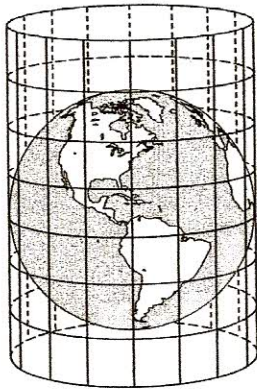




Understanding Projection

The method used to show the curved surface of the earth as a flat map is called a projection. The three most common kinds of projections are based on different ways of placing a piece of paper around the globe and "pulling" the images off the globe and onto the paper. Other projections are based on mathematical formulas.

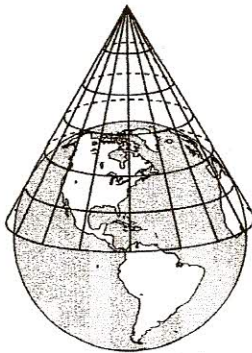
Directions: Study the projections described and illustrated below. Then, answer the questions that follow. Use a separate piece of paper for your answers.



Cylindrical Projection

Cylindrical Projection. This projection is made by placing a rectangular piece of paper around the globe so that it touches the Equator. Lines of longitude that meet at the poles on a globe are parallel. The areas near the poles are distorted and look much larger than they really are.

Conic Projection. Here, a cone-shaped piece of paper is placed over the globe. The areas where the paper touches the globe are most accurately represented. Those near the tip of the globe are most distorted.



Conic Projection

Flat-Plane Projection. Here a flat piece of paper is placed against the globe. The map is accurate at the point of contact. Distortion increases as you move away from the center. Flat-plane projections are often used to show polar regions.

Other Projections. An example of a map based on a mathematical formula is the Robinson projection, which balances different kinds of distortion to make maps that are easy to read.



Flat-Plane Projection

1. What is a map projection?
2. Which areas of the earth are most distorted on a cylindrical projection?
3. Which kind of projection is often used to show polar areas?
4. Which projection, based on mathematical formulas, balances different kinds of distortions?