

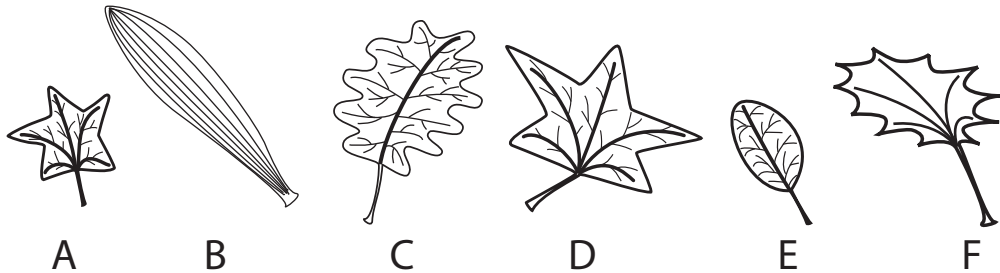
# INVESTIGATION 3 I-CHECK

## LIVING SYSTEMS

Name \_\_\_\_\_

Date \_\_\_\_\_

1. A student has a collection of leaves from his backyard.



a. Circle the letters for the leaves that have pinnate veins.    A   B   C   D   E   F

Circle the letters for the leaves that have palmate veins.    A   B   C   D   E   F

Circle the letters for the leaves that have parallel veins.    A   B   C   D   E   F

b. Circle the letters for the two leaves that most likely came from the same tree.

A   B   C   D   E   F

2. Where do the products of photosynthesis go?

*(Write letters next to each component. You may write more than one letter if needed.)*

\_\_\_\_\_ Carbon dioxide

\_\_\_\_\_ Oxygen

\_\_\_\_\_ Nitrogen

\_\_\_\_\_ Water

\_\_\_\_\_ Light

\_\_\_\_\_ Sugar

### Answer Key

**A** = Into the air

**P** = Into the phloem

**X** = Into the xylem

**G** = Into the ground

**N** = Not a product

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## LIVING SYSTEMS

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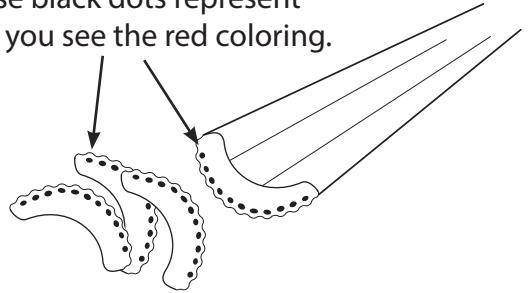
3. When you look at a cross section of a celery stalk that has been sitting in a vial of red water, only certain parts turn red.

Why is that part of the celery stalk red?

*(Mark the one best answer.)*

- A** Those are the phloem tubes that carry nutrients to plant cells.
- B** Those are the xylem tubes that carry water during transpiration.
- C** Those are the channels in the stalk that produce the food during photosynthesis.
- D** Those are the veins in the stalk that store the water until it is needed.

These black dots represent where you see the red coloring.



4. Why do maple trees need sap?

*(Mark the one best answer.)*

- A** Maple trees don't need sap. People like it because it is sweet.
- B** Sap stores water for maple trees to use when there isn't much rain.
- C** Sap provides food to maple tree cells that don't make their own food.
- D** Sap helps move water through the maple tree from root to treetop.

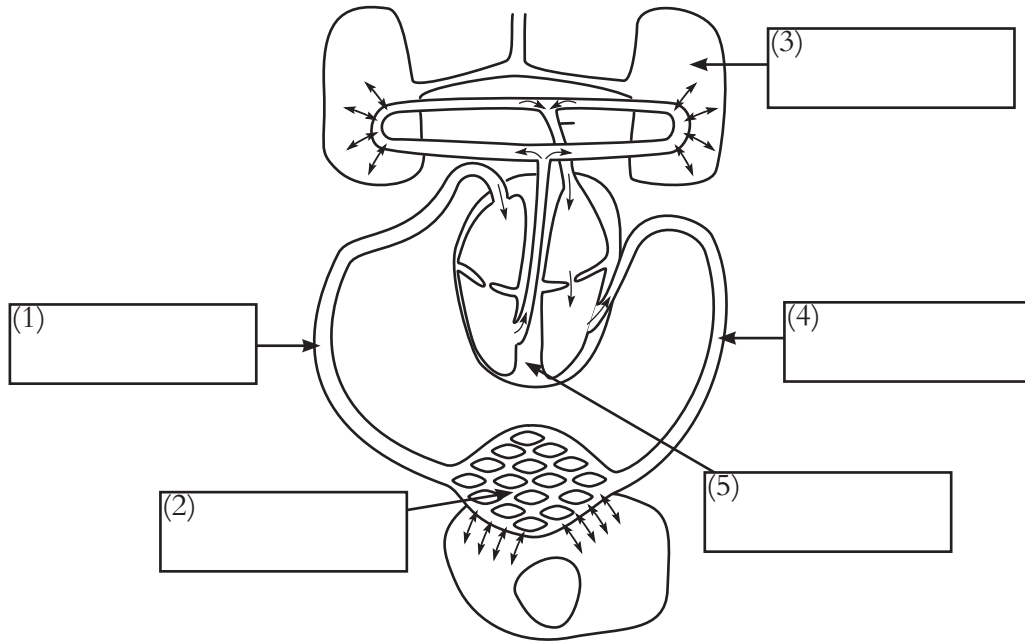
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5. Write the names of the parts of the human circulatory system shown below.

Word bank: artery, capillaries, heart, lung, vein



# INVESTIGATION 3 I-CHECK

## LIVING SYSTEMS

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6. What delivers the blood that each human cell needs to survive?

*(Mark the one best answer.)*

- A** Phloem tubes
- B** Alveoli
- C** Capillaries
- D** Arteries

7. Mark **X** next to each phrase that describes why is it important for blood to circulate through the lungs.

\_\_\_\_\_ To remove carbon dioxide from the blood

\_\_\_\_\_ To remove nitrogen from the blood

\_\_\_\_\_ To add water to the blood

\_\_\_\_\_ To add oxygen to the blood

\_\_\_\_\_ To remove nutrients from the blood

8. What part of the circulatory system carries oxygen to the cells?

*(Mark the one best answer.)*

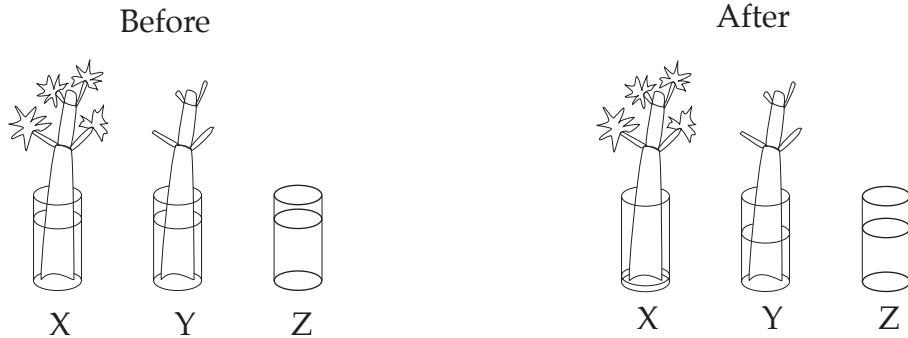
- A** Veins
- B** Red blood cells
- C** White blood cells
- D** Capillaries

# INVESTIGATION 3 I-CHECK

## LIVING SYSTEMS

### OPEN-RESPONSE QUESTION

9. A group of students set up a celery experiment. They recorded the starting mass of two pieces of celery and the volume of water they put in three vials. They put a stalk of celery into two of the vials and used the third vial with water only as a control. The next day, the students recorded the mass of the celery and volume of water in each vial.



Vials		Starting volume of water (mL)	Ending volume of water (mL)	Starting mass of celery (g)	Ending mass of celery (g)
X	celery with leaves	25	5	28	29
Y	celery without leaves	25	20	26	27
Z	vial of water	25	24	—	—

- a. How much water was lost due to evaporation? \_\_\_\_\_

How did you figure out how much water was lost due to evaporation?

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- b. Why was more water lost from vial X than from vial Y?

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# INVESTIGATION 3 I-CHECK

## LIVING SYSTEMS

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### OPEN-RESPONSE QUESTION

10. Think about two transport systems: the circulatory system in animals and the vascular system in plants.

a. How are the two systems similar to each other?

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b. How are the two systems different from each other?

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