

## Material Magic

Name: \_\_\_\_\_  
Date: \_\_\_\_\_

## Unit Assessment

### **Multiple Choice**

1. If it's really hot and sunny outside, you probably want to wear clothes that are...
  - a. waterproof.
  - b. heat-trapping.
  - c. see-through.
  - d. absorbent.
  
2. Why are oven mitts NOT made out of metal?
  - a. Metal lets the heat through to your hand.
  - b. Metal is too expensive.
  - c. Metal is too heavy.
  - d. Metal isn't very comfortable.
  
3. Why do you need a metal pan to fry an egg on a hot sidewalk?
  - a. The pan will keep the egg from getting dirty.
  - b. The pan makes it easier to serve the egg.
  - c. The pan conducts heat from the sidewalk.
  - d. The pan absorbs heat from the sun.
  
4. What do popsicles and plastic toys have in common?
  - a. Both of them can get very cold.
  - b. Both of them are liquids.
  - c. Both of them are made out of water.
  - d. Both of them can be melted into shapes.
  
5. Why was it easier to make plastic toys instead of wooden toys?
  - a. Plastic doesn't need to be carved by hand.
  - b. Plastic doesn't grow in the ground.
  - c. Plastic can be painted different colors.
  - d. Plastic doesn't have bark that needs to be removed.

6. Scientists invent new materials so that they can...
- a. tell each other about them.
  - b. invent things to solve problems.
  - c. store the materials in their laboratories.
  - d. do as many experiments as possible.
7. A \_\_\_\_\_ can be built out of smaller pieces of \_\_\_\_\_.
- a. House..... wood
  - b. Skyscraper..... concrete and steel
  - c. Wall..... brick
  - d. All of the above

**Short Answer**

8. If you are designing **winter boots**, which material properties would you choose?  
Circle as many properties as you want.

heavy

soft

see-through

absorbent

stiff

stretchy

heat-trapping

waterproof

Explain why you chose your answers above.

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9. Why would you need a metal pan to fry an egg on a hot sidewalk?

You need a metal pan to fry an egg because... \_\_\_\_\_

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10. What's so special about plastic? Why are so many toys made out of plastic?

A lot of toys are made out of plastic because... \_\_\_\_\_

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11. What's the difference between clothing that people wear when it's cold compared to when it's hot? Complete the sentences below.

When it's cold, people wear clothing that is \_\_\_\_\_

because \_\_\_\_\_.

When it's hot, people wear clothing that is \_\_\_\_\_

because \_\_\_\_\_.

12. What are two ways you could change the properties of paper to make it stronger?

You could make paper stronger by... \_\_\_\_\_

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13. What futuristic material would you invent and what would you make with it?

I would invent... \_\_\_\_\_

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## Animal Adventures

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Unit Assessment

### **Multiple Choice**

1. A butterfly is...

- a. A bird, because it has wings and can fly
- b. A reptile, because it lays eggs
- c. An invertebrate, because it doesn't have bones
- d. None of the above



2. A pangolin is...

- a. A reptile, because it has scales
- b. A mammal, because it has hair and gives live birth
- c. Both a reptile AND a mammal, because it has characteristics of both groups
- d. None of the above



3. Why do frogs and toads look for wet habitats during egg-laying season? Choose the **BEST** answer.

- a. That's where male frogs can find female frogs
- b. It's easier to hide in wet, swampy areas
- c. Their calls sound louder over water
- d. They need to lay their eggs in water

4. A bird feeder will attract birds if it...

- a. Has the right kind of food
- b. Has places for birds to perch or stand
- c. Is protected from cats and other predators
- d. All of the above



**True/False**

Circle TRUE or FALSE for each statement.

- |      |       |  |
|------|-------|--|
| TRUE | FALSE | 5. Scientists can identify frogs by listening to their calls.    |
| TRUE | FALSE | 6. Frogs usually have drier, wartier skin than toads.            |
| TRUE | FALSE | 7. Only one kind of frog makes a call that sounds like "ribbit." |
| TRUE | FALSE | 8. The Amazon rainforest has the most kinds of frogs.            |

**Short Answer**

9. Three friends are discussing what would happen if scientists discovered a new animal. What would scientists do to figure out which group the new animal belongs to?

Dhara says, "I think scientists would look at the *outside* of the animal."

Xavier says, "I think scientists would look *inside* the animal."

Luo says, "I think scientists would look at the inside *and* the outside of the animal."

Who do you agree with most and why?

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10. What are the differences between a prototype and a final version of something?

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11. In your own words, what is a habitat? Why do some habitats have more animals than others?

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12. Fill out the Claim-Evidence-Reasoning chart based on the bird feeder you designed.

<b>Claim:</b> My bird feeder will attract: (circle one) Finches                      Jays                      Woodpeckers                      Cardinals
<b>Evidence:</b> Draw your bird feeder design and label the parts.
<b>Reasoning:</b> My feeder will attract _____ (the bird you chose above) because...

## End of Unit Assessment

1. Plants have ways of getting their seeds to travel away from them because \_\_\_\_\_:

- a. they want to help animals.
- b. seeds that travel away from the parent are more likely to get light.
- c. seeds need water to grow.

2. If you move a plant from a dark room and place it on a sunny windowsill, what will happen?

- a. The leaves will stay the same.
- b. The leaves will move away from the sunlight coming from the window.
- c. The leaves will move toward the sunlight coming from the window.

3. If you planted a cactus in the forest, the cactus would probably \_\_\_\_\_.

- a. get too much water and not enough light.
- b. get too much light.
- c. live really well.
- d. be eaten by the forest animals.

4. If you notice that a plant has leaves that are yellow and wilting, what would you do?  
Choose all the correct answers. There may be more than 1 correct answer.

- a. Put the plant in a dark room because it is getting too much sunlight.
- b. Put the plant in a sunny room because it is getting too little sunlight.
- c. Make sure the soil is dry because it is getting too much water.
- d. Make sure the soil is wet because it is getting too little water.



5. Look at the three seeds shown below. Which one do you think travels by wind, which one travels by animals, and which one by water? Why do you think that?



**Coconut**



**Maple Seed**



**Cherry Pit**

5a. The coconut travels by \_\_\_\_\_.

I think this because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5b. The maple seed travels by \_\_\_\_\_.

I think this because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5c. The cherry pit travels by \_\_\_\_\_.

I think this because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. How does a cactus survive in the desert where there is so little water?

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7. Two plants grew in two different closed boxes. One box has a small hole in the top corner. The other box had no holes. Both plants got plenty of water. Draw what you think each plant would look like, if you took them out of the boxes.

**Grown in a Box  
with One Hole**

**Grown in a Box  
with No Holes**

8. Explain why you think the plants will look like your drawings above.  
Explain in terms of what plants need to survive.

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## Work of Water

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Unit Assessment

1. If it never rained, do you think the world would look different? Explain.

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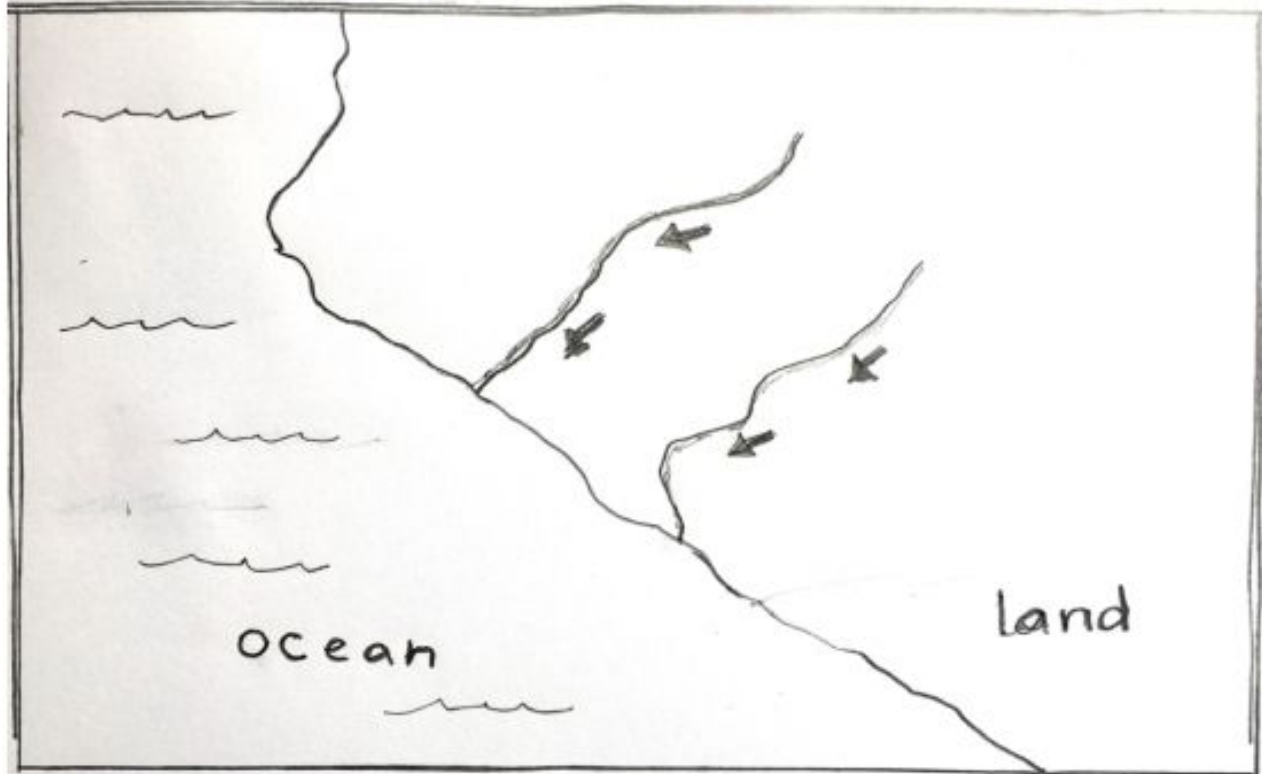
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2. Here is a map showing two rivers. If there are mountains, where do you think they are?

Look at this map and draw where you think there might be mountains:



Why did you put mountains there?

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3. Why is there sand at the beach? Draw a picture to show your understanding.

4. Imagine a friend said to you, "Water can't be as powerful as an excavator!" Do you agree or disagree? Why?

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