

Inherited and Acquired Physical Traits

Teacher Facilitation Notes

In General . . .

- Project the slide deck in edit mode—do not show it as a slideshow.
- Hide the speaker notes before projecting. (View/Show Speaker Notes)
- Hide the toolbar. (Click on the up arrow at the right end of the tool bar.)
- Call on students to read the various content shown on slides.
- For each investigation, assemble the needed materials for each group and place in a central location for ease of distribution.
- Duplicate copies of the data sheets for each student.

Materials Needed:

Engage: Traits of Organisms

Science Notebook, 1 per student Pencil, 1 per student

Explore: Inherited vs. Acquired Traits

Science Notebook, 1 per student Pencil, 1 per student

Inherited vs. Acquired Traits, 1 per student

Explain: Observe, Read and Respond

Data Sheet, 1 per student Pencil, 1 per student

Elaborate: Physical Trait Inventory

Physical Traits Inventory, 1 per student Pencil, 1 per student

Evaluate

Quiz, 1 per student Pencil, 1 per student

Engage: Traits of Organisms

- Read through the introductory slides with the students. Make sure that they understand that a trait is a characteristic that an organism has.
- As you talk about the labeled diagrams, ask volunteers to give other traits of the echidna, tomato plant, and girl that are not labeled.
- Have students identify the physical traits of the beaver and the rose bush in their science notebooks. Depending on student ability levels, this may be done independently or as a class with students recording their own ideas and those of other students.

Inherited and Acquired Physical Traits

Teacher Facilitation Notes, p. 2

Explore: Inherited vs. Acquired Traits

- NOTE: Every time there is a defined word with the heading "Vocabulary Alert", have students define the term in their science notebooks in their own words
- Read through the introductory slide with the students. Be sure that they understand that physical traits are traits having to do with the body of an organism. Plants, animals, and people have both inherited and acquired physical traits.
- Read and discuss the slide detailing inherited physical traits. Discuss the slide showing other inherited physical traits of plants and animals. (Note: Freckles are an inherited trait. However, exposure to sunlight can cause some individuals to develop more freckles or darker freckles.)
- Continue in the same manner for the acquired physical traits.
- Have students complete the data sheet identifying physical traits as inherited or acquired.

Explain: Observe, Read and Record

- Go through each slide, observing, reading, and discussing thoroughly.
- Have students complete the data sheets independently. Discuss as desired.
- Call on volunteers to read each statement and tell whether it is a fact or an opinion. Make sure they can justify their answers. Drag and drop the correct answer to each empty box in the fact/opinion column.

Elaborate: Physical Traits Inventory

- Have students complete page 1 of the trait inventory. If necessary, demonstrate each physical trait that you have or using a volunteer from the class.
- Let students choose 3-5 acquired traits that they have and let them complete the data sheet.
- Make tally marks on the board for each student that has a specific inherited or acquired trait. Find the class percentage of students with that trait by dividing the number of students with the trait by the total number of students in the class. Discuss as desired.

Evaluate

- Let students complete the quiz independently.
- Discuss evaluation as desired.

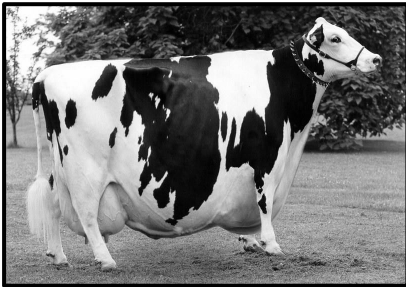
Inherited and Acquired Physical Traits

Name: KEY

Explore: Inherited vs. Acquired Traits

Directions: Study the organism traits listed in the table. Label each trait as *inherited* (passed down from parent to offspring) or *acquired* (obtained through interactions with the environment).

Overweight cow



acquired

Polished nails



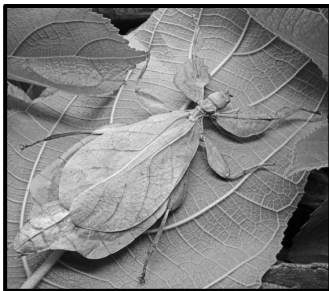
acquired

Webbed feet



inherited

Body Shape



inherited

Hairstyle



acquired

Shape of tree needles



inherited

Foot bunion



acquired

Snail Shell



inherited

Type of fruit on tree



inherited

Inherited and Acquired Physical Traits

Name: KEY

Evaluation

1. Which of these can a human child inherit from his parents? Mark all that apply.

A Repeating the alphabet

B Having short hair

C Eye color

D Naturally curly hair

E Pierced ears

F Shape of nose

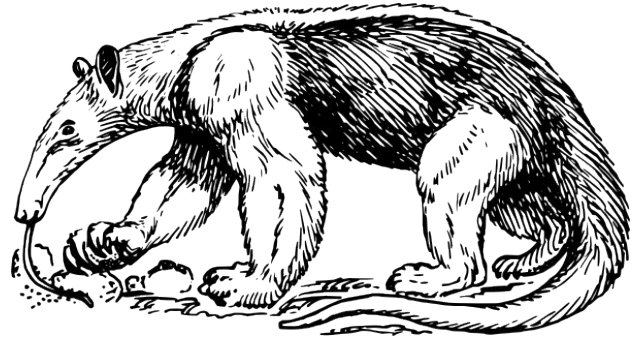
2. The picture shows an anteater. Which of the following two traits were most likely inherited from its parents?

F Where it eats

G Long tongue

H Fur color

J Kind of insects it likes to eat



3. The picture shows some leaves of a tomato plant. Which of the following physical traits is an acquired trait?

A The holes in the leaves

B The color of the leaves

C The shape of the leaves

D The size of the leaves



4. List one physical trait you inherited from your parents. _____

Answers will vary; accept all reasonable answers students can justify.

5. List one physical trait you have acquired during your lifetime. _____

Answers will vary; accept all reasonable answers students can justify.

Inherited and Acquired Physical Traits

Name: KEY

Evaluation

6. Which statement best describes the relationship between inherited traits and acquired traits?

F Inherited and acquired traits are both present at birth.

G Acquired traits come from parents and inherited traits come from interacting with the environment.

H Both inherited and acquired traits come from parents.

J Inherited traits come from parents and acquired traits come from interacting with the environment.

Directions: Put an "I" next to any trait that is inherited from a parent. Put an "A" next to any trait that is acquired from interacting with the environment.

7. A Pink hair on a girl

8. I A plant with red flowers

9. I The pattern of dots on a ladybug's body

10. A A tree with a broken limb

11. A A cow with a tag on its ear

12. I Being able to blink your eyes

13. I A polar bear keeping warm because of its blubber

14. A A fat dog that eats too much

15. I A birch tree with silver bark

16. A A girl's painted fingernails

17. I An eagle's curved talons

18. A A dog that limps

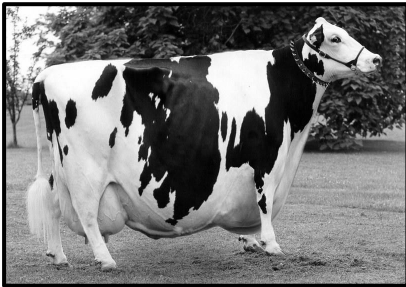
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Overweight cow



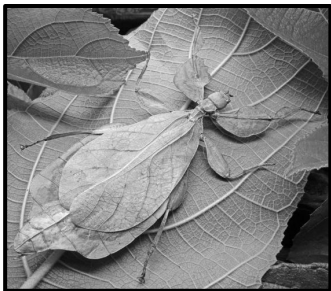
Polished nails



Webbed feet



Body Shape



Hairstyle



Shape of tree needles



Foot bunion



Snail Shell



Type of fruit on tree



Inherited and Acquired Physical Traits

Name: _____

Explore: Observe, Read, and Respond!

Directions: Complete this data sheet as you watch the slide show about inherited and acquired traits.

What is a physical trait?

What is an inherited trait?

Why do all giraffes have the traits you listed here?

List 3 physical traits the puppies have in common with their mother.

List 3 inherited traits of a giraffe.

List 3 inherited traits of a flowering quince plant.

Inherited and Acquired Physical Traits

Name: _____

Explore: Observe, Read, and Respond!, page 2

What is an acquired physical trait?

Describe one acquired physical trait of a plant that you observed.

Describe one acquired physical trait of an animal that you observed.

What is the difference between inherited traits and acquired traits?

These two girls are twins. One has long hair and one has short hair. Is the length of their hair an inherited trait or an acquired trait? Explain your answer.









Inherited and Acquired Physical Traits

Name: _____

Elaborate: Physical Traits Inventory

Directions: Study each pictured trait below and its description. Check "yes" if you have that trait. Check "no" if you do not have that trait.

Trait	Description	Yes/No
 Dimples	Dents in your cheeks when you smile	
 Widow's Peak	Hair comes to a point in the middle of the forehead	
 Hitchhiker's Thumb	Thumb bends backward when held straight up from clenched fist	
 Tongue Roll	Tongue can be rolled into the shape of a hot dog bun	
 Vulcan Hand Sign	Fingers can be spread to make a V	
 Freckles	Small brown spots on skin	

Inherited and Acquired Physical Traits

Name: _____

Elaborate: Physical Traits Inventory, page 2

Directions: Think about any physical traits you have acquired during your lifetime. This might include a scar, a haircut, or pierced ears. Sketch a picture of your acquired trait, and then describe it.

Acquired Trait	Description

Inherited and Acquired Physical Traits

Name: _____

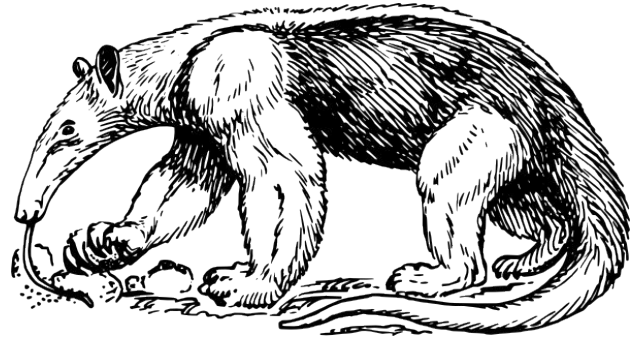
Evaluation

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- B Having short hair
- C Eye color
- D Naturally curly hair
- E Pierced ears
- F Shape of nose

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