Jenna Noel Ward
Physical Science
Grade 2
Observing Earthworms/Habitats

Objective/Purpose:
The purpose of this lesson is to engage students in hands-on experiments involving earthworms. The students through this lesson will gain a better understanding of earthworms' habitats that their basic needs to survive. The lesson will serve to close up the unit on habitats. The earthworm activities in this lesson will pull in all the vocabulary talked about during the habitat unit. This lesson is great to foster a greater understanding of animal habitats.

QCC:
*Topic: Science Inquiry, Process Skills, and Problem solving
*Topic: Ecology: Interdependence of Life
  Standard: Identifies and describes habitats of plants and animals and their characteristics
*Topic: Ecology: Interdependence of Life
  Standard: Matches various animals and plants to their habitat based on Needs.

Materials/Time Required: (50 min)
- Earthworms (enough for each student in the class)
- Paper plates
- 4-5 aluminum pans with sides
- Paper towels
- Water
- Black construction paper
- Paper
- Pencils/makers

Background Information:
Before beginning this lesson the students should have a clear understanding of what a habitat is. The students should be familiar with the different habitats that make up the earth in which we live (i.e. Lakes, ponds, ocean, desert, tundra, forest etc.). The student should have already talked about animal needs and how different environments are better for certain animals to live than other environments. This idea came from an activity that we did in my science education class. I modified the activity to be suitable for second grade students.
Preparation:
The teacher needs to make sure that she has purchased the worms and has enough worms for each of the students in the class. The teacher also needs to prepare a terrarium for the earthworms to live after the activities. The teacher will need to make sure that she has prepared small groups in which the students will work prior to beginning the lesson. This may take knowledge about ability and personalities when arranging working groups. Before starting the lesson the teacher will have to make it clear the proper way to work with worms. The teacher will need to make sure that the students know how to handle them properly during all the experiments. The teacher will also need to make sure the students understand that this activity is a privilege and misbehaving will result in removal from the experiment.

Safety Issues:
The only safety issue with this lesson is to make sure all students wash their hand promptly after working with the earthworms. The also need to be reminded that nothing in science experiments should ever go into their mouth.

Activity Outline/Procedure:
The teacher will begin the lesson by reviewing the definition of a habitat. The teacher will then ask the student what habitat/environment would an earthworm live. After the students are clear with earthworm habitats she will break the students into small groups (4-5 students to a group). Each student will receive a paper plate, an earthworm, paper and pencils. The teacher will ask the students to observe their worms and draw what they see. The teacher will need to encourage the students to make detailed drawling of what they see. After the students have finished this task the teacher will ask the students what an earthworms needs are. She will then give each group of students a pan, paper towels, black construction paper, and a small cup of water. The teacher will ask the students to place a dry paper towel on one side of the pan and a wet paper towel on the other side of the pan. Orally the teacher will ask the students which side of the pan the earthworms will prefer. After a majority of the students have explained their hypothesis orally you will ask the students to perform the experiments. The teacher will tell the students to place the earthworms in the middle between the wet and dry paper towels and wait 2 minutes. After 2 minutes the majority of the earthworms should have gone to the side with the wet paper towels. The teacher will then ask the students to orally explain what happened and their reasoning. They will then on the back on their earthworm drawings write their conclusion to the experiment. The students will then take out the paper towels from the pan. The teacher will then instruct the students to take their piece of black construction paper and cover one side of the pan. Again, orally have the students’ predict/make a hypothesis on what they think will happen. After that let the students perform the experiments by again placing the earthworms in the middle of the pan and see what side they are drawn to after the 2 minutes. After
the 2 minutes the majority of the earthworms should be in the dark side of the pan. Have the students then write down their findings on the back of their earthworm drawings. After both the experiments are finished have the students clean up their area and place their earthworms into the pre-made terrarium. Have the students return to their seat and make connections with the students to the experiments completed and earthworm habitats. After the students have made connections you can read a non-fiction book to the class about earthworms to give the students more knowledge on earthworms and their purpose on earth.

**Possible Questions:**
What kinds of habitats might earthworms live?
Why do earthworms like dark spaces?
Why do earthworms like wet spaces?
How do earthworms move?
What do earthworms eat?
What are earthworms' needs?
What is the function of earthworms on earth?

**Assessment/Evaluation:**
The teacher should evaluate the students based on participation in the experiments and the discussion. The teacher can also look at their drawings and conclusions to see if the students grasp the concepts. If time allowed the teacher could give the students a worksheet asking questions about the experiments and also how it related to habitats for further evaluation of this concept.