

LESSON PLAN – Thursday 9/29

LS.4 – Students will investigate and understand that the basic needs of organisms must be met in order to carry out life processes.

1. Stimulate Student Interest / Access Prior Knowledge (15-20 minutes)

Display various 8x10 photos of organisms meeting basic needs / competing for resources.

I am going to show you all a variety of photos and I want you all to try and see if you can guess the theme of what we will be talking about today. If you know the answer, you can write it down but DON'T say it out loud!!!!

I want you all to create an Idea Web while we do this and I'm going to take it up at the end of class. For each picture, make an idea bubble and you can put any information in it that you want. Anything that you think will help you figure out what the photos have in common. There will be 8 bubbles total.

Water (Elephants) – *What do you all see in this photograph?*

Do you notice anything about the elephant on the left? And the baby in the middle?

Food (Snake/Frog) – *What do you think the snake in this photograph is doing?*

Are you curious about anything else in the photo?

Energy (Hummingbird/Flower) – *What is the hummingbird in this photograph doing?*

(flying at rapid speed, getting food/drink)

Why is it doing what its doing? (to get energy)

Where does the plant in this photograph get its energy?

So doe the plant get its energy directly or indirectly?

Does the hummingbird get its energy directly or indirectly?

Space (Beaver) – *What is the beaver in this photograph doing? (cutting down tree)*

How many of you have seen a beaver or where a beaver lives?

Why is the beaver doing this? (to flood area of land, creating habitat)

So would you say the beaver needs a little or a lot of space to live?

What problems come from a beaver doing this? (flood human areas)

Temperature (Penguins) – *Have any of you seen the movie 'March of the Penguins'?*

So do any of you know what the penguins are doing?

Why are they doing this?

Do you think they could survive if they didn't do this? Why?

Gas Exchange (Fish) – *Does anyone know how a fish breathes?*

What do we breathe with? What do fish breathe with?

Competition (Bear) – *What do you all see in this photograph?
What are the bear waiting for?
So they are all going for the same thing, right?
What is this called?*

Competition (Zebras) – *What are the zebras doing?
Why do you think they are doing what they are doing?*

Transition: *Today and tomorrow we will be talking about what you see happening in these photos: Can anyone guess what all of these photos have in common? Think about what we've talked about: food, water, space, gas exchange, temperature, and energy. These are the basic needs of all living things. You will be given a quiz at the end of tomorrow's class on the material we are learning, so pay attention!*

2. Further Access Prior Knowledge / Inquiry-based Learning (25-30 minutes)

I can continually refer back to the photographs while discussing basic needs.

Now turn to a new sheet in your notebook. I want you to make a "Cluster" for you to take notes in. You need 7 boxes centered around a main topic box. All of your notes for each need will go into the same box. I'll put it on the board for you to follow.

NOTES: (students should use textbook to follow along)

- 6 basic needs of all living things
 - First of all, important to highlight that all organisms have a specific range for meeting needs
 - Energy
 - Directly or indirectly from sun
 - *What organisms get their energy directly from the sun? Indirectly?*
 - Food
 - *What do you need food for?* (to grow, fuel body processes)
 - Keeps life processes going within cells
 - Can eat plants, animals, both, or absorb nutrients
 - Water
 - *How much water do you think is in your body?* (about 70%)
 - Needed to dissolve and transport substances in an organism
 - Temperature
 - *What animal is adapted to live in extreme cold?*
 - *What animal is adapted to live in extreme heat?*
 - Most organisms need to live within certain temp ranges
 - Gas exchange
 - Oxygen (from air or dissolved), carbon dioxide (used by plants to make sugars)
 - Living space

- *Do you think animals can also feel crowded? Animals often react similar to humans (fight, move, etc.) What about plants?*
- Competition = struggle among living things to get proper amount of food, water, and energy in a living space
 - *How do you compete with others to meet your needs?*
 - *Can you give an example of competition in nature?*
 - *Do humans and animals compete for the same resources?*
- *Can we live anywhere? (we are restricted to land and generally do not inhabit certain environments)*

Anything not covered on Thursday could carry over to Friday? I can make notes briefer if it appears we are running out of time.

LESSON PLAN – Friday 9/30

***observation 9:30-10:20*

1. Quick Review of Material Learned Thus Far (5-10 minutes)

Possible Questions: (1) Name 2 needs of all living things.

(2) Do humans get their energy directly or indirectly from the sun? How about a pine tree?

(3) Give an example of competition found in nature.

(4) Give an example of animals and humans competing for the same resource.

2. Observe / Examine Classroom Chameleon Exhibit (20-30 minutes)

Students provided with chameleon care / activity sheet (see below)

Collaborative activity done in groups / as a class

3. Assessment (10 minutes) – see below

Name _____
Period _____

VEILED CHAMELEON CARE / ACTIVITY SHEET

You may want to go look at the Chameleon's exhibit to help you answer the following questions.

1. Most chameleon species are fairly solitary and intolerant of other individuals.

What type of need does this represent? _____

2. Chameleons are specialized tree-living lizards that catch insect prey and eat vegetation.

What could we easily feed the Chameleon?

3. Chameleons like to move around their territory but remain still and concealed for long periods of time and wait for their prey to come near. They require extensive exposure to air.

What elements are required to imitate the Chameleon's natural habitat?

4. A chameleon's natural habitat reaches hot temperatures during the day (80°F to 85°F), but the temperature drops at least 10°F at night. They also like to bask in the sun during the day, which is about 10°F higher than the surrounding temperature.

What do you need in order to meet the Chameleon's temperature requirements?

5. In the wild, chameleons lick dew and rain droplets off of leaves, or are attracted to moving water.

How can you provide drinkable water to Chameleons?

Sources:

http://www.martinsreptiles.co.uk/ukchams/calyptratus_caresheet.htm

<http://nationalzoo.si.edu/Animals/ReptilesAmphibians/Facts/FactSheets/Veiledchameleon.cfm>

Name _____

Period _____

Assessment: Needs of Living Things

MULTIPLE CHOICE:

_____ 1. Energy comes directly or indirectly from:

- A. people
- B. sun
- C. trees
- D. water

_____ 2. Two organisms struggling over the same food, water, or space is called:

- A. reproduction
- B. adaptation
- C. predation
- D. competition

TRUE/FALSE:

T F 3. All organisms have common needs they must meet in order to survive.

SHORT ANSWER:

4. List two needs of living things:

5. List one thing you learned either today or yesterday from your unit on the needs of living things.
