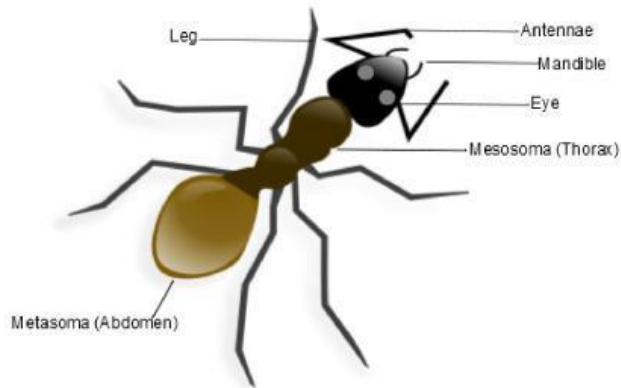## 5th Grade Unit 2 Benchmark Review: Dynamics of Classification

The picture shows an ant.

1. Which statement BEST explains why the ant is a vertebrate or invertebrate?

A. The ant is an invertebrate because it has eyes and legs.

B. The ant is a vertebrate because it has more than 1 set of eyes.

C. The ant is a vertebrate because it has an endoskeleton.

D. The ant is an invertebrate because it does not have a backbone.

2. Tyreek is studying an animal. He creates a table to help him place the animal into a group.

Question	Answer
Is the animal cold-blooded?	Yes
Does the animal breathe through lung?	Yes
Does the animal have live births?	No
Does the animal have hair or fur on its body?	No
Does the animal lay hard eggs?	Yes
Does the animal have dry scaly skin?	Yes

Which group BEST describes the animal Tyreek is studying?

A. Amphibians   B. Reptiles   C. Mammals   D. Fish

3. The descriptions below list the qualities of an animal.

   - Warm-blooded

   - Breathes with lungs

   - Vertebrates

   - Lays hard eggs on land

What type of animal is being described in the above description?

A. Amphibian   B. Bird   C. Mammal   D. Reptile   E. Fish

4. **How are amphibians different from other vertebrates?**

A. They breathe only with gills.

B. They lay hard eggs on land.

C. They produce milk to feed their young.

D. They breathe with their gills and lungs.

5. **Which of the following MOST ACCURATELY describes a mammal?**

A. They produce milk to feed their young.

B. They breathe through their lungs and gills.

C. They have dry scaly skin.

D. They breathe through their lungs.

6. **All vertebrates have _____ in common.**

A. Cold-blooded   B. Smooth wet skin   C. a backbone   D. 10 sets of eyes

7. **Both algae and ferns are non-seed producing plants. What is one difference between algae and ferns?**

A. Algae produce spores, ferns produce flowers.

B. Ferns have roots, stems, and leaves, algae do not.

C. Ferns have to live in their nutrient rich environment, algae do not.

D. Algae produce flowers, ferns produce spores.

8. What do apple trees produce that helps scientists classify them?

A. spores and roots

B. leaves and spores

C. spores and cones

D. flowers and seeds

9. You are walking outside, and you pick up a flower from an unknown plant. What can you tell about this plant just because it has a flower?

A. The plant uses seeds to reproduce.

B. The plant uses spores to reproduce.

C. The plant does not have root systems.

D. The plant does not produce leaves.

10. The descriptions below list the qualities of an animal.

- Cold-blooded

- Breathes with gills
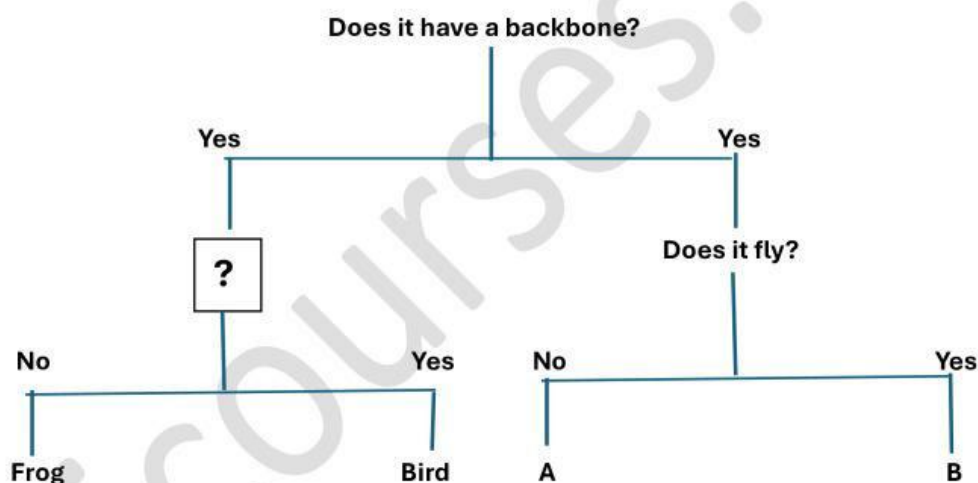
- Vertebrates

- Lays eggs in water

What type of animal is being described in the above description?

A. Amphibian   B. Bird   C. Mammal   D. Reptile   E. Fish

Created By: Chivas & Jordan Spivey   **Duplication of any part of this activity is prohibited by law.**

11. A student makes a model to sort organisms using the information in the table.

Organism	Characteristic
Dragonfly	- Does not have a backbone - Has multiple sets of eyes
Frog	- Has a backbone - Lays eggs in water
Crab	- Does not have a backbone - Has an external skeleton
Bird	- Has a backbone - Lays hard eggs on land

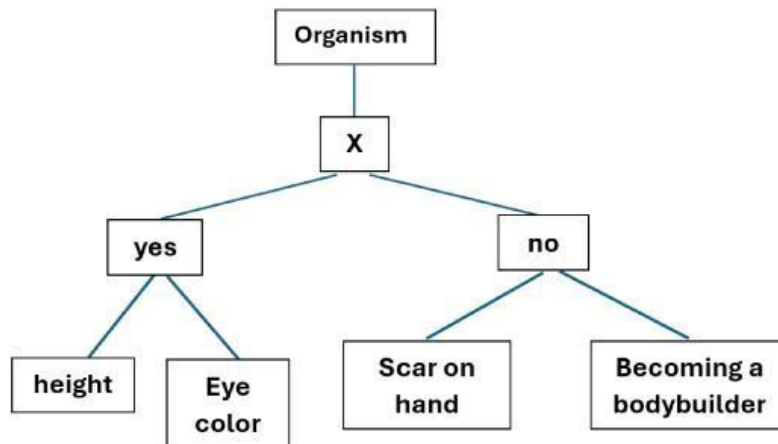The student's model is not complete.

Part 1. Which question(s) should the student put in the box with a question mark to correctly complete? (2 choices)

A. Does it have an exoskeleton

B. Does it lay hard eggs on land?

C. Is it warm or cold-blooded?

D. Does it have more than one set of eyes?

Part 2. Which organism is 'A' and which organism is 'B'?

A. A = Dragonfly, B = Bird

B. A = Frog, B = Bird

C. A = Crab, B = Frog

D. A = Crab, B = Dragonfly

12. A student is creating a model to classify traits based on their characteristics. The diagram shows the uncompleted model.

Which question should the student add at the letter X to complete the model?

A. Is it seed producing or non-seed producing?

B. It is an inherited or acquired trait?

C. Is it a vertebrate or invertebrate?

D. Is it a instinct or learned behavior?

13. Two students listed some traits of their favorite basketball player.

Traits of a Basketball Player

- Can dunk a basketball
- Is taller than the other teammates
- Is good at dribbling
- Is good at free throw shots

Which question would help the student determine which trait on the list is an inherited physical trait?

A. How long can he dribble a basketball?   B. How did he learn how to dribble a basketball?

C. Why is he good at shooting free throws?   D. Why is he taller than the other players?

14. The picture shows a horse holding a flag in its mouth with one of its legs held up.

Which question can be asked to learn about the acquired traits of the horse?

A. How many brothers and sisters does the horse have?

B. Why does the horse have black and white spots?

C. How did the horse build up enough muscle strength to hold its leg up?

D. Why does the horse have a white ponytail?

15. Jordan was watching a YouTube video and learned that his height, eye color, and nose shape were passed on to him by his parents. The video also taught him that other characteristics were learned from his environment like his ability to speak English, playing the trombone, and building computers. Select the correct inherited trait and the acquired trait.

A. Inherited = his ability to play the trombone, Acquired = his height

B. Inherited = his eye color, Acquired = his ability to play the trombone

C. Inherited = his nose shape, Acquired = his height

D. Inherited = building computers, Acquired = speaking English

16. What question can be asked to learn about an inherited trait of someone?

A. How old are you?

B. When did you get your first job?

C. What types of food do you like?

D. Why do you have freckles?

Directions: The table shows the characteristics of four different organisms. Use the table to answer any questions that follow.

FOUR ORGANISMS

Organism	Lungs (Yes or No)	Scales (Yes or No)	Gills (Yes or No)	Hair or Fur (Yes or No)
W	Yes	No	Yes	No
X	No	Yes	Yes	No
Y	Yes	Yes	No	No
Z	Yes	No	No	Yes

17. Which of the following correctly matches each organism to its classification?

A.

Organism W = Fish
Organism X = Mammal
Organism Y = Amphibian
Organism Z = Reptile

B.

Organism W = Amphibian
Organism X = Fish
Organism Y = Reptile
Organism Z = Mammal

C.

Organism W = Reptile
Organism X = Amphibian
Organism Y = Mammal
Organism Z = Fish

D.

Organism W = Amphibian
Organism X = Fish
Organism Y = Bird
Organism Z = Mammal

Animal Classification Facts

Animal	Characteristics
Owl	- Has wings and feathers, lives on lang - Is a warm-blooded vertebrate
Alligator	- Is a cold-blooded vertebrate - Has dry scaly skin, lives on land and in water
Lady bug	- Is a cold-blooded invertebrate - Has two pairs of wings, six legs, lives on land
Cheetah	- Is a warm-blooded vertebrate - Has hair and four legs, lives on land
Salmon	- Is a cold-blooded vertebrate - Has gills and fins, lives in water

The student makes an incomplete model.

Classification Model

- **1a has a backbone................................go to 2**
- **1b does not have a backbone..............Insect**
- **2a.........?...go to 3**
- **2b.........?...go to 4**
- **3a has feathers..................................Bird**
- **3b has hair...Mammal**
- **4a lives in water..................................Fish**
- **4b lives on land..................................Reptile**

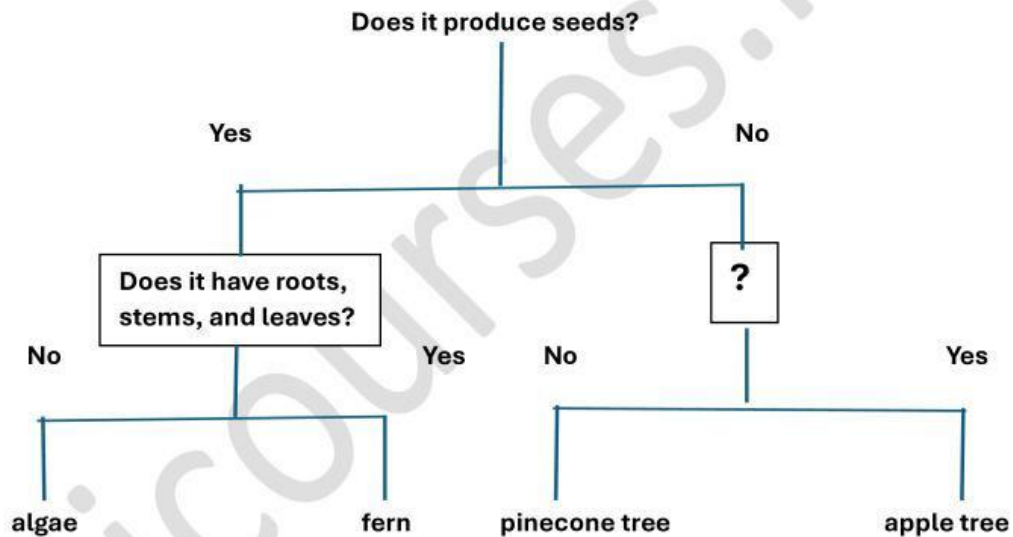**18. How should the student complete the model for section 2a and 2b to classify all of the animals in the table?**

A. 2a has gills............................. go to 3

   2b has scales.......................... go to 4

B. 2a is warm-blooded................ go to 3a

   2b is cold-blooded.................. go to 4b

C. 2a has wings.......................... go to 3

    2b does not have wings......... go to 4

D. 2a has six legs....................... go to 3

   2b does not have six legs....... go to 4

A student makes a model to sort organisms using the information in the table.

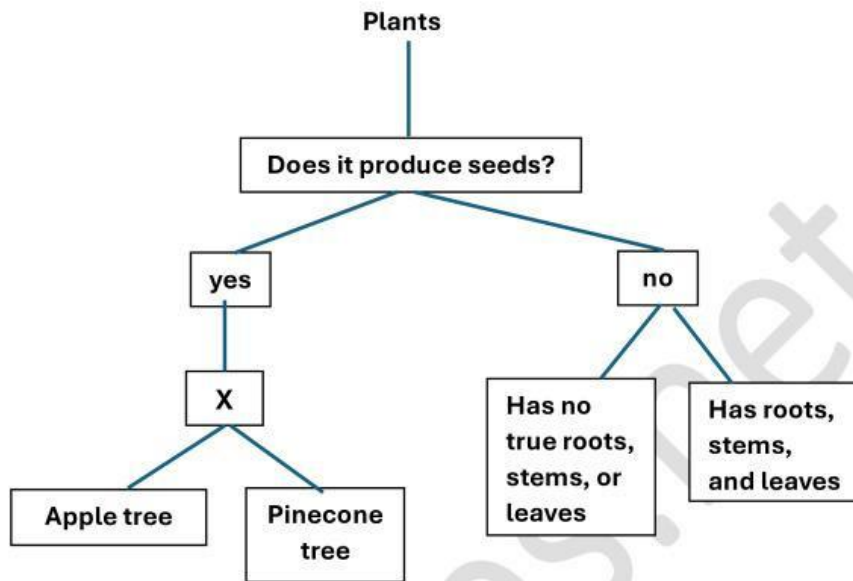| Plant	Characteristic
Algae	- Does not produce seeds - Has no roots , stems, or leaves
Fern	- Does not produce seeds - Has roots, stems, and leaves
Pinecone tree	- Produces seeds from cones - Has roots, stems, and leaves
Apple tree	- Produces seeds from flowers - Has roots, stems, and leaves

The student's model is not complete.

Does it produce seeds?

Yes   No

Does it have roots, stems, and leaves?   **?**

No   Yes   No   Yes

algae   fern   pinecone tree   apple tree

19. Which question should the student put in the box with a question mark to correctly complete the model?

A. Does it have to live in its nutrient rich environment?

B. Does it produce cones?

C. Does it have roots, stems, or leaves?

D. Does it produce flowers?

20. A student is creating a model to classify plants based on their characteristics. The diagram shows the uncompleted model.

Plants

Does it produce seeds?

yes — no

X

Apple tree — Pinecone tree

Has no true roots, stems, or leaves

Has roots, stems, and leaves

Which question should the student add at the letter X to complete the model?

A. Does it require nutrients?

B. Does it have protected or naked (unprotected) seeds?

C. Does it use sunlight to make food for itself?

D. Does it produce spores?

Read the passage and answer the following question(s).

A group of students is asked to sort plant samples into groups. The samples are described below.

Sample A	Sample B	Sample C	Sample D
- Produces spores - Does not have roots; absorbs water directly - Breaks down dead and decaying organisms	- Needle-like leaves - Gets water and food through roots and stems - Produces seeds in cones	- Flat leaves - Produces spores - Gets water and food through roots and stems	- Produces seeds in flowers that turn into fruit - Flat leaves - Gets water and food through roots and stems

The students are given images of four plants; a pine tree, an apple tree, fungi, and a fern.

| Pine tree | Apple tree | Fungi | Fern |

21. Which table correctly identifies each sample?

A.

Sample A	Fungi
Sample B	Pine tree
Sample C	Fern
Sample D	Apple tree

B.

Sample A	Pine tree
Sample B	Fern
Sample C	Apple tree
Sample D	Fungi

C.

Sample A	Apple tree
Sample B	Pine tree
Sample C	Fungi
Sample D	Fern

D.

Sample A	Fern
Sample B	Apple tree
Sample C	Fungi
Sample D	Pine tree

22. **Josh and Rico are arguing over whether muscular development is an inherited or an acquired trait. Josh says muscular development is inherited, but Rico says that when he lifts weights, he notices he becomes more muscular, so it must be an acquired trait. Who is correct?**

A. Josh, because muscular development is determined by your parents.

B. Both Josh and Rico, because muscular development is determined by parents, but can then change due to environmental factors such as lifting weights.

C. Rico, because if he becomes more muscular when he works out, it cannot be inherited.

D. Neither Josh nor Rico, because muscular development is not dependent on parents or environmental factors.

23. **Select ALL of the following that are learned behaviors.**

A. A dog scratching the door to go to the bathroom outside.

B. A snake constricting around its prey before it eats it.

C. A spider making a web to trap prey.

D. A gorilla writing someone's name on a board.

24. **Select ALL of the following that are inherited behaviors.**

A. A dog scratching the door to go to the bathroom outside.

B. A snake constricting around its prey before it eats it.

C. A spider making a web to trap prey.

D. A gorilla writing someone's name on a board.