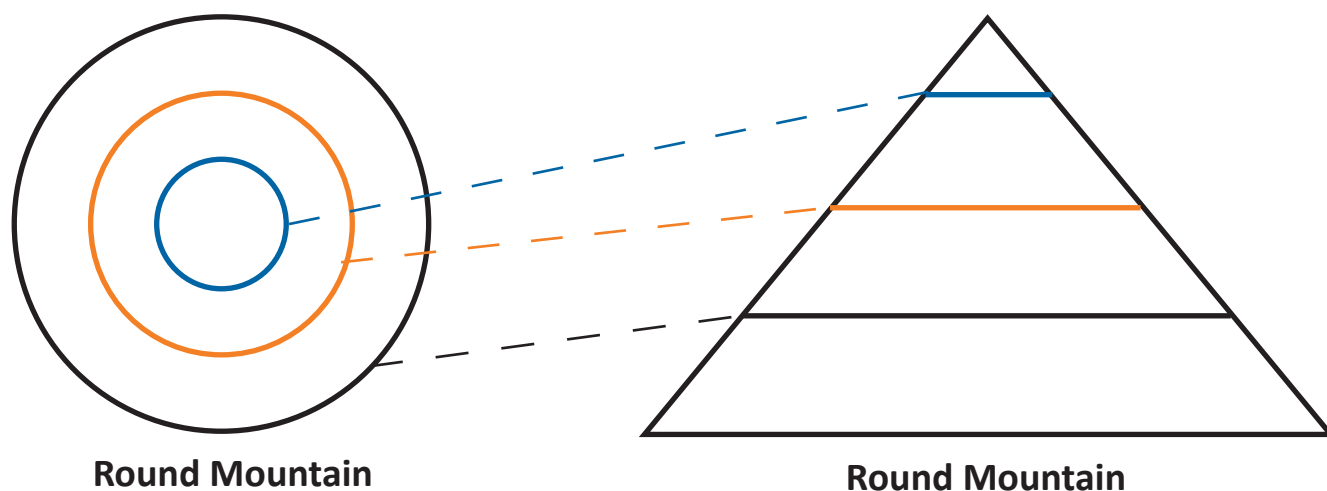


Round Mountain

Step 2: Turning a topographic map into side-view drawing

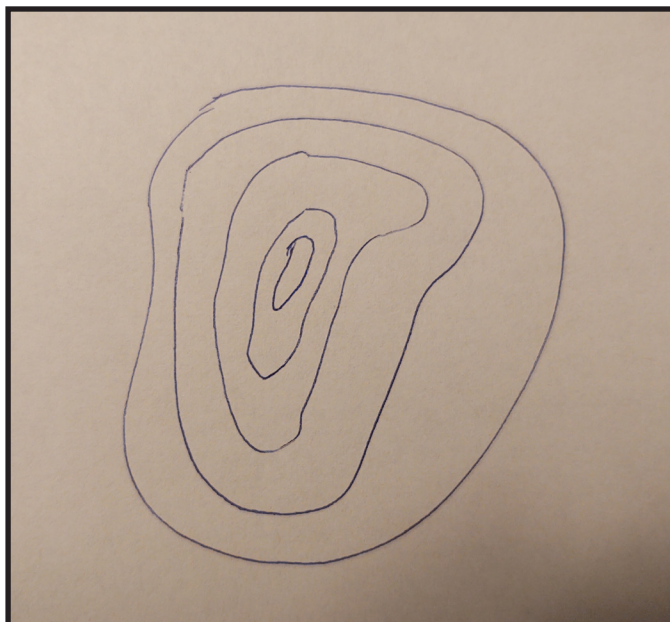
You can also use the map of Round Mountain to imagine what the mountain looks like from the side. Trace the dotted lines from the contour map of Round Mountain below (on the left) to the side view of the mountain on the right. You can see how each line represents a different level of the mountain.

The map shows us that this mountain is going to look mostly like a triangle from the side.

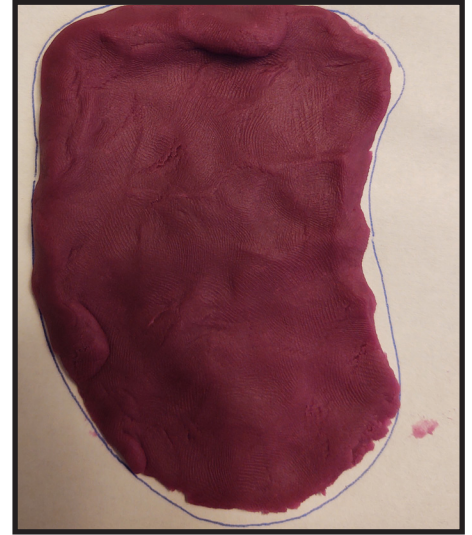


Activity 2: Designing and building your own mountain

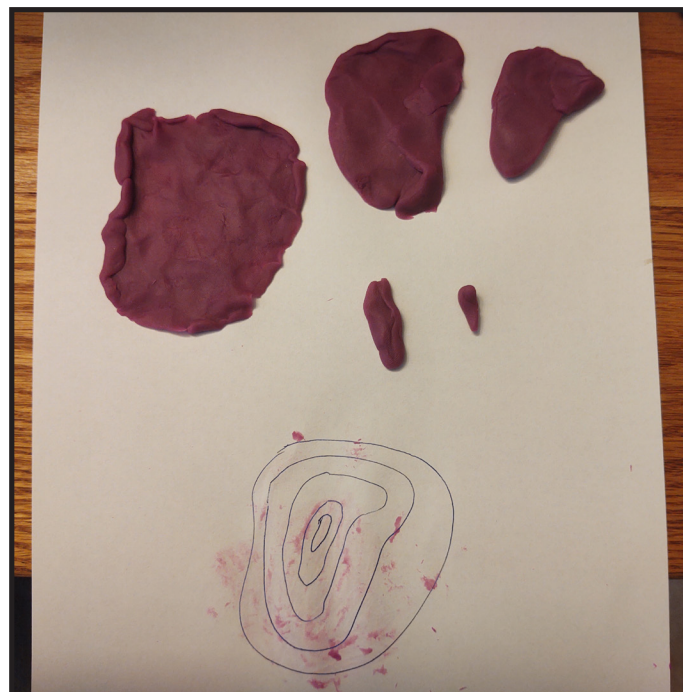
1. Design your own mountain using 5 or 6 lines (they don't have to be perfect circles) inside of the box on the Mountain Design Sheet in your packet.



2. Take your PlayDoh out of its container. Take a small piece of PlayDoh (about $\frac{1}{4}$ of your total amount) and flatten it with your hands. *If you want to try to make your own salt dough (optional), you can find a recipe on page 6.*
3. Put your flattened PlayDoh on top of your map and shape it so it covers the space up to the edge of biggest line.



4. After you have shaped that PlayDoh layer, take it off the paper and place it to the side.
5. Repeat steps 3 and 4 until you have all the different contours made with PlayDoh. You will need a smaller amount of PlayDoh for each layer until you make the smallest one.
6. Complete your mountain by stacking the pieces of PlayDoh on top of each other from biggest on the bottom to smallest on the top.



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- This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Optional Activity: Salt Dough

If you would like to make your own dough, this activity also works well with salt dough! Salt dough is simple to make but can be a little messy. Make sure you ask a grown up before making salt dough.

Ingredients:

1/4 cup flour
2 tablespoons salt
2 tablespoons water

NOTE: If the mixture is too sticky, slowly add flour one pinch at a time.