

--	--	--

### Diversity Pretest (Middle School)

Science is easier to understand if you can make connections between what you know now and the new ideas you are studying. This is a test that will help us know what you know now.

Please answer these questions as carefully and completely as you can. If you aren't sure of the answer, please write any thoughts that you have. If you can help us to understand how you think about these questions, then we can do a better job of explaining science in ways that make sense to you.

Please put your initials (not your full name) in the boxes:

--	--	--

First Middle Last

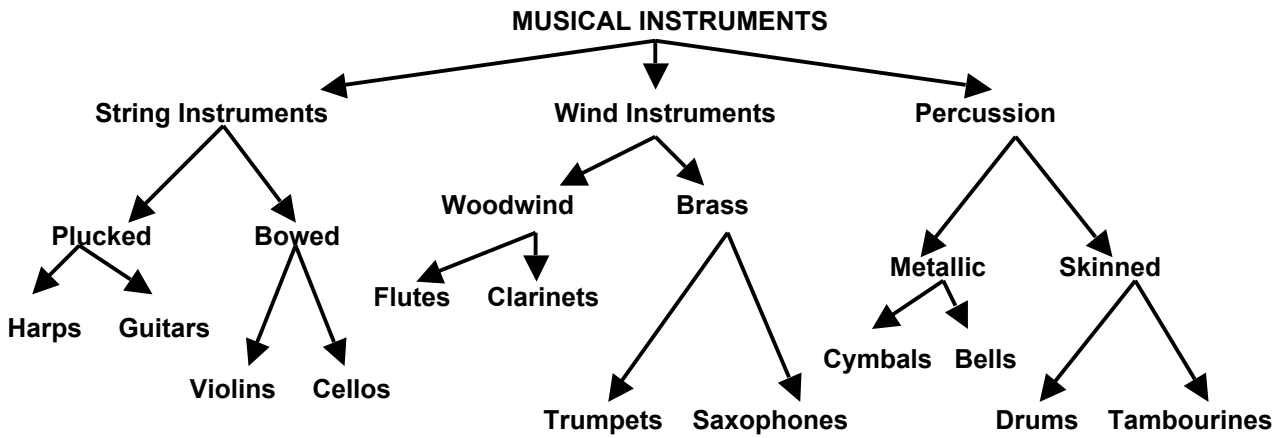
Date \_\_\_\_\_

Class \_\_\_\_\_ Teacher \_\_\_\_\_



1. Cheetahs are able to run faster than 60 miles per hour when chasing prey. How would a biologist explain how the ability to run fast evolved in cheetahs, assuming their ancestors could only run 20 miles per hour?

--	--	--



2. The above diagram shows *musical instruments* being broken down and categorized into smaller groups, and then into smaller groups again and again. In the same way, break down *living things* into as many different groups as you can, then continue to break those groups down into smaller and smaller groups, as far as you can go.

### All Living Things

--	--	--

3a. Below are pictures of a Michigan forest and a Michigan corn field. In the boxes below each picture, list as many living things as you can that might be living in each of these places.

**Forest**



**Corn Field**





--	--	--

5a. To the right is a picture of some strawberries. They are all slightly different sizes and slightly different shapes. Why do you think these strawberries all grew to look a little different?

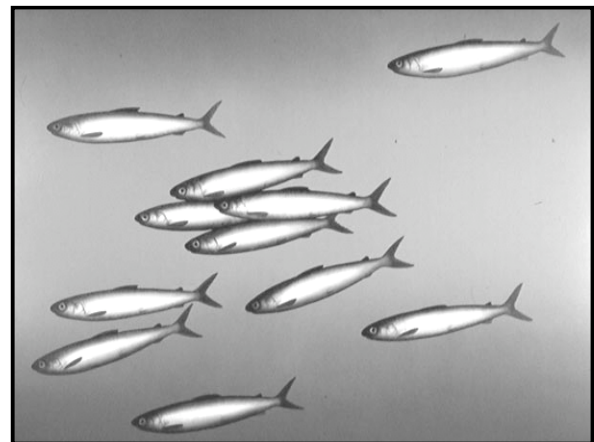


5b. Do you think wild strawberries look more or less alike than do strawberries found in the supermarket?

5c. Why do think this is so?

6. The picture to the right shows a group of fish. Which statement below best describes the appearance of a group of fish such as this?

- a) The fish are all identical to each other.
- b) The fish are all identical on the inside, but have many differences in appearance.
- c) The fish are all identical in appearance, but are all different on the inside.
- d) The fish share many characteristics, but also vary in many features.
- e) The fish are all completely unique and share no features with other fish.

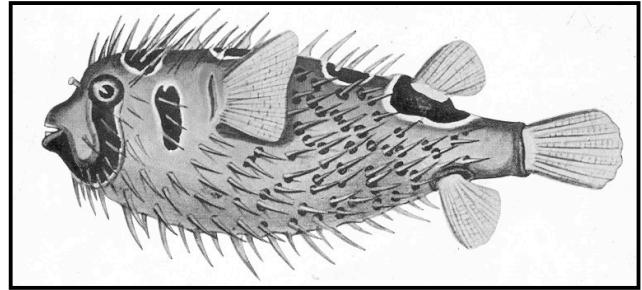


Your answer:

Explain why you chose your answer:

--	--	--

7. To the right is a picture of a porcupine fish. The porcupine fish is 6 inches long, and lives in coral reefs. Other types of fish also live in the same place, some of which are predators of the porcupine fish, and some are its prey. In the box below describe some features of the porcupine fish that help it survive.



Features	How the feature helps the fish survive

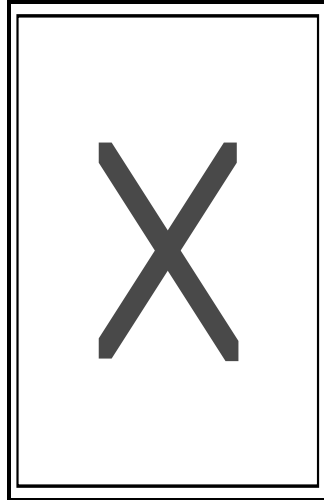


8. To the left is a picture of a rotting pear. In the box below, list as many things that you can think of that might be alive in the rotting pear.

Things living in the rotting pear:

What causes the pear to rot?

--	--	--



9. Above is a picture of two sisters. In the boxes below, describe two ways how sisters might look alike and how they might look different.

How they look <b>alike</b> :	How they look <b>different</b> :
------------------------------	----------------------------------

Why do you think that two sisters look more like each other than do two unrelated children?

--

Why don't two sisters look exactly the same?

--

--	--	--



10a. To the left is a picture of a desert. Even though it is very hot and dry, many animals and plants live in the desert. In the boxes below, describe features of animals and plants they may need to survive in the desert.

Features of animals	Features of plants
1.	1.
2.	2.
3.	3.

10b. In what ways are animals and plants that live in the desert similar to those that live in Michigan?

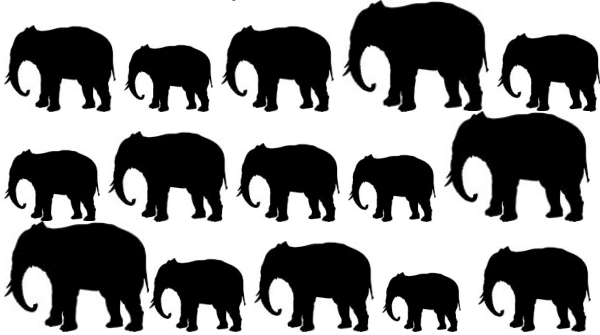
--



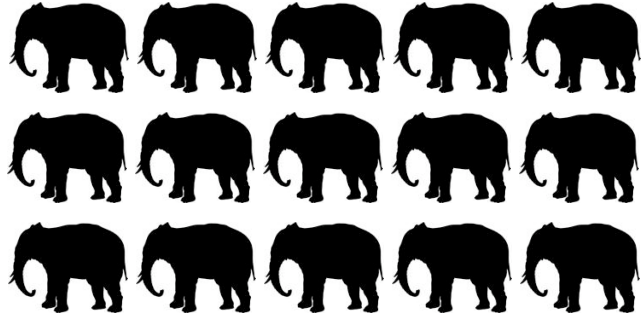
--	--	--

11. Below are two populations of 15 elephants. In Population A contains elephants that are all slightly different, while Population B contains elephants that are all identical. Which of the two populations do you think is most likely to survive if there was a severe drought?

Population A



Population B



Circle one:

Population A	Population B	Both have an equal chance of surviving
--------------	--------------	--

Explain why you chose your answer:

12. Each species in an ecosystem has a different role, and is affected by the other species in that ecosystem. For example, some insects pollinate flowers, provide food for animals that eat them, and recycle dead biological material. What roles do you think the following organisms play in their ecosystems?

Oak Tree
Bacteria
Humans