

MYSTERY PELLETT

OBJECTIVE 1:

Students will begin to understand that science is a way of answering questions.

ASSESSMENT:

Questioning throughout activity; end review

OBJECTIVE 2:

Students will be able to identify one previously unknown bone (ex: "scapula" = shoulder blade).

ASSESSMENT:

During bone identification and classification; end review.

OBJECTIVE 3:

Students will be aware of what owl pellets are and how they are made.

ASSESSMENT:

Conclusion; end review.

Academic Standards:

NGSS LS1.A (Strand 2 and 5) All living things are composed of structures (internal and external) that serve functions

Lesson Materials:

- Forceps
- Teasing Needle
- Owl pellet
- Piece of large blue paper to work on
- Classification/Identification sheet
- Science Journals (optional)

Preparation:

- Prepare equipment table with dissection materials

Procedure and Planning:

Introduction:

1. Science is a way of providing possible answers to questions;
 - a. (Optional) Story: Students are called up and asked to either act out or make sound effects for a story where someone finds owl pellets.
 - b. "We found these crazy things that we can't figure out what they are. We'd like your help here."
2. Safety – "Should we eat these? Should I stick these tools in my eyes? Potential dangers and consequences are laid out"
3. Assign equipment managers to pass out equipment and collect equipment for the class period (Owl pellets, forceps, needles, paper, tweezers, glue)

Body of Lesson:

4. Pass out paper and pellets. “DO NOT open them!” Provide the instructions: Open without touching the owl pellets. “In your field journal, write down what QUESTIONS you can make about this “thing”.”
5. Allow students to think, pair, and share; during the “share” portion have write responses on the board
6. Ask “What sort of information can we figure out without touching this thing or measuring it?” Allow students to write down as many observations that they can make.
7. Think-Pair-Share, generating a list on the board.
8. Lead a discussion about what all of these things have in common. They all *should* rely on students’ five senses. Scientists collect this kind of data, called qualitative data (because it reflects on the qualities of an object) as well as *quantitative data*. Ask students what they think that type of data is, focusing on the “quanti” part of the word. They should end up with “quantity,” although some students may make the jump to “numerical” (be sure to ask how they came to that conclusion).
9. Have students suggest possible answers as to what these are (hypotheses) based on observations.
10. Begin dissecting owl pellets. Allow students time to discover a number of bones before stopping the class. Once students have found bones, stop the class entirely. Everyone should halt dissecting their owl pellets until told to restart. Students may then share what kinds of things they have found, what new observations they have, and reformulated guesses as to what this is and where it came from.
11. Pass out identification keys for bones and animals. Go over the various anatomical terms, having students say the names, place their hands on the bones being discussed, and writing down the more common names for the bones (for instance, instead of “vertebrae” writing “back bone”).
12. Students may then continue dissecting and are required to organize their bones using the classification sheet. During this time, the instructor should move about the room asking students what they are finding and having students identify bones by name.
13. Before the end of the task portion, have students fill out a table that lists the types of bones in identified as rows and with the types of animals as columns. They can place tallies into each.

Conclusion:

14. Have the class identify trends in the data. Ask: “What do these pellets seem to contain the most of? What do you think this means?”
15. Use a food web for the hypothetical area. Ask: “Based on the food web and the statistics we collected for animals, what do we think this creature was?” Students should answer this question in small groups before sharing in an open discussion. They should allow themselves to remain skeptical until enough people in the class agree on the idea and are able to explain why.
16. Have students fill out the Learn, Like, Dislike assessment and ask a few for their responses out loud.
17. If time remains, students can glue down their skeletons for their creatures or as monster creations.

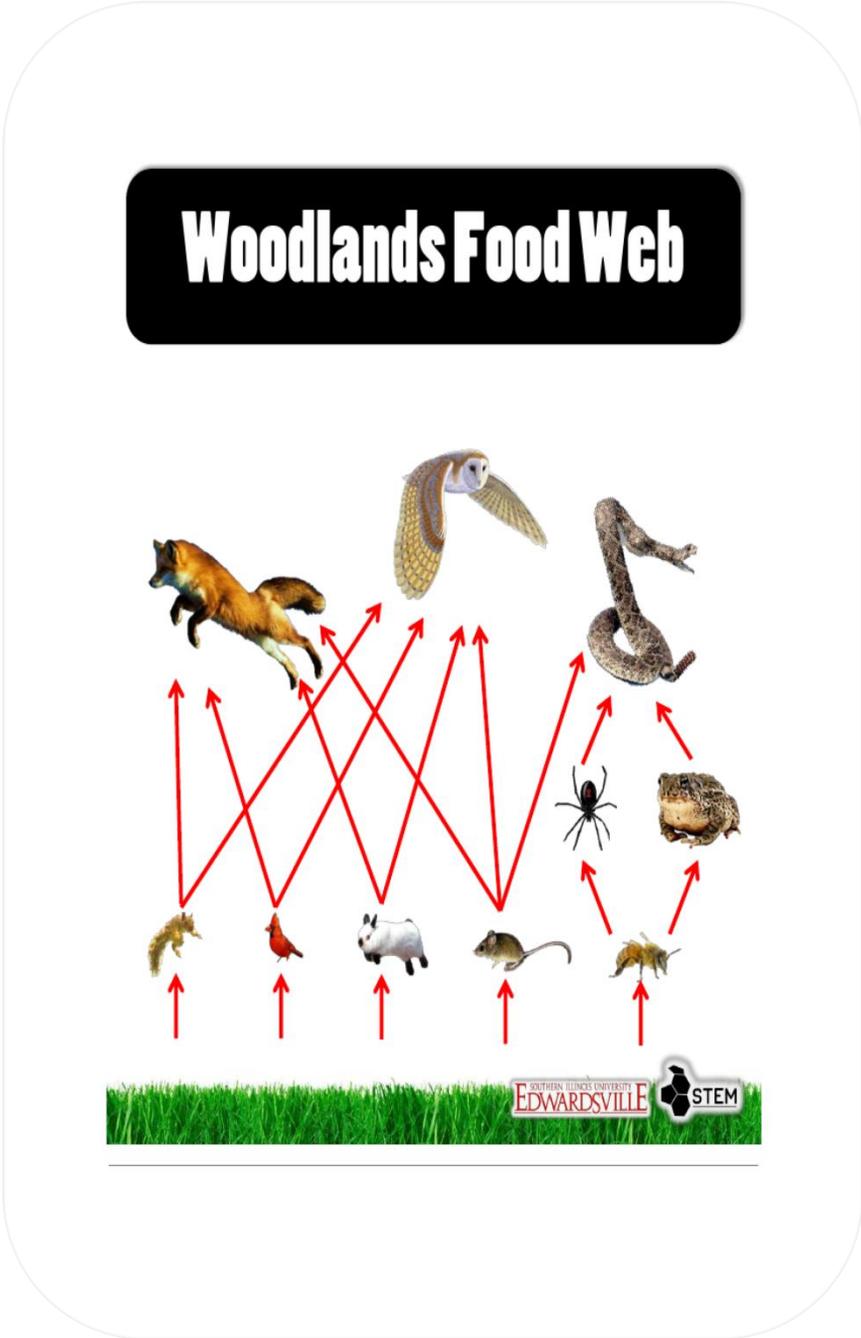
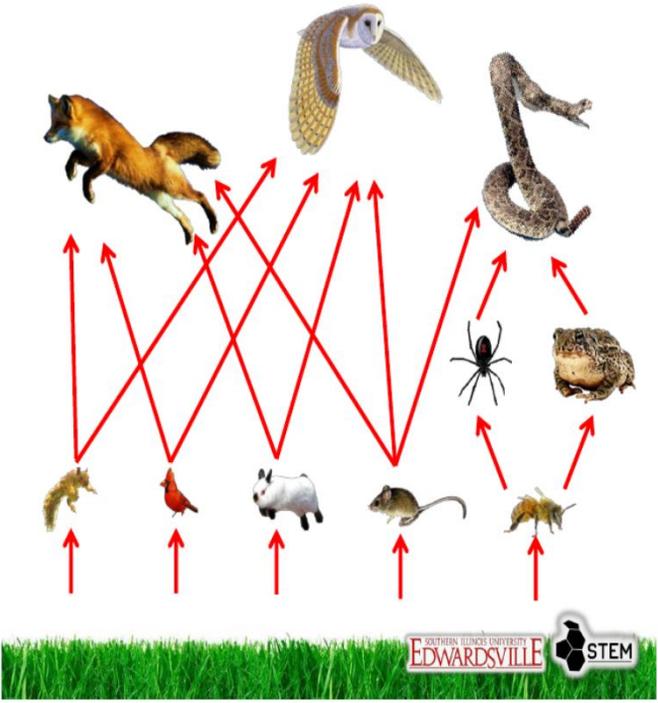
2.7.13

BEGINNING OBSERVATIONS... WHAT DO YOU SEE?

PLEASE WRITE OR DRAW ABOUT WHAT YOU SEE.

BASED ON THE FOOD WEB, WHAT CREATURE DID THE PELLETT COME FROM?

Woodlands Food Web





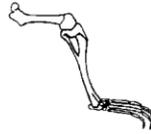
WHAT DO THE PELLETS SEEM TO CONTAIN THE MOST OF?

WHAT IS ONE QUESTION YOU HAVE ABOUT THE PELLETS?

WHAT CAN WE FIGURE OUT ABOUT THE PELLETS WITHOUT TOUCHING IT?

WHAT IS YOUR "HYPOTHESIS" ABOUT THE PELLETS?

Draw what you see and what you find...

Bone Chart				
	RODENT	SHREW	MOLE	BIRD
SKULL				
JAW				
SCAPULA				
FORE LIMB				
HIND LIMB				
PELVIC BONE				
RIB				
VERTEBRAE				