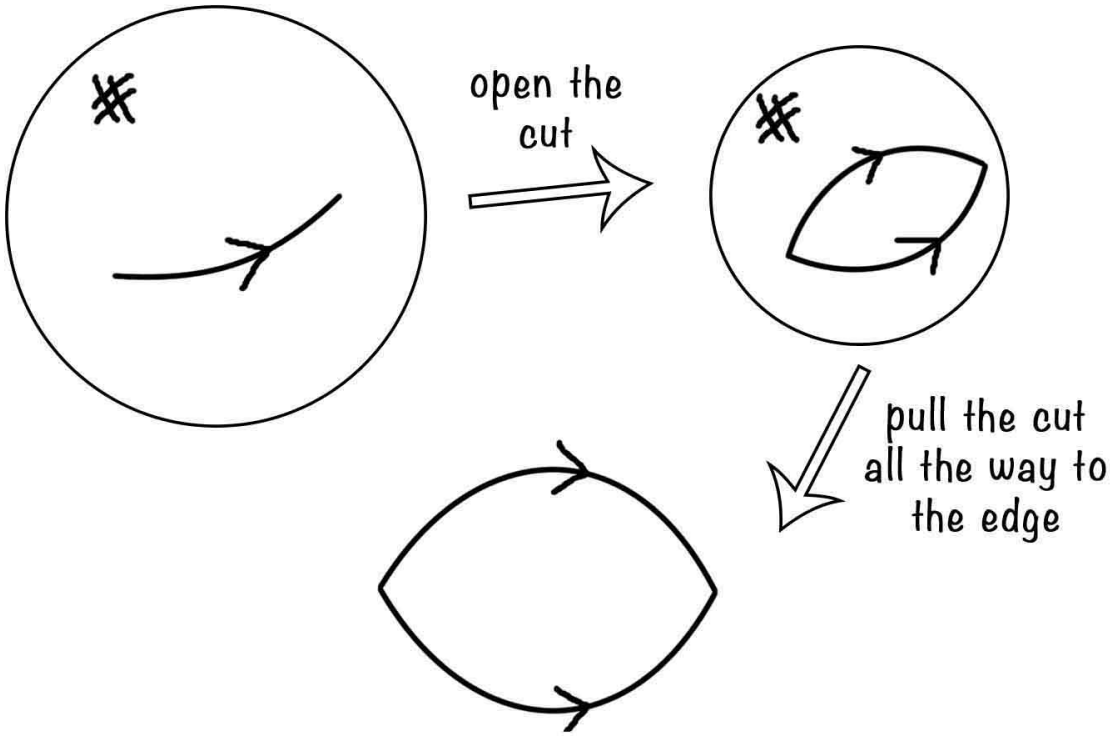
Task:

Present:

Imagine we take a sphere (the shell of a ball) and cut a little slit in it, and then open the slit up, eventually flattening it out, but remembering where the bits that were touching are. We get something like this:



So, up to some stretching, we've identified—or found a correspondence—between the sphere and this flat piece of paper.

Discussion Prompts:

1. Why would one want to do this?

   Answer: to express a map of the world on flat paper for instance.

2. Thinking of the final flat piece as a map of the world, what properties might one like to preserve?

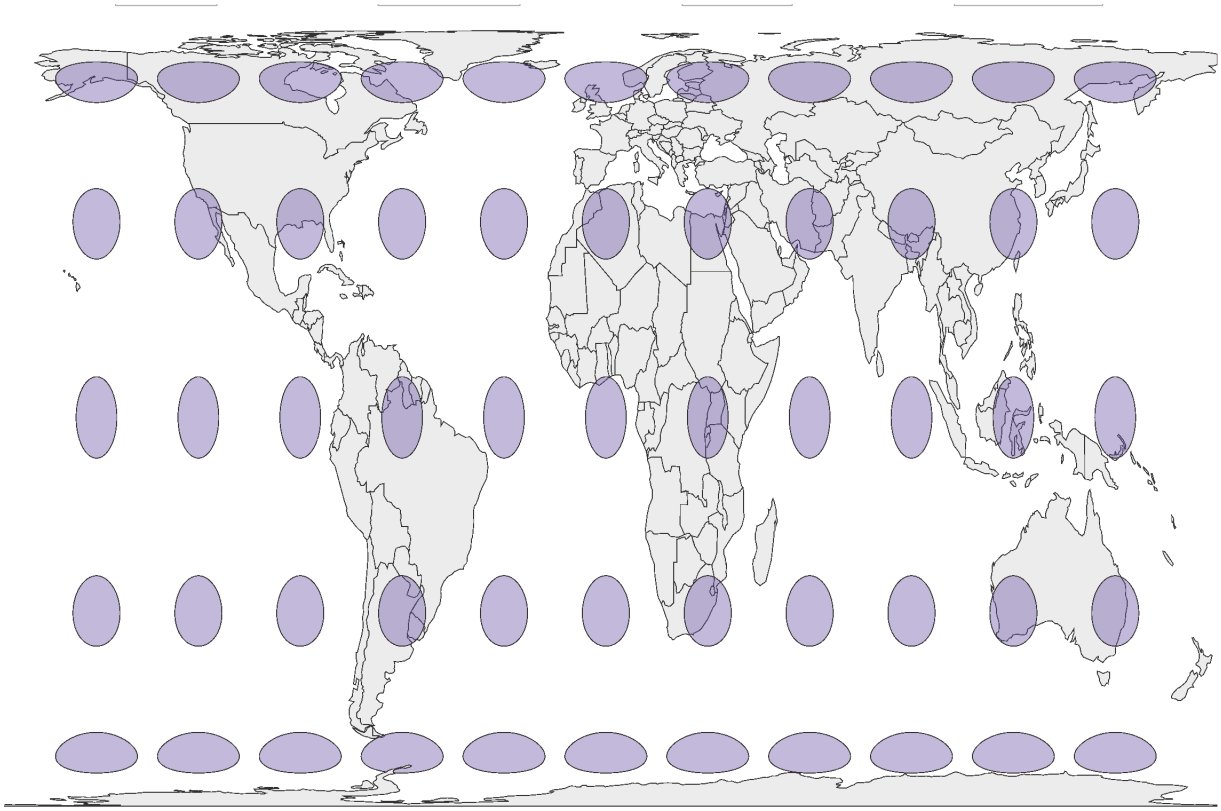
   Answer: shape or size/area.

To get a nice sense of the trade-offs, Max Galka has made a wonderful interactive that allows you to compare maps of the world. He has overlaid some circles of equal size from the earths surface to get a sense of how things stretch in the various versions of world maps. If you have an actual globe it is particularly helpful to compare this with this interactive.

http://metrocosm.com/compare-map-projections.html

Here are two of Max's Projections:

The Gall-Peters Projection:



The Mercator Projection: