**Unit 1, Lesson 5 & 6 Review Quiz**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

**\_\_\_\_ 1.** In science, we often gather information with our senses by watching, listening, smelling, and touching. For example, in a plant experiment, you may measure the growth of a plant over time. What is this process called?

|  |  |
| --- | --- |
| **A** | stating hypotheses |
| **B** | forming conclusions |
| **C** | making observations |
| **D** | performing experiments |

**\_\_\_\_ 2.** Observation is very important to scientific investigation. Scientists observe to gather data in experiments and investigations. Which of these is an example of an observation?

|  |  |
| --- | --- |
| **A** | “The rock is smooth and gray.” |
| **B** | “What is the best brand of soap?” |
| **C** | “Most people in the town drive black cars.” |
| **D** | “The sun's light helps plants grow.” |

**\_\_\_\_** **3.** Colton counts the number of people who visit the community pool each day for 1 week. He displays his findings on a bar graph.



Between which two days did Colton observe the **greatest change** in the number of visitors?

|  |  |
| --- | --- |
| **A** | Tuesday and Wednesday |
| **B** | Wednesday and Thursday |
| **C** | Thursday and Friday |
| **D** | Friday and Saturday |

**\_\_\_\_ 4.** Ms. Stockton’s class makes a ramp. Her students release a toy car and let it roll down the ramp. They measure how long it takes the toy car to travel 1 m past the end of the ramp. Which of the following reasons explains why the students need to have several trials of releasing the car before they analyze the results?

|  |  |
| --- | --- |
| **A** | They may want to move the ramp each time. |
| **B** | The carpet on the floor may have slowed down the car. |
| **C** | They may want to try pushing the car instead of releasing it. |
| **D** | Someone could have been distracted and might not have stopped the stopwatch right away. |

**\_\_\_\_** **5.** Laney watches her mom rub soap on her finger to help her get a ring unstuck. She thinks that soap must reduce friction. She designs an investigation to test her theory. She pulls a weight across a board and records the force with a spring scale. She then puts soap on the board and pulls the weight again.Which of the following variables is Laney measuring?

|  |  |
| --- | --- |
| **A** | The force needed to pull the weight |
| **B** | the amount of weight being pulled |
| **C** | the speed with which the weight is pulled |
| **D** | the type of surface the weight is being pulled across |

**\_\_\_\_** **6.** Caroline is learning how to accurately read a thermometer. She places the following thermometer in the sun for one hour.



What temperature does Caroline read on the thermometer?

|  |  |
| --- | --- |
| **A** | 38°C |
| **B** | 38°F |
| **C** | 100°C |
| **D** | 105°F |

**\_\_\_\_ 7.** Cami used the stopwatch to record how long an experiment lasted. According to the instruction manual, the stopwatch is accurate to the nearest one-hundredth second.



What time period should Cami record in her notebook?

|  |  |
| --- | --- |
| **A** | 1337 sec |
| **B** | 13.37 sec |
| **C** | 13 hr and 37 min |
| **D** | 13 min and 37 sec |

**\_\_\_\_ 8.** Each measuring tool is designed to measure a specific property of an object or material. Which of these tools can be used to measure the volume of a material?

|  |  |
| --- | --- |
| **A** | measuring cup |
| **B** | spring scale |
| **C** | balance |
| **D** | thermometer |

**\_\_\_\_** **9.** Christian used a spring scale like this in an experiment he was conducting.



What did Christian measure with the spring scale?

|  |  |
| --- | --- |
| **A** | force |
| **B** | mass |
| **C** | volume |
| **D** | weight |

**\_\_\_\_ 10.** Each tool in the science laboratory has a specific purpose. Which of these tools is MOSTLY used to transfer liquid materials from one place to another?

|  |  |
| --- | --- |
| **A** | a balance |
| **B** | a hand lens |
| **C** | a dropper |
| **D** | a thermometer |

**\_\_\_\_ 11.** When you perform an experiment, it is important that measurements are accurate. What determines the accuracy of a measurement?

|  |  |
| --- | --- |
| **A** | how close it is to the actual value |
| **B** | the number of times that it is repeated |
| **C** | the ability of other people to reproduce the measurement |
| **D** | whether the results of an experiment match the predicted results |

**\_\_\_\_ 12.** Which of the following is a measurement of volume?

|  |  |
| --- | --- |
| **A** | 20 centimeters |
| **B** | 20 grams |
| **C** | 20 pounds |
| **D** | 20 liters |

**Unit 1, Lesson 5 & 6 Review Quiz**

**Answer Section**

**MULTIPLE CHOICE**

**1.** ANS: C

• A is incorrect because when you use your senses to gather information, you are making observations, not stating hypotheses.

• B is incorrect because when you use your senses to gather information, you are making observations, not forming conclusions.

• C is correct because when you use your senses to gather information, you are making observations.

• D is incorrect because when you use your senses to gather information, you are making observations, not performing experiments.

**2.** ANS: A

• A is correct because this is a statement made using one's senses. Therefore, it is an observation.

• B is incorrect because this is a question or a problem, not an observation.

• C is incorrect because this is a conclusion, not an observation.

• D is incorrect because this is a conclusion, not an observation.

**3.** ANS: A

• A is correct because between Tuesday and Wednesday, the number of visitors dropped by 140. This is the greatest difference among the choices.

• B is incorrect because between Wednesday and Thursday, the change in number of visitors was 100. This is not greater than the difference in visitors between Tuesday and Wednesday (140).

• C is incorrect because between Thursday and Friday, the change in number of visitors was 90. This is not greater than the difference in visitors between Tuesday and Wednesday (140).

• D is incorrect because between Friday and Saturday, the change in number of visitors was 30. This is not greater than the difference in visitors between Tuesday and Wednesday (140).

**4.** ANS: D

A is incorrect because moving the ramp would introduce a new variable.

B is incorrect because it does not explain why they might want to repeat the same investigation.

C is incorrect because pushing the car would change what they are measuring.

D is correct because it explains a reason for repeated trials.

**5.** ANS: A

A is correct because the force needed to pull the weight would give information about the amount of friction being exerted in each trial.

B is incorrect because the weight is the same in both trials.

C is incorrect because the speed is not being measured.

D is incorrect because the type of surface is not being changed or measured.

**6.** ANS: A

A is correct because the top of the line is beside the line showing 38° on the Celsius side of the thermometer.

B is incorrect because the top of the line is beside the line showing 100° on the Fahrenheit side of the thermometer.

C is incorrect because the 100° reading is on the Fahrenheit side of the thermometer.

D is incorrect because the top of the line is beside 100 °F, not 105 °F.

**7.** ANS: B

A is incorrect because the difference in size of numbers indicates that the stopwatch records whole numbers and decimal parts of seconds.

B is correct because the smaller numbers indicate that the final digits are tenths and hundredths of a second.

C is incorrect because this stopwatch does not indicate hours.

D is incorrect because the colon (:) indicates the break between minutes and seconds. There are 0 min on the watch.

**8.** ANS: A

A is correct because the measuring cup is used to measure the volume of a liquid or powder.

B is incorrect because the spring scale is used to measure weight, not volume.

C is incorrect because the balance is used to measure the mass of an object, not its volume.

D is incorrect because the thermometer is used to measure temperature, not volume.

**9.** ANS: A

A is correct because the scale is being used to measure the force needed to pull the object.

B is incorrect because spring scales are used to measure force, not mass.

C is incorrect because the reading on a spring scale is force, and it is not related to the volume of the object.

D is incorrect because the spring scale measures force in the direction of the pull, so it can measure weight only if the object is not on a surface.

**10.** ANS: C

A is incorrect because the balance is used to measure mass/weight.

B is incorrect because a hand lens is used to observe objects closely.

C is correct because a dropper is used to transfer liquids.

D is incorrect because a thermometer is used to measure temperature.

**11.** ANS: A

A is correct because accuracy is defined as closeness of a measurement to the actual value.

B is incorrect because an inaccurate measurement can be repeated if the reason for the inaccuracy is repeated.

C is incorrect because it is possible for other people to reproduce an inaccurate measurement.

D is incorrect because accurate measurements can lead to results that were not predicted.

**12.** ANS: D

A is incorrect because centimeter is a unit of length, not volume.

B is incorrect because the gram is a unit of mass, not volume.

C is incorrect because pound is a unit of weight, not volume.

D is correct because the liter is a unit of volume.