The Earth: Flat or Round

Life Skills:
Self Responsibility, Communication

What to Do:
Use maps to identify places.

Measuring Success:
Youths will be able to identify a variety of geographic locations on a map.

Audience:
4th - 8th grades (using all information here would be appropriate for the 8th-grade level)

Time Involved:
10-minute mixer to 30-minute lesson

Group Size:
5 - 30

Preparation and Materials:
• Re-stick flags
• Markers
• Drawing paper
• Tape
• Sections of various newspapers with national and international news
• Various styles of world maps hung on walls and covered (maps are available at libraries, schools, bookstores, etc.)

Introduction
What happened in 1492? Columbus discovered that the world was round. It was hard for people to visualize that because they didn't travel much, and there was a very narrow way of thinking. Now, we know the world is round because of various explorations both here and in space. However, there are still a lot of ways to show the earth...sometimes we use a globe, sometimes we use a map that is flat. Today we'll explore what maps are like, how we accurately look at the earth, and begin to see all the parts that make up the earth.

The Activity
Remember, this is not a test, nor is it meant to embarrass anyone; we're all learning together. (Divide the group into teams of two or three. Distribute paper and markers. Ask each team to draw the world and identify everything it can in five minutes. No visible maps should be in the room.)
Reflect/Discuss
Share What You Did
OK! Now that you're finished, please hang your maps on the wall. We’ll go around the room and ask each team to describe its map. (Do not point out errors at this time. Following are questions to ask as each team makes its presentation.)

How did it feel working together on the map? Was five minutes enough time or did some of you have much more you wanted to identify? What were the hardest items to draw? What were the easiest? What is located at the center of your map?

Tell What's Important
(Point out similarities between the maps the groups drew. Point out the accurate points. Now uncover the variety of world maps you have and show the youths how the earth is viewed in a variety of ways.) If we took the globe and flattened it out, it would become distorted in several areas. That's why, when using a map, it is important to understand the type. (Go over the following map types.)

Globe:
Accurate and same shape as world.
  Mercator Projection - This is true conformal projection. Any island or country is shown in its true shape, but the scale of the map becomes distorted toward the poles. It is good, however, to show wind currents and other related geographic information.

  Homolographic Projection - This is often used to show the entire globe in an equal-area projection that reproduces the ratios of areas as they exist on the earth's surface. It's valuable for showing global distribution of geographic properties, such as crops or political units, especially in low latitude areas. There is severe distortion in the polar regions and one hemisphere is usually divided into two parts.

  Sinusoidal Projection - This is similar to the homolographic projection but contains different curves to identify meridians. It is sometimes split so that the high latitudes are more accurate. It means that some regions are divided.

  Homolosine Projection – This is a combination of the last two and tends to be more accurate in all regions of the world. Again, it needs to be split, sometimes in the middle of continents.

  Peters Projection - This is a relatively new map that shows all countries according to their actual size. It has equal area, equal axis and equal positions. It does stretch horizontally near the poles.

What type of world did your team draw? Can you identify the projection most similar to your map? What would you need to change to make the map more accurate?

(Have the teams look together at what is in the center of the group maps.) What did most of us place at the center? Is it the United States? Why do we often make the United States the largest and place it in the center?)
Generalize to Your Life
Putting the United States in the center is a way of thinking that everything revolves around us. What is a more accurate way of looking at the world? Why is it important to understand maps and the world?

Apply What You Learned
(Give each team one of the maps, a section of the newspaper and several re-stick tape flags.)
I'm giving each team a map and the front page of a newspaper. I want you to see how fast you can locate the countries, oceans, etc., in the news on a map. Use the re-stick flags to mark them.

Why is it important to know where other countries and oceans are located?

Follow-up:
During the next week, when you hear the names of countries or places you would be unable to locate on a map, write them down and bring the names to our next meeting so the group can locate them together. (Make this an ongoing part of each meeting.)

"No individual can live alone, no nation can live alone, and anyone who feels that he can live alone is sleeping through a revolution. The world in which we live is geographically one. The challenge that we face today is to make it one in terms of brotherhood. We must all learn to live together as brothers, or we will all perish together as fools."
Source: Dr. Martin Luther King, Jr.

More Challenges
• Alternative: Use all the activities with U.S. states or hemispheres.
• Have each young person list or describe any countries s/he has had contact with.
• Select a specific country to study.
Lesson Evaluation for Youths: The Earth: Flat or Round

Please read each statement carefully and check if you strongly agree, agree, don’t know, disagree or strongly disagree. Please return this evaluation to:

U of A Cooperative Extension Service
4-H & Youth Development
2301 S. University Avenue
Little Rock, AR  72204

After completing the Earth: Flat or Round lesson, I:

Strongly Agree = SA
Agree = A
Don’t Know = DK
Disagree = D
Strongly Disagree = SD

Can locate countries on a world map.
☐ SA       ☐ A       ☐ DK       ☐ D       ☐ SD

Can locate bodies of water on a map.
☐ SA       ☐ A       ☐ DK       ☐ D       ☐ SD

Can locate landmarks on a map.
☐ SA       ☐ A       ☐ DK       ☐ D       ☐ SD

Know the differences between types of maps.
☐ SA       ☐ A       ☐ DK       ☐ D       ☐ SD

Understand why it’s important to know how to read a map.
☐ SA       ☐ A       ☐ DK       ☐ D       ☐ SD

The most important thing I learned was:
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

Because of this information, I will:
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________