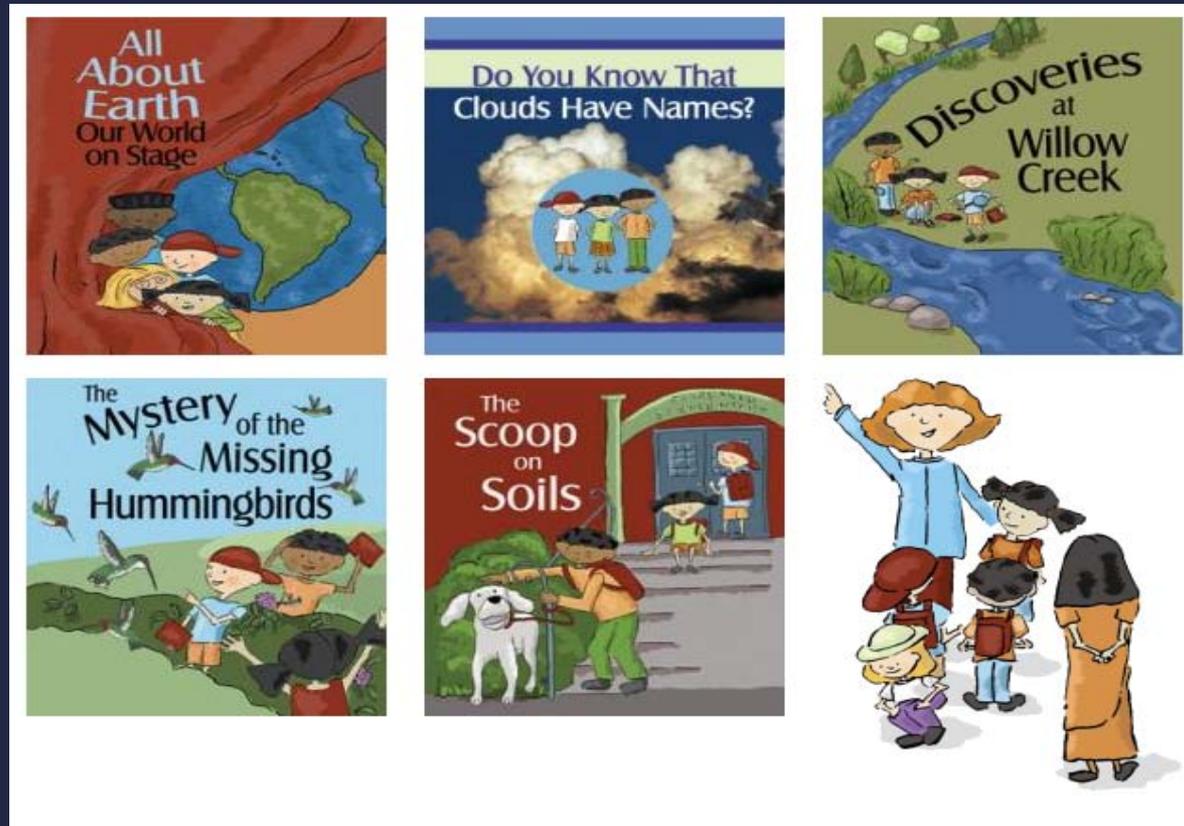


# Exploring Earth Science through GLOBE Elementary Story Books



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# GLOBE

Global Learning and Observations to Benefit the Environment

- Began 1995
- 112 Countries
- 54,000 Teachers
- 24,000 Schools
- 1.5 M Students
- 22 M Measurements



[www.globe.gov](http://www.globe.gov)



### International Ocean Institutes in U.S. and Costa Rica Join Forces

In the spring of 2011 the International Ocean Institute (IOI) in the U.S. and Costa Rica joined forces to launch an environmental monitoring and cultural exchange between students in Costa Rica and west Florida. The GLOBE Program, with its proven record of providing carefully designed and clearly communicated protocols, was

2/60 ◀ prev | next ▶



## Wel

The GLOBE Program  
primary science

## Learn

Science & Education Program

GLOBE Teacher's Guide

**Elementary GLOBE**

GLOBE Across the Curriculum

Inquiry-Based Instruction

Assessment Tools



Recognition Resources

Materials for Teaching & Learning

Learning Standards

Professional Development Resources

e-Training

Measurements :  
93,757,269

Measurements in the Past Month :  
93,373,017

## GLOBE Community

### Enter Data



### Collaboration Groups

Recent Postings In:  
Community Feedback Forum

**RE: Add folders and files to Partner organization page?**

Thanks, David. I uploaded my images on the WHOI "school" site, and was able to post a copy of the agenda on the Resources page. There is redundanc >>

**The Student ZONE**  
Learn how to be a student GLOBE scientist

## SCIENTISTS' Blog

Full Circle Superior Part IV: Changing Superior, Changing Industry  
[view more](#)



# Elementary GLOBE Resources

- Storybooks
- Storybook Activities
- Teacher Implementation Guide
- All are *FREE* online



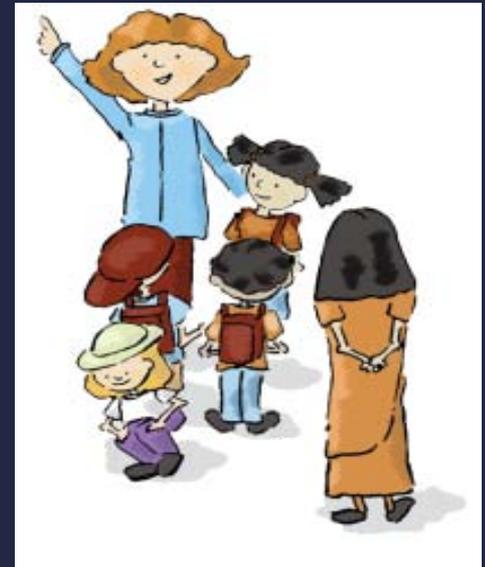
# Available Languages

Elementary GLOBE Books, Activities, and the Teacher's Guide available in:

- Arabic,
- English,
- French,
- German,
- and Spanish

# Skills and Standards

- Correlated to National Science Education Standards, National Geography Standards, and the Principles and Standards for School Mathematics
- Literacy skills (reading and writing)
- Science literacy skills (content knowledge and inquiry process skills)



# Skills and Standards – Cont.

- Our office has also aligned with Virginia SOL's Grades K-4, and we are working on grades 5 & 6

## Do You Know That Clouds Have Names?

### Virginia Science Standards

K.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.

K.2 The student will investigate and understand that humans have senses that allow them to seek, find, take in, and react or respond to information in order to learn about their surroundings.

K.9 The student will investigate and understand that there are simple repeating patterns in his/her daily life.. a) weather observations

1.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.

1.7 The student will investigate and understand weather and seasonal changes.

2.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.

2.6 The student will investigate and understand basic types, changes and patterns of weather.

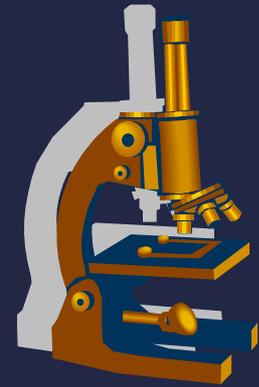
3.1 The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigations.

4.1 The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigations.

4.6 The student will investigate and understand how weather conditions and phenomena occur and can be predicted.

# Science & Literacy Skills

- Overlapping skills and behaviors:
  - note details
  - compare and contrast
  - predict
  - sequence events
  - link cause and effect
  - distinguish fact from opinions
  - link words with precise meanings
  - make inferences
  - draw conclusions



# Five Finger Retell for Comprehension Strategy

- Thumb – Who were the main **characters**?
- Forefinger – Where did the story take **place**?
- Middle finger – What was the series of **events** in this story?
- Ring finger – What was the **problem**?
- Pinky finger – What was the **solution**?
  - Optional additions:
    - Palm of hand – What was the **main idea** of the story?
    - Back of hand – What **connections** can you make between this story and something in your life?

# Inquiry Skills Checklist

- |                          |                      |   |
|--------------------------|----------------------|---|
| <input type="checkbox"/> | <b>Observing</b>     | Looking/watching things with a purpose            |
| <input type="checkbox"/> | <b>Questioning</b>   | Formulating questions based on observations       |
| <input type="checkbox"/> | <b>Sequencing</b>    | Putting something in a certain order              |
| <input type="checkbox"/> | <b>Patterning</b>    | Forming and following a set pattern               |
| <input type="checkbox"/> | <b>Counting</b>      | Understanding quantity, one-to-one correspondence |
| <input type="checkbox"/> | <b>Measuring</b>     | Using standard and nonstandard units              |
| <input type="checkbox"/> | <b>Comparing</b>     | Noting differences and similarities of things     |
| <input type="checkbox"/> | <b>Classifying</b>   | Putting things into definite categories           |
| <input type="checkbox"/> | <b>Defining</b>      | Developing and enhancing vocabulary               |
| <input type="checkbox"/> | <b>Communicating</b> | Describing and sharing information with others    |
| <input type="checkbox"/> | <b>Hypothesizing</b> | Making an informed guess                          |
| <input type="checkbox"/> | <b>Predicting</b>    | Thinking ahead about what might happen            |
| <input type="checkbox"/> | <b>Inferring</b>     | Using reasoning to draw conclusions               |
| <input type="checkbox"/> | <b>Recording</b>     | Writing or drawing gathered information           |
| <input type="checkbox"/> | <b>Reporting</b>     | Using information and communicating it to others  |

# Storybooks & Inquiry

| <b>1. Questions</b>                                  | <b>2. Evidence</b>  | <b>3. Explanations</b>                        | <b>4. Connect</b>                                     | <b>5. Communicate</b>                                 |
|--|---|---|---|---|
| Learner engages in scientifically oriented questions | Learner gives priority to evidence in responding to questions | Learner formulates explanations from evidence | Learner connects explanations to scientific knowledge | Learner communicates and justifies their explanations |

Figure 3. Essential Features of Classroom Inquiry (Taken from the National Research Council's *Inquiry and the National Science Education Standards*).

| <b>1. Questions</b>  | <b>2. Evidence</b>  | <b>3. Explanations</b>  | <b>4. Connect</b>   | <b>5. Communicate</b>  |
|--|---|---|---|--|
| The GLOBE Kids ask, "Where did the hummingbirds go?" after observing the birds' disappearance in their garden. | Simon makes a chart to record their observations of the soil from the three different holes that Scoop had dug. | The GLOBE Kids look at their wall charts of observations and explain that the hummingbirds could stay there only when they had enough food and shelter. | Scientist Hannah helps the GLOBE Kids connect their observations to the snowmelt feeding the creek. | The GLOBE Kids each justify why their part of the Earth system is most important, and then how each is connected in the Earth system, during the classroom play. |

Figure 4. Examples of the Five Essential Features of Inquiry from the *Elementary GLOBE* storybook narratives.

# Activities

 Name Juliana

 Date 11-4-05

 Weather sunny, chilly, and breezy

 Clothing long sleeve shirt, pants, and a hat

 **Big Picture View**  
Write or draw your observations here.

Trees were everywhere.  
Some trees had only a few leaves.  
I saw tall grass growing by the trees.  
A lot of trees were very tall.



Figure 2. Example of a completed Student Activity Sheet of student observations.

# What did you see this morning?

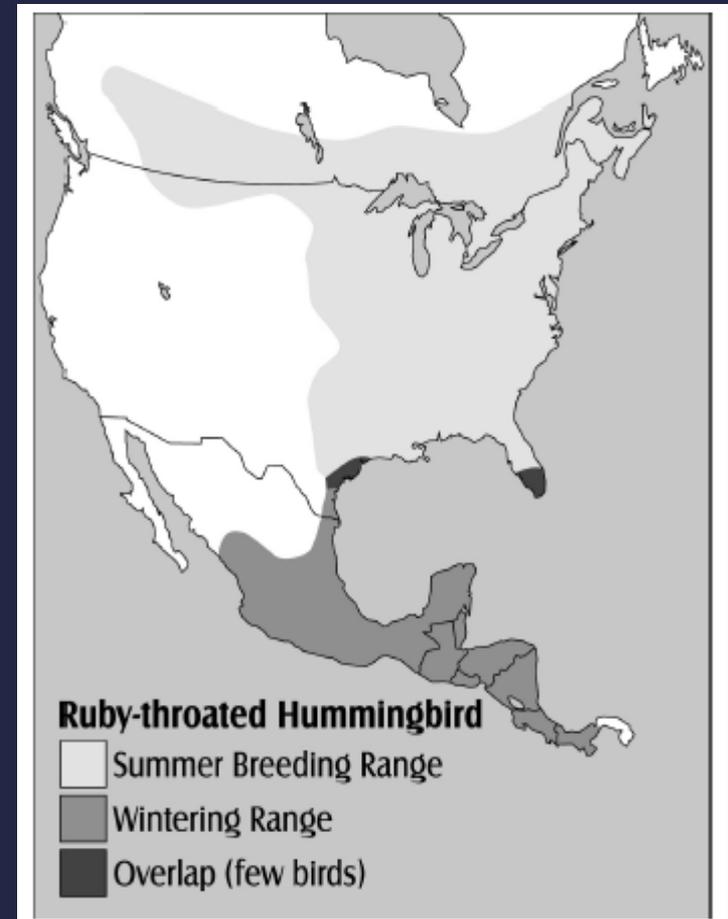


Circle the part of the Earth system it belongs to.  
Draw arrows to describe how it connects to other parts.



# Learning Activities - Seasons

- All Year Long
- The Colors of the Seasons
- Honing in on Humming Birds



# Learning Activities- Soils

- Getting to Know Soil (Soil exercise)
- Soil Treasure Hunt (Soil exercise)
- We All Need Soil (Activity Cards)



GROUP 3 + GROUP 2 + GROUP 1 + SOIL = FOOD/HOME

Human + Plant + Corn Kernels + Soil = Corn Crop (Food)

*"A human takes corn kernels and plants them in soil to grow corn for food."*

Human + Mix + Water + Soil (Clay) = Bricks for House (Home)

*"A human mixes water and clay (soil) to make bricks to use when building a home."*

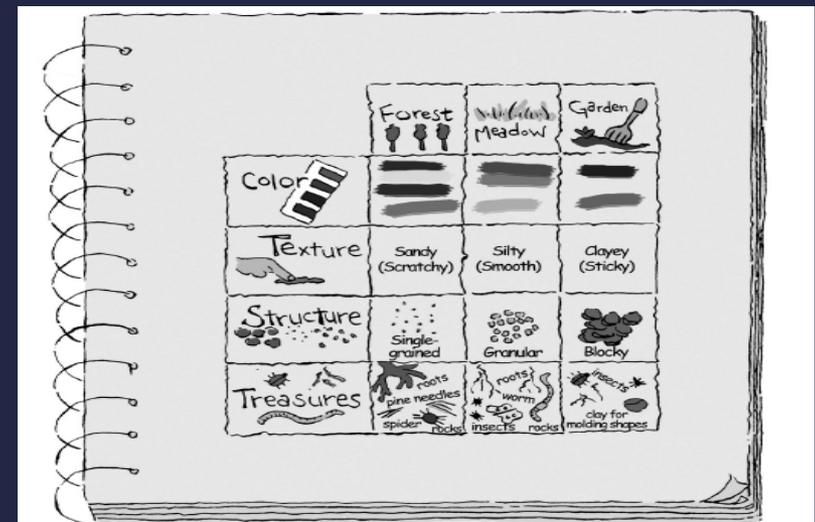
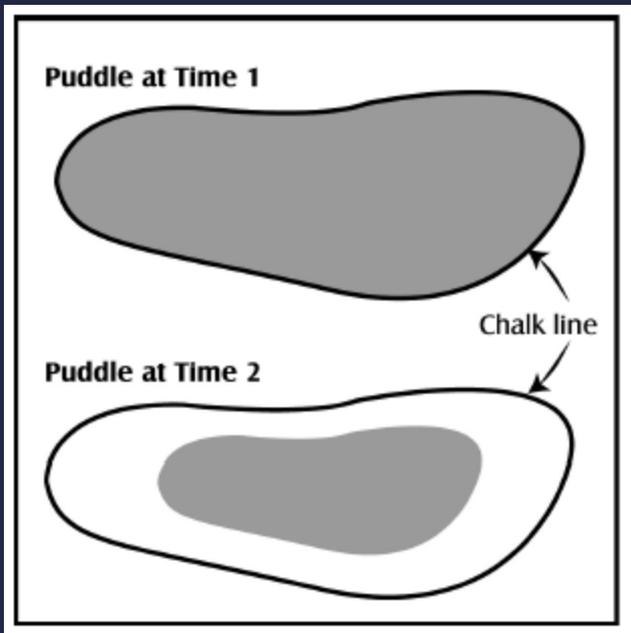


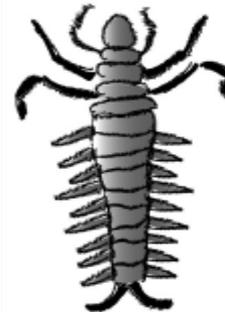
Figure 1. Example of a science journal page from *The Scoop on Soils*.

# Learning Activities - Water

- Measure Up
- Magnify That
- Water Wonders



## **Caddisfly Larva**



Up to 4 cm long

Has a soft body

One or two claws or hooks near the abdomen

Six segmented legs on middle of the body

Often hiding inside a little house of twigs or sand

Eats plants and small insects

**I found a** \_\_\_\_\_

Here's a picture of it!

This is what it is like:

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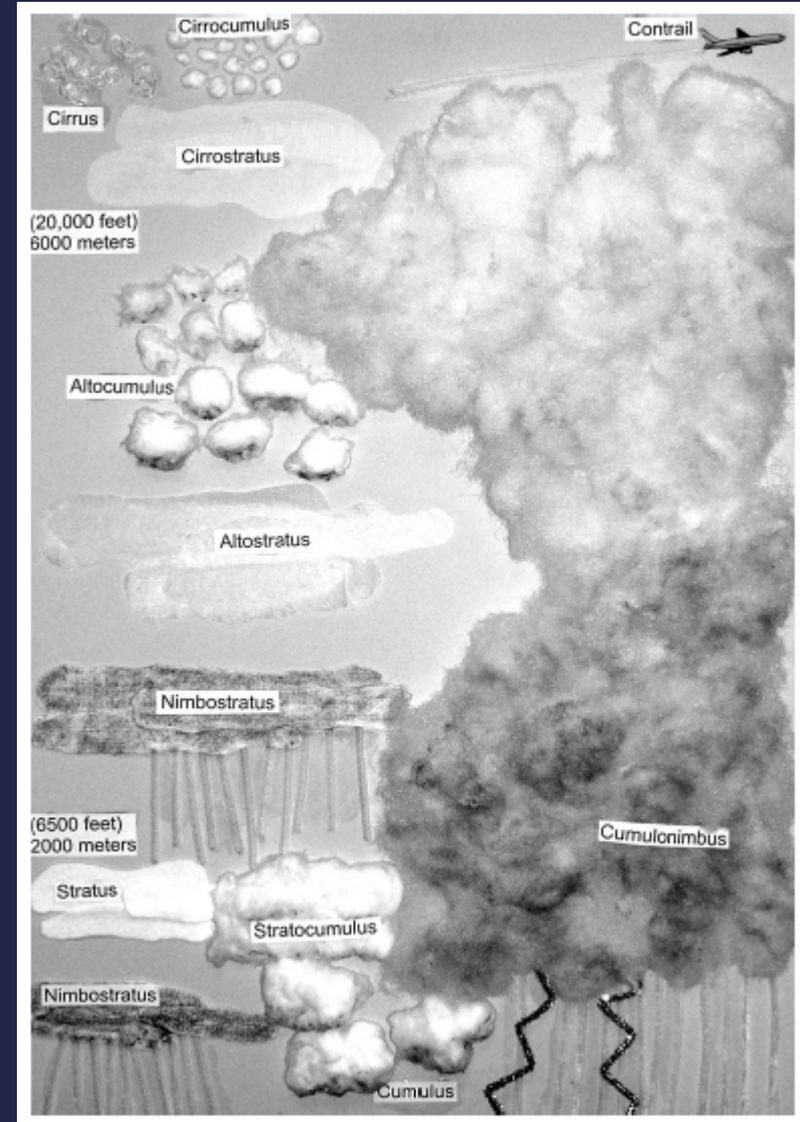
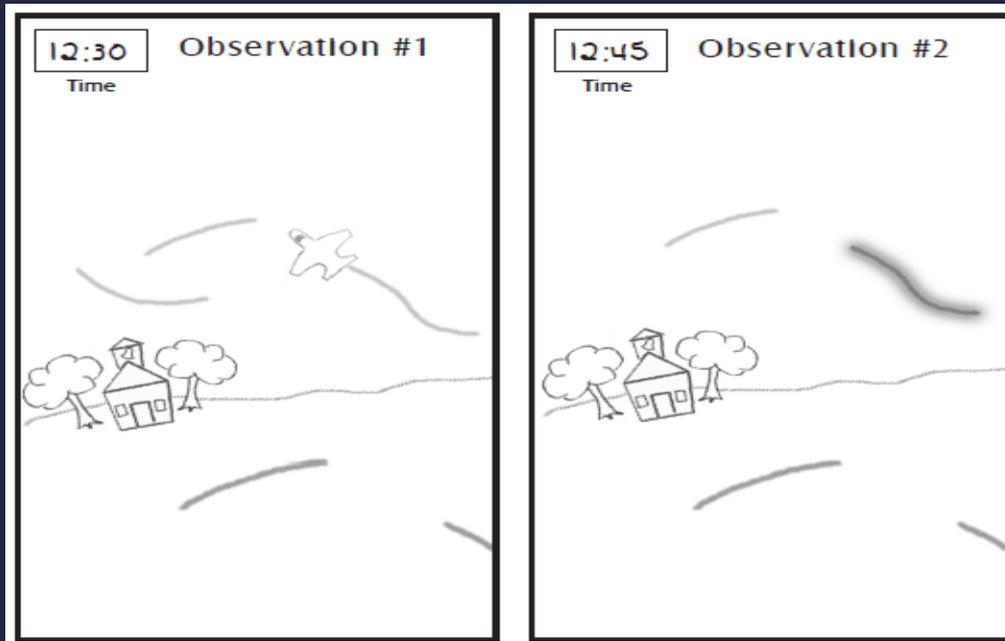
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# Learning Activities - Clouds

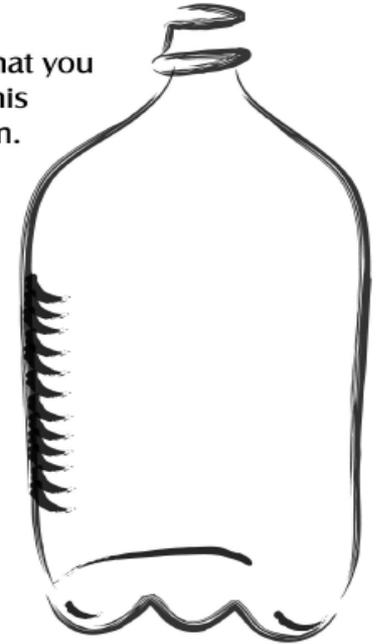
- Cloud Fun
- Cloud Scape
- To Spread or Not to Spread



# Learning Activities – Earth as a System

- Earth System in a Bottle
- We're All Connected
- Earth System Play

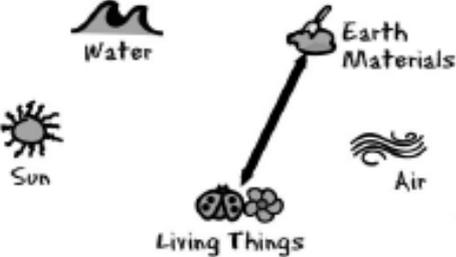
Draw what you see in this terrarium.



Today I saw a plant growing in the soil



Circle the part of the Earth system it belongs to.  
Draw arrows to describe how it connects to other parts.

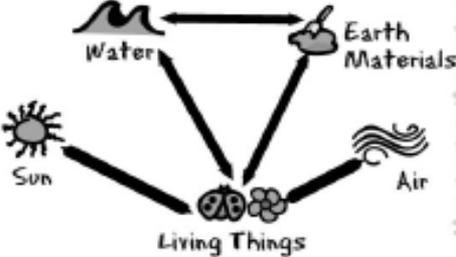


**A**

Today I saw a plant growing in the soil



Circle the part of the Earth system it belongs to.  
Draw arrows to describe how it connects to other parts.



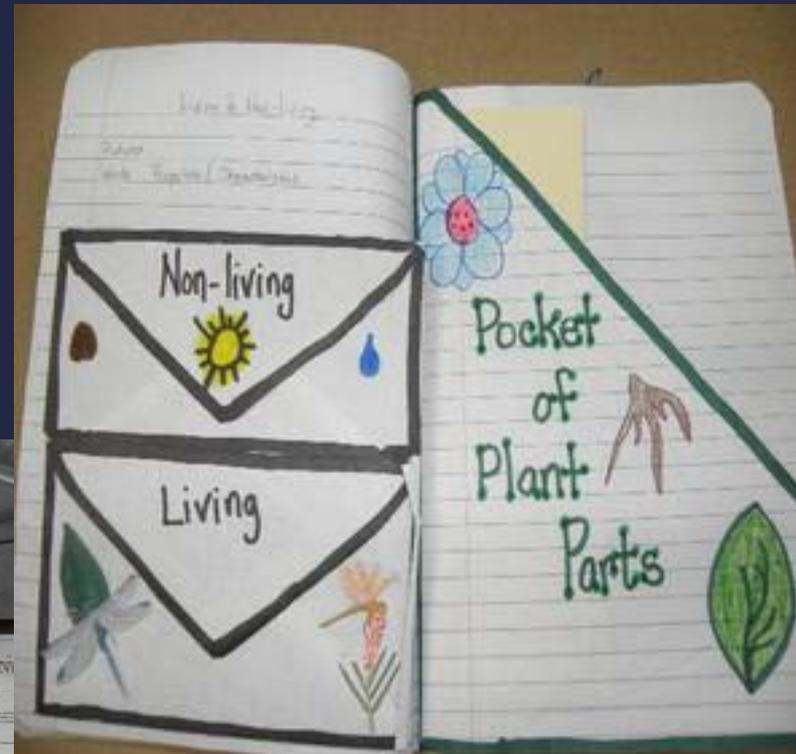
**B**



Watch the song:

<http://vimeo.com/1239460>

# Journal Examples



# More Journal Examples

