KCS @ home

Summer Edition

# Eighth Grade Science

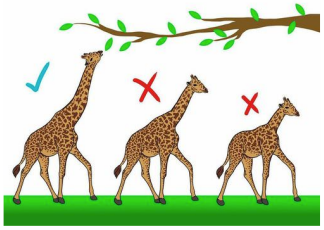
**Activity 1**

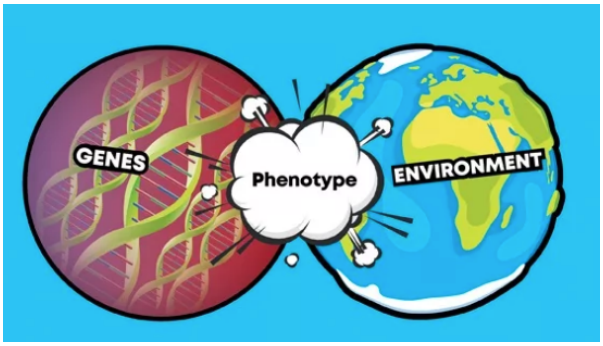
**knoxschools.org/kcsathome**

# 8th Grade Science: Activity 1
# How does a change in phenotypes in a population impact survival of the population?

Directions: This handout goes with a KCS Teacher Video. If you have access to the video, watch the video before doing this activity. You can find the videos here https://www.knoxschools.org/Page/21816 Read below with your child.

**Survival: Who will live?**






## Phenotype and Survival:

8.LS4.3 Analyze evidence from geology, paleontology, and comparative anatomy to support that specific **phenotypes** within a population can increase the probability of **survival** of that species and lead to adaptation.
Please follow along with the video and/or packet and complete the closed notes and discussion questions. Do not forget to pause the video or refer to the notes in the packet as needed.

I. Describe the following (Can you also give examples?):

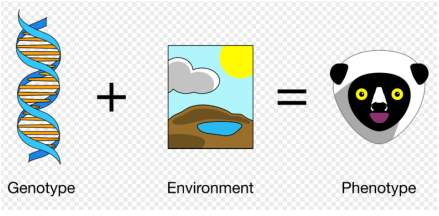
1. Adaptation: _____--

   _____

2. Variation: _____--

   _____

II. Differentiate between phenotype and genotype.




A genotype is _____. However, a phenotype is _____.

# III. Bird Beak Adaptations

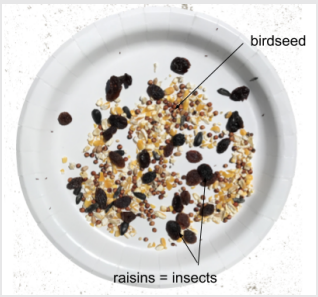

An adaptation is a trait that increases an organism's ability to **survive** and reproduce. In this activity, you will model and compare different types of bird beaks in order to make inferences about the birds' habitats.

**INQUIRY FOCUS Infer**

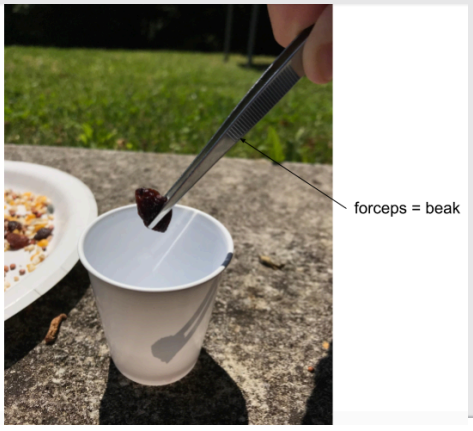
## Materials

- paper plate
- plastic cup
- raisins
- birdseed
- paper clips 
- forceps 
- clothespins 
- stopwatch

## Procedure




1. Scatter a small amount of birdseed on a paper plate.
   Scatter some raisins on the plate to represent insects.
2. Obtain a variety of objects such as paper clips,
   hair clips, and clothespins. Pick one object to use as a "beak."
3. Have your partner time you for 10 seconds while you pick up as many seeds as you can with your "beak" and drop them into a cup.
4. Now see how many "insects" you can pick up and drop into a cup in 10 seconds using the same beak.
5. Choose a different "beak" and repeat Steps 3 and 4.



Word Bank

pointed

flat

short

curved

long

conical

## Thinking It Over

1. Before you started the activity, what type of beak did you think would work well for seeds? For insects?

   I thought a _____ beak would work well for seeds.

   I thought a _____ beak would work well for insects.

2. When would a beak that is good at picking up insects be considered an adaptation?

3. What can you infer about a bird's habitat given the shape of its beak? Give an example. (habitat = where the bird lives)

   A bird with a _____ beak lives _____.

IV. Cite evidence and explain the cause and effect relationship between phenotypic adaptations in a population and survival. **OR** Create a scenario and how changes in phenotype impact survival.