**5E Template- Science**

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| **Content Area:** | **Grade Level(s): K - 6** | **Topic(s): BFT @ RCES** |

**Standards (SOL)**

**Science 6.1a** measurementsare made involving fine discrimination between similar objects and organisms

**6.1b –** preciseand approximate measurements are recorded;

**6.1e** – a method is devised to test the validity of predictions and inferences;

**6.1g –** data are collected, recorded, analyzed, and reported using metric measurements and tools

**6.7a** – the health of ecosystems and the abiotic factors of a watershed

**Objectives (UKD’s) The students will explore the area around the school – their local environment. They will make a transect, write a description of the area, count living organisms, predict how this area looked 100 years ago and what it may look like 100 years from now. They will examine the structure of the building. They will predict how our schoolyard can affect the ecosystem in our area. They will discuss how our school practices may affect our local watershed.**

**Materials & Resources**

BFT @ RCES resource paper

String

Meter stick

Thermometer

Clipboards

**Safety Considerations**

Students will be aware of insects that may harm them. They will need to watch where they step.

**Engage – Time Estimate 3 minutes**

What do you think BFT @ RCES means. Come write your idea on the board.

**Explore – Time Estimate 30 minutes**

We are going to go on a field trip right in our own backyard. There really is a lot to see, if only we will look. We’ll be looking at the parking lot, the school building and we will find out what a transect is. We will be doing this field trip three times during the year. As soon as we have finished we will make a hypotheses on how the questions may be answered differently at different time of the year. Or maybe we don’t think there will be any differences at all. At the end of the year, we will check out and see if our hypotheses are correct.

Questions to be investigated

Site #1 – Parking lot

1. How has this area changed over the past 100 years?
2. How are the parking lot, bus lane, and sidewalk alike?
3. How are the parking lot, bus lane, and sidewalk different?

1. What animals can you find living in the parking lot?
2. What makes the parking lot a suitable habitat for these animals?
3. What organisms might come to this area at night?
4. How could you test this?

Site #2 – Eaves and overhangs of the school building

1. Make a chart listing the materials, description, and what fraction or percent those materials make up of the building.
2. Place your hand against the wall of the building. Does the wall feel warm or cold?
3. Does the wall feel warmer or colder than the air around you?
4. Describe the texture of the building.
5. What animals can you see close to the building?

**These questions are based on activities developed by Dr. Tim Thomas and from Middle School Science with Vernier.**

Site #3 – Transect spot – students will divide into groups of four take their meter stick or 10 meters of string and find a spot that doesn’t overlap with any other transect. They should try and find an area with different kinds of conditions (sun/shade, asphalt/grass/dirt, etc)

1. Write a description of your transect area.
2. Move through your transect area 2 meters at a time and record observations of any living things you see at each 2 meter mark.
3. Take the temperature on the ground and in the air somewhere in your transect.

Questions to think about

1. How do our habitats at RCES affect any nearby body of water?
2. How close is the nearest body of water?
3. Describe a scenario where something we did here at RCES can affect our local watershed.

**Explain -- Time Estimate 2 minutes**

Science is close by. Observation is key to scientific reporting. Be accurate and don’t exaggerate.

**Extend -- Time Estimate 20 minutes**

For extra credit, students can conduct this same site survey at their house and report to the class.

**Evaluate -- Time Estimate 5 minutes**

When the questions on the site survey are answered, the objectives will be met.

**Plans for Diversity**

*Student(s): Category/Characteristics: Accommodations:*

Special needs students will work with another student so they can do the observing or counting, and not the writing.

**Connections**

At CTA, we had two different lessons on what is around us and how important that is. This lesson reflects that “what’s in my backyard” theme. Students need to be aware of what’s around them, to take note, and observe changes over time. This lesson can be conducted several times throughout the year and after the last time, reports can be compared from the various times that it was conducted. After the first time the adventure happens, they can make a hypothesis about how their observations will change and then check their hypothesis at the end of the year.