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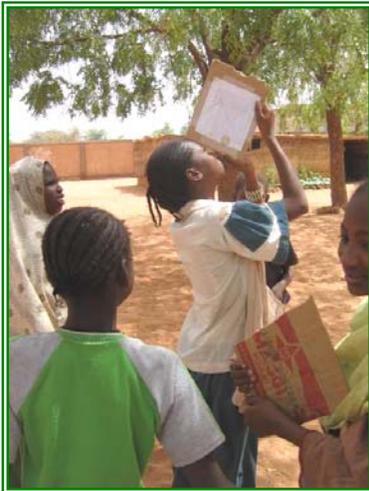
GLOBE Program



Peace Corps



Rotary International



GLOBE Program
Classroom Guide for
Niger and West Africa

Introduction to the GLOBE Program and this Guide

The GLOBE Program

GLOBE is an acronym of “Global Learning and Observations to Benefit the Environment.” The GLOBE Program started in 1996, born out of a collaboration between NASA (National Aeronautics and Space Administration), NSF (National Science Foundation), UCAR (University Center for Atmospheric Research), and CSU (Colorado State University).

The GLOBE Program has three goals: to improve science and mathematics teaching in the classroom, to help students learn about the environment, and to create a global set of environmental data.

Ten years after its debut, it is now found in over 7500 schools in 109 countries. The students of these schools become scientists themselves and research their own environments. Then, like true scientists, they share their data with other students and scientists on the Internet. The GLOBE web site and its data are available to everyone at www.globe.gov.

The Nigerien government invited the GLOBE Program into the country in November 2005 to become a part of the Nigerien educational system.

Realizing GLOBE’s Goals in the Classroom

The first goal of the GLOBE Program is to give students opportunities to learn, practice, and apply science and mathematics in real situations. We suggest you schedule a GLOBE session in the classroom **at least once per week**, as well as taking any measurements prescribed by the program. This program will improve your teaching, as it reinforces many skills that are required for each grade level.

At the administrative level, the principal could assign one module for each grade. That way, students would receive a complete GLOBE training during their passage through the school.

The second goal of the GLOBE Program is to collect data worldwide in order to help scientists with their research. The data that you collect and place on the internet is most useful to scientists if it is taken regularly over long periods of time. While it is acceptable to stop taking data during vacations, it would be better to establish a system for uninterrupted data collection.

This Document and its Use

This document is a set of lessons from the International GLOBE Manual. The GLOBE Program in Niger has distilled and revised the international manual to so that the lessons are applicable for our country, as well as for our neighbors.

The manual is divided into four pedagogical sections:

1. Trees and Wood in Our Backyard (in two parts)
 - a. Classroom lessons
 - b. Annex containing modified lessons for secondary schools and a Guide to Some Trees of the Sahel
2. Soil (in two parts)
 - a. Classroom lessons
 - b. Further lessons and protocols requiring technical instrumentation
3. Atmosphere (in two parts)
 - a. Setting up your GLOBE study site and instrumentation
 - b. Classroom lessons
4. Hydrology (in two parts)
 - a. Classroom lessons
 - b. Further lessons and protocols requiring technical instrumentation

If your school does not have the means to purchase additional equipment, you can still do all the sessions from “Trees and Wood in Our Backyard,” the first 12 sessions from the Soil Protocol, some of the water protocol, and the “Aerosols and Clouds” and “Graphing” sessions from the Atmosphere Protocol, as these lessons require very little if any spending. In this way, the students will at least learn important lessons on the environment and improve their scientific and mathematical education. If you do have some funding, you can add the atmosphere temperature study or other soil activities that are interesting to you.

Even if you choose not to do one of the sections, we encourage you to skim through all the sections and pull out the review games (especially in Atmosphere) and other activities that are adaptable for use in your classroom. Many of the review activities are applicable to classroom lessons unrelated to the GLOBE Program.

We equally urge you to do all of the lessons based on the scientific method, as well as the three graphing lessons from the Atmosphere Protocol.

Other Advice

All of the defined words in this document are underlined and in bold.

This program is designed to teach students to think and work for themselves, in order to develop their brains. The brain can be thought of as a muscle – in order for it to become strong and develop its analytical capacity, it must do exercises. If a student only listens to the teacher and the smartest child in the class, his brain does not work and therefore does not develop. Therefore, try as much as possible to not hand answers directly to students or only rely on one or two students in the class. Instead, force all of the students to think for themselves. This will be very laborious and time consuming at the beginning for both you and your students, but as they start to think for themselves, your work will become much easier overall.

Treat GLOBE lessons as a proper subject in order to have the full participation of the students. Following this idea, each student should have his own small GLOBE notebook, or at the very least part of a notebook reserved in full for the GLOBE Program.



Acknowledgements

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Table of Contents

● Trees and Wood in our Backyard ●

Trees and Wood Lessons (10 lessons)	Page:
1. Identifying our Trees	12
- <i>Introduction to the GLOBE Program</i>	
2. Importance and Usefulness of Trees	15
3. Building a Clinometer	17
4. Explaining How a Clinometer Works	19
5. Measuring the Trees	22
6. Creating Tree Identity Cards	24
7. Calculating the Volume of Wood Consumed by a Family Each Day	27
- <i>Key Concept: Applying Math in a Real World Situation</i>	
8. Volume of a Tree Compared to Volume of Wood Consumed by a Family	29
- <i>Key Concept: Applying Math in a Real World Situation</i>	
9. Investigating Erosion	32
- <i>Key Concept: Scientific Method</i>	
10. Modeling a Watershed Basin	35
- <i>Key Concept: Scientific Method</i>	
Trees and Wood Appendices	Page:
1. Follow-on Activity – Review and Tree Nursery	38
2. Guide to Some Trees of the Sahel	39
3. Lessons 3, 4, and 5 Modified for a Secondary School Classroom	42

● Soil ●

Soil Study Site Set-up (1 activity)	Page:
1. Choosing a Soil Study Site	52
Soil Lessons (12 activities)	
1. Introduction to the GLOBE Program and to Soil	57
- <i>Game: Discovering GLOBE Countries around the World</i>	
- <i>Key Concept: Memorization Technique</i>	
- <i>Game: Link Objects to the Earth</i>	
2. Creation and Characteristics of Soil	62
3. Investigation of Several Soils	64
- <i>Key Concept: Observation</i>	
4. Introduction to Scientific Experiments with an Experiment on Millet Growth	70
- <i>Key Concept: Scientific Method</i>	
5. Doing the Millet Growth Experiment	73
6. Horizons and Profiles	75
7. The Grand Event! – Outing to the Soil Pit (2 days)	78
- <i>Key Concepts: Digging a Study Hole, Taking Measurements, Taking Samples, Soil Horizons, Classification, Analysis, and Drawing Conclusions</i>	
8. Returning to the Millet Growth Experiment	85
- <i>Key Concept: Graphing</i>	
9. Soil: The Great Decomposer	87
- <i>Key Concept: Scientific Method</i>	
10. Soil: The Great Decomposer (continuation)	89
11. Investigating Erosion	90
- <i>Key Concept: Scientific Method</i>	
12. Returning to the Soil Decomposition Experiment	93
- <i>Key Concept: Compost for Gardening, Soil Nutrients such as Nitrogen and Phosphorous, and Tree Nurseries</i>	
Unit Review Game (1 lesson)	Page:
1. Reverse Jeopardy	96
Soil Lessons and Technical Activities to Send Data to the GLOBE Program (6 activities)	Page:
1. Preparing Soil Samples	100
2. Measurement of Soil Infiltration Rate	101
3. Measuring Soil pH	105
4. Measuring Soil Temperature	109
5. Measuring Soil Humidity	114
6. Soil Particle Size Distribution	124

● Atmosphere ●

Atmosphere Study Site Set-up (10 activities)	Page:
1. Study Site Set-up Checklist	138
2. Choosing an Atmosphere Study Site and Installing the Instrument Shelter	139
3. Documenting Your Atmosphere Study Site	143
4. Constructing your Instrument Shelter	146
5. Calibrating the Calibration Thermometer	149
6. Installing the Digital Thermometer	150
7. Resetting the Digital Thermometer	151
8. Digital Thermometer Soil Sensor Error Check	153
9. Digital Thermometer Sensor Calibration	155
10. Changing the Battery in the Digital Thermometer	156
11. Installing (and Constructing) a Rain Gauge	157
Introduction (1 lesson)	Page:
1. Introduction to GLOBE and to the Atmosphere	159
- <i>Game: Discovering GLOBE Countries Around the World</i>	
- <i>Key Concept: Memorization Technique</i>	
Temperature (6 lessons)	Page:
1. Introduction to the Digital Thermometer	164
- <i>Game: Estimating the Current Temperature</i>	
2. Bi-weekly System of Data Collection	168
- <i>Game: Place the Button on the Thermometer</i>	
3a. Building a Liquid Thermometer and Explaining How it Works	172
- <i>Key Concept: Practice an Experimental Procedure</i>	
3b. Make a Graph and Explain the Thermometer Construction Activity	177
- <i>Key Concept: Graphing</i>	
4. Studying the Instrument Shelter	180
- <i>Key Concept: Scientific Method – Experimental Design</i>	
- <i>Key Concept: Graphing</i>	
5. Connecting the Temperature to the Environment	183
6. Global Warming (Climate Change)	186
- <i>Game: Explaining the Sources of Carbon Dioxide</i>	
Charts and Graphs (3 lessons)	Page:
1. Studying Graphs	189
2. Graphing (cont'd)	194
3. More Practice with Graphs	196
Aerosols and Clouds (6 lessons)	Page:
1. Introduction to Aerosols	199
2. Introduction to Clouds	202
- <i>Types of Clouds (Hand Game)</i>	
3. Review of Cloud Types	208

- <i>Game: Cloud Card Game (Memory)</i>	
4. Cloud Cover	213
5. Contrails and a Review	216
- <i>Game: Vocabulary Review on the Blackboard</i>	
6. Formation and Importance of Clouds (The Water Cycle)	219
- <i>Key Concept: Hydrologic Cycle</i>	

Rain Gauge (3 lessons)	Page:
1. Introduction to the Rain Gauge and Reading a Graduated Cylinder	223
- <i>Game: Reading a Graduated Cylinder Contest</i>	
2. How to Use a Rain Gauge	225
3. Taking the pH of Precipitation Using pH Paper and Table Salt	229

● Hydrology ●

Hydrology Study Site Set-up (1 activity)	Page:
1. Choosing a Hydrology Study Site	235

Hydrology Lessons (10 lessons)	Page:
1. Introduction to the GLOBE Program	236
- <i>Game: Discovering GLOBE Countries around the World</i>	
2. Introduction to Hydrology	240
3. Documenting your Hydrology Study Site	245
4. Collecting a Water Sample in a Bucket	249
5. Teaching Additional Data Collection Protocols	251
6. Practice Drawing a Map in the Classroom	252
- <i>Key Concept: Mapping</i>	
7. Outing to the Hydrology Site for Mapping	256
- <i>Key Concept: Mapping</i>	
8. The Water Cycle	259
9. Modeling a Watershed Basin	263
- <i>Key Concept: Scientific Method</i>	
10. Investigating Water Pollution	267

Water Lessons and Technical Activities to Send Data to the GLOBE Program (7 activities)	Page:
11. Measuring Water Temperature	271
- <i>Key Concept: Estimation</i>	
Technical Document: Thermometer Calibration	273
12. Measuring Water Transparency	274
Technical Document: How to Construct a Transparency Tube	276
13. Measuring Electrical Conductivity	277
Technical Document: Electrical Conductivity Calibration	280
14. Teaching about pH	281
- <i>Key Concept: Scientific Experimentation</i>	
15. Measuring pH Using pH Paper	285
16. Measuring pH using a pH Meter	287

● GLOBE GPS Guide ●

Global Positioning System (GPS) Guide	Page:
1. Understanding GPS Measurements	292
2. GPS Protocol	298
3. GPS Offset Protocol	300