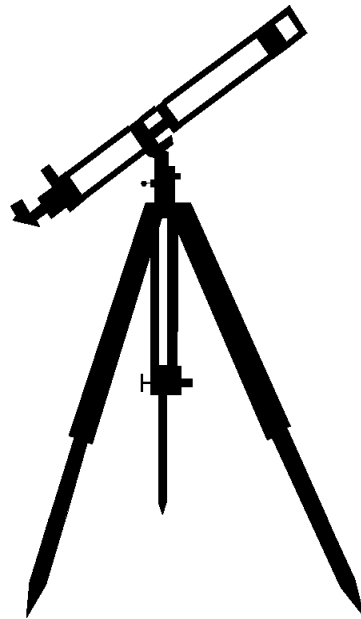




**Universe Cycle**  
The Search for Our Beginnings



# THIRD GRADE GEOGRAPHY



1 WEEK  
LESSON PLANS AND  
ACTIVITIES

## UNIVERSE CYCLE OVERVIEW OF THIRD GRADE

### UNIVERSE

#### WEEK 1.

PRE: *Contrasting different components of the Universe.*

LAB: *Comparing and contrasting stars.*

POST: *Comparing relative and absolute brightness.*

### SOLAR SYSTEM

#### WEEK 2.

PRE: *Distinguishing between revolution and rotation.*

LAB: *Discovering the terrestrial planets.*

POST: *Investigating the gas giants.*

### EARTH

#### WEEK 3.

PRE: *Comparing lunar and solar eclipses.*

LAB: *Discovering how landforms are created on Earth.*

POST: *Exploring the reasons for seasons.*

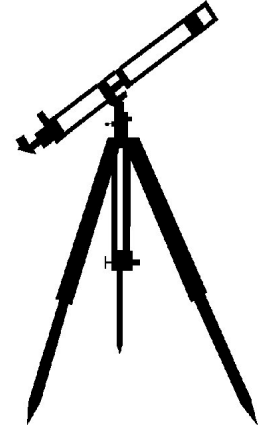
### GEOGRAPHY

#### WEEK 4.

PRE: *Describing different types of maps.*

LAB: *Exploring how to make a map.*

POST: *Comparing maps and globes.*



## UNIVERSE CYCLE - GEOGRAPHY (3)

### PRE LAB

### OBJECTIVES:

1. Describing different types of maps.
2. Interpreting various uses of maps.

### VOCABULARY:

maps  
physical  
political  
topographic

### MATERIALS:

World Map placemats

### BACKGROUND:

A map is a picture or representation of the Earth's surface. Maps show how things are related to each other by distance (both horizontal and vertical), direction, and size. Maps are a way of showing many things about a portion of the Earth's real three dimensional surface on a flat piece of paper. This two dimensional representation can be carried and transported easily.

A map is not a picture of the Earth's surface. Maps can focus on one feature, such as streets or population distribution. Maps can show many things that pictures cannot show.



Maps have many uses. They are important in the appraisal, conservation, and development of natural resources; in analyzing and forecasting weather conditions; in agriculture, fisheries, and general commerce; in regional planning; and in property surveys and the demarcation of boundaries. Maps help in navigation by sea, air, and land in times of peace and especially in times of war. Maps are also important to scientists concerned with the causes and effects of Earth surface phenomena, in such disciplines as geology, oceanography, meteorology, climatology, animal and plant ecology, agronomy, economics and the social sciences, as well as geography itself. Maps record observations,

Students look at various types of maps that they bring in from home.



aid in analysis, stimulate ideas and aid in the formulation of working hypotheses.

### **PROCEDURE:**

1. Discuss the meaning of maps with the students.

2. Give the students a World Placemat and ask them why is a map important. Hopefully they will point out that you can find countries, roads, cities, forests, oceans, lakes, and many other natural surfaces without going there.

3. As a homework assignment, have students find different types of maps. Newspapers are a good source, or have them look on the Internet. Have the students determine what the maps are used for. Here are examples of the type of maps students may find:

POLITICAL MAPS - locate a country, city, or state

WEATHER MAPS - see how the weather fronts are moving into an area

DISASTER MAPS - locate scenes of problem

ROAD MAPS - help people locate a business that might be advertising in a newspaper

After students bring in the maps, discuss what they have found. This will help the students see the broad range of uses that maps have in our society.

4. Here are some websites that have good map resources:

A) [http://www.lib.utexas.edu/Libs/PCL/Map\\_collection/Map\\_collection.html](http://www.lib.utexas.edu/Libs/PCL/Map_collection/Map_collection.html) - a collection of digitized maps at UT Austin. Many historical maps.

B) <http://fermi.jhuapl.edu/states/states.html> - the Color Landform Atlas of the United States. Beautiful shaded 3D maps showing surface features

C) <http://www.ngdc.noaa.gov/mgg/> - good maps of the seafloor, from NOAA.

D) <http://www-atlas.usgs.gov/> - the National Atlas of the United States. A great abundance of geographic information, of all types.

E) <http://www.100topmapsites.com> - a link site that connects to many commercial, educational, and government map sources.

## UNIVERSE CYCLE - GEOGRAPHY (3)

### LAB

Students make a classroom treasure map.

### OBJECTIVE:

1. Exploring how to make a map.
2. Mapping the classroom.

### VOCABULARY:

legend  
maps  
physical  
political  
scale  
topographic

### MATERIALS:

stickers



### BACKGROUND:

The study of maps and the meaning of the information they contain, is called geography. A person who studies or uses maps to collect data is called a geographer. A person who makes maps is a cartographer. Maps are important and valuable.

Making a map is very difficult. Many factors must be taken into account to make a map that works well. The map must show relevant information, but not in too much detail. It must be designed in colors and patterns that are harmonious and easy to read. The map must be accurate as well.

A map cannot be as big as the area it represents. It would be too large to look at. Therefore, a scale is used to relate map distance to real world distance; it shows how much smaller the map is than the real world. Scale is expressed as a mathematical ratio: for example 1 cm on the map could equal 5 footsteps or 10 meters in the real world. The person who creates the map determines the scale they want to use.

A legend is an explanation of symbols that are used to make the map easier to read. The legend is usually put in a corner of the map that does not interfere with reading the map. Legends usually contain symbols that helps locate objects. For instance, a square might be a house or a square with a bell on it might represent a school on a map.

In this exercise, the students will find out first hand how to construct a map that other people can read. This will take the form of a treasure hunt.

## PROCEDURE:

1. Explain that to be useful, a map must be accurate and contain enough information to guide the person who uses it. Bad maps can cause major problems. Discuss with students scale and a legend.

2. Have the students work in pairs. Give each student a strip of paper. Have them decorate it, making a bookmark. This is the "treasure". You can substitute candy or stickers depending on what you have available.

3. Have one student hide the "treasure" while the other student closes his or her eyes. Give the first student about 5 minutes to make a map of the classroom that shows the location of the treasure.

Make sure the students create a legend on their map. A space is provided at the bottom of the map on the worksheet. The students may also want to put a scale on the map. The student who makes the map should determine the scale. Footsteps work well.



This map doesn't give enough information.

4. Have the second student take the map and try to find the treasure. They cannot ask their partner questions. Give the partner who is looking for the treasure about 5 minutes to find it.

5. Have the partners switch roles.

6. Have the students evaluate their maps. If both found their treasure, it means that they constructed good maps. You may want to let the students keep their treasure if they find it and put a "sticker" on the bookmark of their choice. If you used another "treasure" you may want them to keep it, only if both partners find the treasure.

7. After they have completed the activity discuss how important it is to make good maps. Go over some of the "problems" that the students may have encountered. Some students may not have put in the tables or chairs, which would have helped the partner locate the treasure much easier.

## UNIVERSE CYCLE - GEOGRAPHY (3) LAB

**PROBLEM:** Can you construct a map that someone can use?

**PREDICTION:** \_\_\_\_\_

**PROCEDURE:**

**EXERCISE 1.** Look around the classroom and find three different kinds of maps. In the spaces below, describe what kind of map they are and what they are used for.

TYPE OF MAP	WHAT THEY ARE USED FOR

**EXERCISE 2.** Work with a partner. Get two bookmarks from your teacher. Perform the following steps:

1. Write your partner's name on the back of your bookmark.
2. Have your partner close their eyes while you hide the bookmark somewhere in the classroom.
3. Draw a map of the classroom in the box on the next page. Mark the hiding spot with an X. Use the space below the word "Legend" to label the shapes on your map.
4. Give the map to your partner and see if they can find it on their own.

### CLASSROOM TREASURE MAP

LEGEND:

**CONCLUSIONS:** Were you and your partner successful? \_\_\_\_\_  
Describe any problems that you had in reading or making your map.



## UNIVERSE CYCLE - GEOGRAPHY (3)

### POST LAB

Students read about the history and uses of maps and globes.

### OBJECTIVE:

1. Learning about maps and globes.
2. Describing different types of maps.

### VOCABULARY:

chart  
globe  
maps

### MATERIAL:

*Maps and Globes* by J. Knowlton (Harper Trophy)  
Internet



### BACKGROUND:

Maps and globes are very important tools for identifying places on the Earth's surface. Both are representations of the real Earth at a manageable size. A globe is a true representation in miniature. A map is a flat representation of an area, which usually has distortions. The word chart is sometimes used to refer to a map.



In order to make a map you have to somehow project the image from a model of the Earth (globe) on a flat piece of paper. Projections fall into three basic categories: planar, conic, and cylindrical.

### PROCEDURE:

1. The book *Maps and Globes* reviews the historical significance of these tools, and describes the different types of maps we use. Read the book to the class. The key points derived from reading the book are as follows.

A. Thousands of years ago our ancestors invented the map.



- B. As civilization grew, better maps were needed.
- C. Charts are maps used to sail the wide oceans.
- D. But ancient world maps were incredibly incomplete.
- E. The Age of Exploration begins, Columbus sails.
- F. Magellan sails, and proves that the Earth is round.
- G. Globes are tiny models of our Earth.
- H. Maps can put our round Earth on flat paper.
- I. Globes are the most realistic world maps.
- J. The equator divides the Earth in half.
- K. How to put big countries on small pieces of paper.
- L. You can measure the Earth with a piece of string.
- M. Where on Earth am I, exactly?
- N. How high are the mountains?
- O. How deep are the oceans?
- P. Physical maps - the nature of places
- Q. Political maps - people and countries.
- R. Local maps - getting closer to home.



2. When you finish, ask the students which professions would require an understanding of maps. Hopefully they will come up with a long list! Possible answers include :pilots, postal workers, geographers, truck drivers, shippers, travelers, geologists, hunters, soldiers, and many more professions. This should impress the importance of maps on the class.

3. The Internet has educational sites posted every year on maps. You can have your students generate their own maps or find maps of the local area. We highly recommend you use a search engine to enter words like “map,” “map finder,” or “map projections,” to help you find maps for your students.

National Geographic Society

<http://www.nationalgeographic.com/resources/ngo/maps>

U.S. Geological Survey

<http://www.usgs.gov/>