Owl Pellet Dissection Lab Report

Name: _____

Pellet Length: _____

Pellet Width: ___

How many of the following bones did you find?

Humerus: _____

Femur: _____

Lower Jaw: _____

Skull: _____

Vertebrae: _____

Shoulder Blade: _____

Ulna/Radius: _____

Ribs: _____

Pelvic Bones: _____

Tibia/Fibia: _____

Draw a food web for this owl, based on the bones you discovered in its pellet.

- Add other organisms to the food web based on research to determine what the owl's prey typically eats.
- Continue backwards to include producers and the sun.
- Be sure that arrows showing energy flow between organisms point from the lower level (eaten) towards the upper level (eater)
- Include at least one garden plant or animal in this food web.

How many animals did this owl recently eat?
Why do you think so? What is your evidence?

_____

What prey species did this owl eat?
Why do you think so?

_____

Where do you think this owl was hunting?
Why do you think so?

_____

What species of owl made this pellet?
Why do you think so?

_____

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Name: _____

Ecological Pyramid

- Draw an ecological pyramid with the owl as third order consumer and its prey (discovered during pellet dissection) as a second order consumer. Add the other levels of organisms from the food web you drew. Be sure to include plants from the school garden in your pyramid.
- Assuming the solar energy reaching the garden is 72,000,000 kcal/m^2/year, calculate the amount of energy available at each trophic level if only 10% of energy flows from one level up to the next. (Shortcut: remove the last zero from a number to get an amount that is 10%).
- Remember to include producers from the garden in your ecological pyramid!

Ecosystem Role Cards for "It's Lonely at the Top" Game

- Print out the Ecosystem Role Cards and Organism Cards and cut apart / make additional copies if necessary
- Arrange chairs in a line and tape Ecosystem Role Cards to seat backs
- Let students draw Organism cards
- Start the music (or hum) and have everyone walk around the chairs in the same direction. When they music stops, students sit on a chair with the correct Role card for their Organism
- Have students tell which Organism they are, and let the class decide it they are in the right Role. Students who challenge another student's choice of role should argue from evidence to convince the class of a different role.
- Collect Organism cards, shuffle, pass them out again, and play next round with one less chair

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1ST LEVEL CONSUMER

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TERTIARY CONSUMER

TERTIARY CONSUMER

DECOMPOSER

DECOMPOSER

DECOMPOSER

DECOMPOSER

SCAVENGER

ECOSYSTEM ORGANISM CARDS FOR "It's Lonely at the Top" Game

BLACKBERRY BUSH	**SNAKE**
ROBIN	**HUMAN**
TRUMPET VINE	**STRAWBERRY PLANT**
FROG	**SALAMANDER**
FISH	**KELP**
SHARK	**WHALE**
ALLIGATOR	**SEAGULL**
RABBIT	**FOX**
BEAVER	**PENGUIN**
COW	**ELK**
CORN	**BUTTERFLY**

GRASS	**MOSS**
OAK TREE	**MILKWEED**
KUDZU	**DOGWOOD TREE**
PUMPKIN PLANT	**LIVERWORT**
BROCCOLI PLANT	**CARROT PLANT**
JOE PYE WEED	**WHEAT**
HONEYSUCKLE VINE	**BEE**
DEER	**OWL**
SPIDER	**FIELD MOUSE**
SQUIRREL	**CHIPMUNK**
FERN	**CRABAPPLE TREE**
WORM	**PILL BUG**
BACTERIA	**VULTURE**
FUNGUS	**MUSHROOM**

Level of Mastery Benchmark or Performance Measure	Emerging  Not yet proficient 1 point	Competent  Partially proficient 4 points	Proficient  Mastered task 5 points	Total Points
Ecosystem role-playing simulation	n/a	n/a	Participated	
Owl pellet dissection	Dissected owl pellet	Dissected owl pellet, determined prey from bones, attempted food chain reconstruction with some flaws or lack of labels and arrows.	Dissected owl pellet, determined owl prey, researched prey animal's diet, reconstructed owl food web to producer level, sketched and labeled food chain on lab report with arrows pointing from producer level to consumer level, etc.	
Owl energy (ecological) pyramid	Pyramid drawn correctly but calculations unsuccessful.	Pyramid drawn correctly but energy calculated incorrectly at some levels or direction of energy flow incorrect.	Calculate the energy loss at every level of the pyramid, from sun to tertiary consumer and label these levels on a correctly drawn ecological pyramid, with arrows pointing from producer level upwards.	
Soil food web investigation	Sifted soil, did not identify creatures or discover their place in food web	Sifted soil and investigate creatures living in the garden; observed characteristics; did not predict whether predator or prey or find an organism's place in soil food web.	Sifted soil and investigate creatures living in the garden; observe characteristics; guess whether predator or prey; find their place in soil food web.	
Environmental Stewardship	Engaged in activity but unable to articulate how it helps the earth	Removed invasive, non-native worms or plants from the garden OR released beneficial insects such as labybugs or lacewings; explained benefit of work without referencing ecosystem	Removed invasive, non-native worms or plants from the garden OR released beneficial insects such as labybugs or lacewings; articulated how this helps the Earth by restoring ecosystem balance	