

My Journal Entry on Inherited and Acquired traits

Lesson 3: Discuss and sort the scenario task cards with a partner. Record your results in the chart below.

Traits that are inherited	Traits that are acquired and Influenced by environment

I chose _____ as an **inherited trait** because _____

I chose _____ as an **acquired trait** because _____

Adaption & Survival

-----'s Science Journal

http://rescu.rice.edu/scope/78/evaluate/interactive_review_game



<http://www.sciencekids.co.nz/gamesactivities/plantsanimals.html>



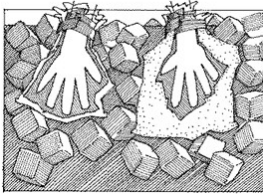
Lesson 1, Structure and Function Station 1

Materials:

- 3 quart size Ziploc baggies, duct tape to secure seam
- Vegetable shortening (about $\frac{1}{4}$ can per glove to provide enough coverage around students hands)
- Paper towel to dry hands
- Bowl/pan to hold ice water

Create Two Gloves:

1. **For the first glove**, place the vegetable shortening inside one of the zip bags
2. Turn the other zip bag inside out and match the zip sides of the bag to create a pouch to hold shortening.
3. Optional: Place duct tape around the zippers to provide extra reinforcement.
4. **For second glove**, use plain Ziploc baggie.



Task:

- Slide one hand in shortening glove
- Slide other hand in the plain glove.
- Place both gloved hands in the ice water for 45 seconds to 1 minute. Try to keep the top of the bag from going underwater.
- Take hands out of water, remove gloves and dry off with paper towel.



Pick an animal that **could** or **could NOT** live in the Arctic based on its traits (structure and function). Support your claim with evidence from the Labs:



Pick an animal that **could** or **could NOT** live in the Desert based on its traits (structure and function). Support your claim with evidence from the Labs:

Lesson 2: Did you know?

Most birds have hollow bones to make their bodies light enough to stay in the air. But penguins have heavy, solid bones that help them float in water.

Think about each structure listed below and fill in its missing function:

Structure	Function
Bird—hollow bones	Light enough to fly
Whale—blubber	
Cactus—spines	
Cactus—waxy skin	
External characteristics — color, pattern (camouflage)	
Animal—long legs, ears, or tails	
Giraffe—long neck	
Add your own:	

Describe how each bag felt in the cold water:

Our bodies can quickly become chilled when outside or in cold water. What are some things you can do to keep warm?

The vegetable shortening mimics an important trait needed for some animals to survive in cold environments. Discuss with a partner and answer:

The shortening represents _____.

I know because _____.

What might happen to animals living in cold climates if they did not have a protective layer to keep them warm?

Lesson 1, Structure and Function Station 2

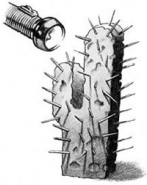
Materials:

Sponge piece, 20-25 toothpicks, flashlight

Part 1:

1. Take the dry sponge and insert toothpicks all around it
2. Stand it up.
3. Shine a flashlight from different angles on the toothpicks.

What does each structure represent?



structure	represents
sponge	cactus
toothpicks	
flashlight	

Describe what you notice:

How might spines help a plant?

Measure and record the temperature of the hot water: _____

What I think will happen after 5 minutes:

Glove

Temperature: _____

Mitten

Temperature: _____

After 5 minutes, I observed:

Glove

Temperature: _____

Mitten

Temperature: _____

Next time it is cold, will you wear mittens or gloves? Explain:

Lesson 1, Structure and Function Station 4

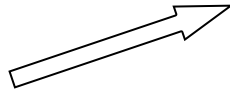
Materials: 2 plastic gloves, 2 thermometers, duct tape, beaker, 2 cups that will hold the gloves, ice, timer

*With adult supervision, collect hot water. Record temperature.

Make a Mitten:

1. Wrap tape around the five fingers of one glove to "close" them off. This will be called the "mitten."
2. Pour 200 mL of the water into the "mitten."
3. Place thermometer inside and tightly close the top of the "mitten" with tape.
4. Add a few ice cubes to a bowl or cup and rest the "mitten" on top.

In journal, record what you think will happen.



Make a Glove:

1. Pour 200 mL of the water into the second glove so that water runs into the finger compartments.
2. Place thermometer inside, and tightly close the top of the glove with tape so it won't leak.
3. Add a few ice cubes to a bowl or cup and rest the glove on top.
4. Set timer for 5 minutes. Observe and record temperature for the mitten and glove.

Materials: Crayon, water, pipette or straw

Part 2:

1. Thoroughly color the cactus with a crayon -leaving no white spaces.



1. Use a pipette or straw to add 3-5 tiny droplets of water onto the cactus.
2. Record Observations

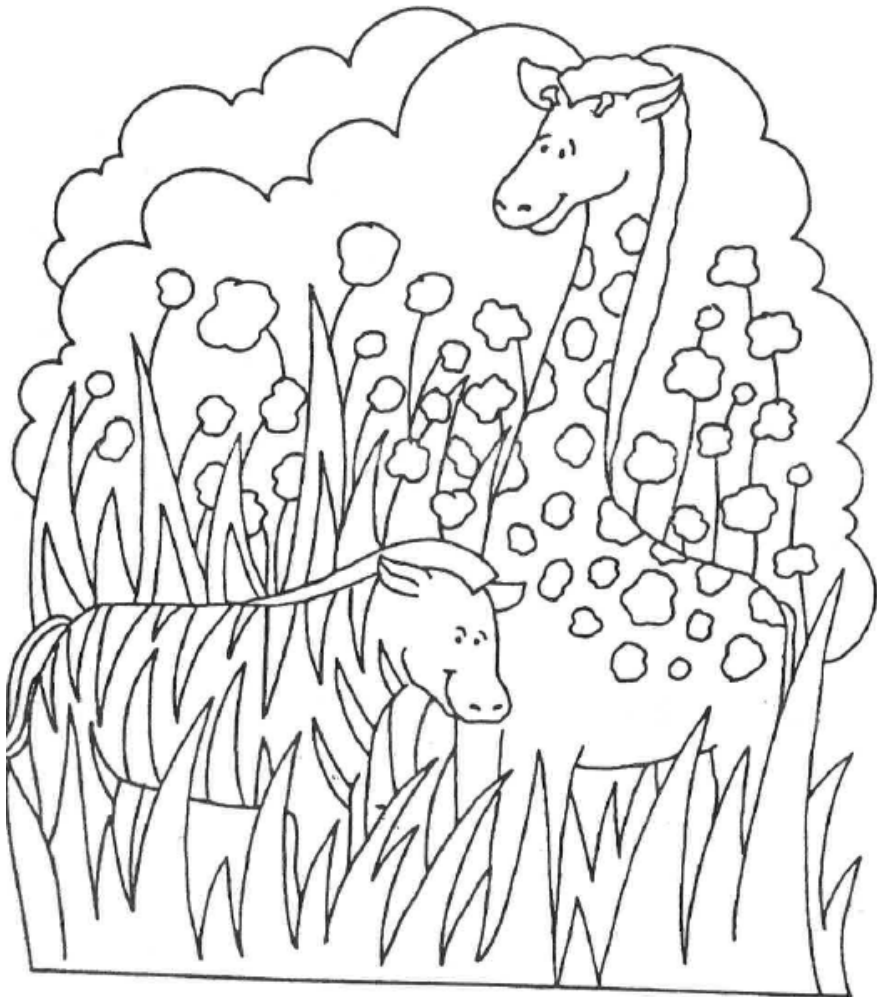
Describe the texture of the wax surface:

Explain the interaction between the water and the colored cactus:

****Challenge:** Wet two sponges and place onto a plastic plate. Cover one sponge with a sheet of wax paper. Observe for a couple of days. What do you notice? Compare their weight!

Lesson 1, Structure and Function Station 3

Color the image below using green, black, blue, orange and yellow.



Color the image below using black, grey and white (ONLY).

Many animals only see in black and white. Compare and contrast the two images. What do you notice...or NOT notice?

