

*Physical Science*

Name: \_\_\_\_\_ Class & Section: \_\_\_\_\_ Date: \_\_\_\_\_

Duration: 50 min

Special Remarks:


Neatness: (2%)

Self Assessment: /100

**I. Circle the best answer: (14%)**

- Which instrument would you use to measure the distance around a ball?
  - a. meter stick
  - b. metric ruler
  - c. measuring tape
  - d. binoculars
  
- Which of the following is an example of a properly written, testable hypothesis?
  - a. People should taste this new health food and see whether it makes them stronger.
  - b. Worms prefer to live in a dark environment.
  - c. If Sarah had added the leaves to the compost pile last year, she wouldn't have to buy organic fertilizer now.
  - d. The astronauts' next voyage will take place in 2006.
  
- In an experiment studying the effects of acid rain on pond water, which of the following could be the experimental group?
  - a. a container of vinegar to represent the acid
  - b. the pond
  - c. a container of pond water with nothing added to it
  - d. a container of pond water with acid added to it
  
- In an experiment investigating how far model airplanes with different materials can travel, which of the following are factors that need to be controlled?
  - a. type of wood used; mass of the planes; glue used
  - b. the shapes look like real airplanes
  - c. the time it takes for each test
  - d. the models land smoothly or become damaged during the test
  
- In a scientific method, the purpose of an experiment is to
  - a. form a hypothesis
  - b. collect data
  - c. test a hypothesis
  - d. form a conclusion
  
- Which of the following questions are scientific questions:
  - a. Which flowers are prettier, daisies or roses?
  - b. Can you get a disease from drinking contaminated water?
  - c. Do cats make better pets than dogs?
  - d. none of the above
  
- Your little finger is about :
  - a. 1 cm long
  - b. 2dm long
  - c. 1cm wide
  - d. 2dm wide

II. Read the experiment. Observe the diagrams and answer questions that follow:

**Animals exchange gases.**

Grade six students learned that animals exchange gases with their environment that is animals take in oxygen and release carbon dioxide to their surrounding. To test what they have learned, some students carried out the following investigation:

They filled two jars with pond water. Five drops of bromthymol blue were added to each jar.

Bromothymol blue turns green in the presence of carbon dioxide. A snail was placed in jar 2. Both jars were covered and placed in the light for two days. At the end of the two days, the water in jar 2 was green while the water in jar 1 remained blue.

1. Give the experiment a title **in the form of a scientific question**. (2%)

---

---

2. What is a possible hypothesis for this experiment? (4%)

---

---

---

3. Describe **in your own word** and in steps the procedure. (6%)

---

---

---

---

---

---

---

4. Write down the sentence(s) that contain an observation? (2%)

---

---

5. Specify the variable in this experiment? (3%)

---

6. What is jar 1 called? What purpose does it have in the experiment? (4%)

---

---

7. List the six factors that were controlled in this experiment? (6%)

---

---

8. What conclusion can you draw from the observations? (3%)

---

---

---

III. Look at the diagram below. Read the statements. **Based on what you observe**, identify the science process skill in each statement. (12%)

- \_\_\_\_\_ 1. The plant has roots.  
\_\_\_\_\_ 2. The plant uses water.  
\_\_\_\_\_ 3. The largest leaves in the plant are almost 6 mm long.  
\_\_\_\_\_ 4. The plant has flowers.  
\_\_\_\_\_ 5. The plant grew from a seed.  
\_\_\_\_\_ 6. The plant is green.

IV. Match the statement in column A with the appropriate description in column B. (16%)

Column A	Column B
_____ Students react faster if they sleep more.	a. Procedure
_____ The part of an experiment used for comparing changes that occur	b. Experiment
_____ In two weeks, there won't be snow on the ground.	c. Measurement
_____ The strings on her mother's guitar were longer than the strings on her toy guitar.	d. Communicate results
_____ Scientists studying the relative top running speeds of animals in East Africa clocked a cheetah at 100km/hr.	e. Control
_____ Write an article describing what you learned about the ant population on school grounds.	f. Hypothesis
_____ Used to test a hypothesis	g. Prediction
_____ Series of steps done in an experiment	h. Observation

V. Convert to the assigned unit. Show all your work. (16%)

a. **450 cm to dam**

b. **3.5 hm to m**

c. **8700 m to km**

VII. Use the following illustration to make and record: (10%)

1. an observation

---

2. an inference

---

3. a prediction

---

4. Is the following statement an observation or an inference?" The diver uses the tank to breathe oxygen". Explain.

---

---

*Good Luck*



***Physical Science***

Name: \_\_\_\_\_ Class & Section: \_\_\_\_\_ Date: \_\_\_\_\_

Duration: 50 min

Special Remarks:

\_\_\_\_\_  
\_\_\_\_\_

Neatness: (2%)

Self Assessment: /100

**I Use the following student notes to answer the following questions.**

I investigated yeast, tiny organisms that give off carbon dioxide gas as they grow. In two bottles, I put 2 g of yeast, 5 g of sugar. In Bottle A, I used 250 ml of cold water (20°C). In Bottle B, I used 250 ml of warm water (40°C). I attached a balloon to each bottle. After five minutes, I observed bubbles forming on the surface inside both bottles, and the balloons on both bottles expanded. The balloon on Bottle B became about twice as large as the balloon on Bottle A.

1. What can be a question that has led to the above experiment? (2 %)

\_\_\_\_\_

2. Record a hypothesis to the above experiment? (4%)

\_\_\_\_\_

\_\_\_\_\_

3. What are the six constants used in bottle A and bottle B? (6%)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What is the variable(s)? (2 %)

\_\_\_\_\_

5. Why is it important that beakers have the same amount of water? (2%)

\_\_\_\_\_

\_\_\_\_\_

6. What is the procedure that the student followed? (6%)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. What observation(s) did he make? (2%)

---

---

---

8. How can you interpret his results? (3%)

---

---

9. What can be a conclusion to this controlled experiment? (3%)

---

---

**II. Circle the best answer: (14%)**

- Which instrument would you use to measure the distance around a ball?
  - a. meter stick
  - b. metric ruler
  - c. measuring tape
  - d. binoculars
  
- In an experiment studying the effects of acid rain on pond water, which of the following could be the experimental group?
  - a. a container of vinegar to represent the acid
  - b. the pond
  - c. a container of pond water with nothing added to it
  - d. a container of pond water with acid added to it
  
- Which of the following is an example of a properly written, testable hypothesis?
  - a. People should taste this new health food and see whether it makes them stronger.
  - b. Worms prefer to live in a dark environment.
  - c. If Sarah had added the leaves to the compost pile last year, she wouldn't have to buy organic fertilizer now.
  - d. The astronauts' next voyage will take place in 2006.
  
- In an experiment investigating how far model airplanes with different materials can travel, which of the following are factors that need to be controlled?
  - a. type of wood used; mass of the planes; glue used
  - b. the shapes look like real airplanes
  - c. the time it takes for each test
  - d. the models land smoothly or become damaged during the test
  
- Which of the following questions are scientific questions:
  - a. Which flowers are prettier, daisies or roses?
  - b. Can you get a disease from drinking contaminated water?
  - c. Do cats make better pets than dogs?
  - d. none of the above

• In a scientific method, the purpose of an experiment is to  
 a. form a hypothesis                      b. collect data                      c. test a hypothesis                      d. form a conclusion

• Your little finger is about :  
 a. 1 cm long                      b. 2dm long                      c. 1cm wide                      d. 2dm wide

III. Look at the diagram below. Read the statements. **Based on what you observe**, identify the science process skill in each statement. (12%)

- \_\_\_\_\_ 1. The plant has roots.  
 \_\_\_\_\_ 2. The plant uses water.  
 \_\_\_\_\_ 3. The largest leaves in the plant are almost 6 mm long.  
 \_\_\_\_\_ 4. The plant has flowers.  
 \_\_\_\_\_ 5. The plant grew from a seed.  
 \_\_\_\_\_ 6. The plant is green.

IV. Match the statement in column A with the appropriate description in column B. (16%)

Column A	Column B
_____ Students react faster if they sleep more.	a. Procedure
_____ The part of an experiment used for comparing changes that occur	b. Experiment
_____ In two weeks, there won't be snow on the ground.	c. Measurement
_____ The strings on her mother's guitar were longer than the strings on her toy guitar.	d. Communicate results
_____ Scientists studying the relative top running speeds of animals in East Africa clocked a cheetah at 100km/hr.	e. Control
_____ Write an article describing what you learned about the ant population on school grounds.	f. Hypothesis
_____ Used to test a hypothesis	g. Prediction
_____ Series of steps done in an experiment	h. Observation

V. Convert to the assigned unit. Show all your work. (16%)

a. **750 cm to dam**

b. **7.5 hm to m**

c. **7800 m to km**

VII. Use the following illustration to make and record: (10%)

1. an observation

---

2. an inference

---

3. a prediction

---

4. Is the following statement an observation or an inference?" The diver uses the tank to breathe oxygen". Explain.

---

---

*Good Luck*

