

# ACTIVITY



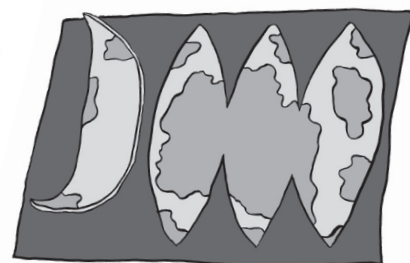
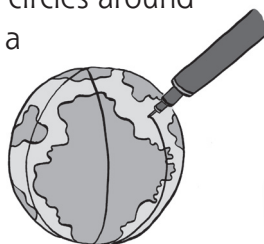
## MAKE YOUR OWN MERCATOR PROJECTION

### SUPPLIES

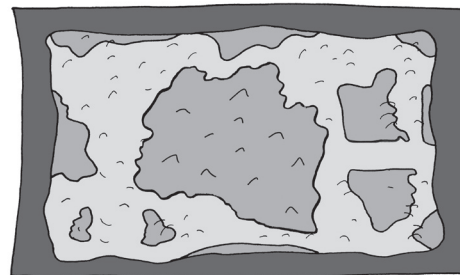
- \* play clay
- \* large orange
- \* markers in at least two colors
- \* table knife
- \* paper

**1** Roll the play clay out to about  $\frac{1}{4}$  inch thick (about  $\frac{1}{2}$  centimeter). Drape sections of the clay over the orange until the orange is completely covered. Lay the clay on the orange without pressing hard.

**2** With a light-colored marker, draw three circles around the clay that cross like lines of longitude on a globe. With another marker, draw a map on top of the longitude lines. You can draw the continents to make your orange look like the earth, or another design. Make sure that your design covers the whole orange, including the areas near the poles and the equator.



**3** Carefully cut along the lines of longitude using the table knife. With your fingers, carefully lift each section of clay off the orange. Lay each section on the paper, lining them up so they touch each other at the equator.



**4** Gently stretch the clay with your fingers so that each section becomes a rectangle and the sections form a solid rectangle with no gaps.

### What's Happening?

What you have done is like what happens in a Mercator projection. To keep the lines of latitude and longitude parallel, some areas have to be stretched. Stretching from left to right changes the shape of your design. If you wanted to keep the shape the same, how else might you stretch the clay? Look at a Mercator projection. How does the distance between lines of latitude change from the equator to the North and South Poles?