**Unit 1, Lesson 1 & 2 Review Quiz**

**Multiple Choice**

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

**\_\_\_\_ 1.** Meteorologists track hurricanes as they develop over oceans. The following illustration shows the anticipated storm track of a hurricane that developed in August 2009 over the Atlantic Ocean.



What are meteorologists doing when they create storm tracks such as this one?

|  |  |
| --- | --- |
| **A** | predicting |
| **B** | testing their ideas |
| **C** | explaining how a hurricane develops |
| **D** | gathering information to determine the strength of a hurricane |

**\_\_\_\_ 2.** In 1960, Hurricane Donna swept across Florida. Donna was one of the most severe hurricanes on record. What evidence did scientists collect to support this fact about Donna?

|  |  |
| --- | --- |
| **A** | Donna formed over the Atlantic Ocean. |
| **B** | Donna caused seas to rise along the entire Florida coast. |
| **C** | Donna caused strong winds in Broward County, Florida. |
| **D** | Donna has been the only hurricane on record to produce hurricane-force winds from Florida to New England. |

**\_\_\_\_ 3.** In the 1600s, a scientist developed a recipe for making mice. His recipe called for placing a dirty shirt or some rags in an open pot along with a few grains of wheat. In 21 days, mice will appear! What was this scientist doing?

|  |  |
| --- | --- |
| **A** | testing an idea |
| **B** | gathering evidence |
| **C** | making a prediction |
| **D** | collecting information |

**\_\_\_\_ 4.** Over the years, a scientist collected information about the number of mice living in a field. The following graph shows the information this scientist collected.



What is a reasonable prediction to make from this graph?

|  |  |
| --- | --- |
| **A** | The number of mice in the field will start to drop. |
| **B** | The number of mice in the field will start to level off. |
| **C** | The number of mice in the field will continue to increase. |
| **D** | The number of mice in the field will not be able to be estimated in the future. |

**\_\_\_\_ 5.** Jinyah thinks that it is more likely to rain on days with high humidity. She collects data on rainfall and humidity every day for one month. After studying the data, she concludes that rain is more likely when the humidity is high. What is the **main** reason that Jinyahneeded to collect data before drawing a conclusion?

|  |  |
| --- | --- |
| **A** | to use as evidence to decide if she is correct |
| **B** | to understand why it rains more on humid days |
| **C** | to persuade other people to believe her opinion |
| **D** | to show that she did not need to do an experiment |

**\_\_\_\_ 6.** The first astronauts walked on the moon more than 40 years ago. Look at the picture of a footprint of an astronaut’s boot on the moon.



Which statement is a scientific observation?

|  |  |
| --- | --- |
| **A** | The boot weighs a lot. |
| **B** | The boot is colored gray. |
| **C** | The bottom of the boot has ridges. |
| **D** | The temperature of the boot is very cold. |

**\_\_\_\_ 7.** Oliver wonders what kinds of birds live in his neighborhood. What skill will Oliver use to investigate the variety of birds in his neighborhood?

|  |  |
| --- | --- |
| **A** | infer |
| **B** | observe |
| **C** | order |
| **D** | communicate |

**\_\_\_\_ 8.** Briley wants to conduct an investigation in a scientific way. Which of the following is in the correct order?

|  |  |
| --- | --- |
| **A** | gather evidence, plan an investigation, ask a question, draw conclusions |
| **B** | plan an investigation, ask a question, gather evidence, draw conclusions |
| **C** | ask a question, plan an investigation, gather evidence, draw conclusions |
| **D** | ask a question, draw conclusions, plan an investigation, gather evidence |
|  |  |

**\_\_\_\_ 9.** Study the following picture.



Which statement demonstrates the **most** scientific observation?

|  |  |
| --- | --- |
| **A** | The water is changing. |
| **B** | The flame is causing a change. |
| **C** | Bubbles are forming and rising. |
| **D** | Steam forms when water gets hot. |

**\_\_\_\_ 10.** Myles’s teacher gave the class the first quiz of the year. It was a rainy day. Now, Myles dislikes rainy days. What word describes Myles’s feelings about rainy days?

|  |  |
| --- | --- |
| **A** | opinion |
| **B** | inference |
| **C** | observation |
| **D** | valid conclusion |

**\_\_\_\_ 11.** Study the following pictures of common classroom objects.



Which objects would be classified together?

|  |  |
| --- | --- |
| **A** | 1, 2, 4 |
| **B** | 2, 3, 4 |
| **C** | 1, 3, 4 |
| **D** | 1, 2, 3 |

**\_\_\_\_ 12.** Ty measured the temperature outside the class window several times during the day. The following table shows his measurements.

|  |  |
| --- | --- |
| **Time** | **Temperature (°C)** |
| 9:00 a.m. | 10 |
| 11:00 a.m. | 15 |
| 1:00 p.m. | 17 |
| 3:00 p.m. | 12 |

What does Ty’s evidence tell you about the temperature during the day?

|  |  |
| --- | --- |
| **A** | it went up |
| **B** | it went down |
| **C** | it did not change |
| **D** | it went up, then down |

**\_\_\_\_ 13.** Sometimes, the results of an investigation are not what was expected. When this happens, what should a scientist do?

|  |  |
| --- | --- |
| **A** | Change the results. |
| **B** | Defend the results as correct. |
| **C** | Plan another investigation to test the results of the first one. |
| **D** | Ignore the first set of results and plan a different investigation. |

**\_\_\_\_ 14.** Sometimes scientists replicate the research of other scientists. Which of the following is the **most likely** reason scientists do this?

|  |  |
| --- | --- |
| **A** | to form new theories |
| **B** | to improve the research |
| **C** | to win prizes for their work |
| **D** | to verify that the work is accurate |

**\_\_\_\_ 15.** In science, we often gather information with our senses by watching, listening, smelling, and touching. For example, you may record how the color of a flower changes. What is this process called?

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

**Unit 1, Lesson 1 & 2 Review Quiz**

**Answer Section**

**MULTIPLE CHOICE**

**1.** ANS: A

• A is correct because the storm track shows the projected path of the hurricane.

• B is incorrect because meteorologists are not conducting any tests when they project the path of a hurricane.

• C is incorrect because a storm track does not show how the hurricane formed over water.

• D is incorrect because direct observations are made to determine the strength of a hurricane.

**2.** ANS: D

• A is incorrect because most hurricanes that strike the East Coast form over the Atlantic Ocean.

• B is incorrect because all hurricanes cause rising seas.

• C is incorrect because scientists would need quantitative data about wind speed to be able to compare hurricane strengths.

• D is correct because the widespread impact of Donna supports the claim that it was one of the most severe hurricanes on record.

**3.** ANS: C

• A is incorrect because nothing is mentioned about the scientist testing this recipe.

• B is incorrect because nothing is said about the scientist making observations or conducting an experiment.

• C is correct because the scientist makes a claim about what will happen in 21 days.

• D is incorrect because nothing is mentioned about the scientist recording data or making direct observations.

**4.** ANS: C

• A is incorrect because the graph shows a continuous increase.

• B is incorrect because the graph continues to rise as time progresses.

• C is correct because a further increase is a logical extension of the graph.

• D is incorrect because there is no reason to think that scientists will not be able to count or estimate the number of mice in the future.

**5.** ANS: A

• A is correct because Joanne needs the data to support or not support her initial thinking about rain and humid days.

• B is incorrect because the data is needed as evidence from which to draw a conclusion.

• C is incorrect because the data is needed so that she can draw a conclusion, whether or not she wants to convince other people that she is correct.

• D is incorrect because the process of collecting the data is part of an experiment.

**6.** ANS: C

A is incorrect because there is no information about how much the boot weighs.

B is incorrect because there is no information about color.

C is correct because the outline of the boot is visible in the picture, and it has ridges on it.

D is incorrect because there is no way to tell what the temperature is. The student may know that it can be very cold on the moon, but the picture has no information about that.

**7.** ANS: B

A is incorrect because inferring is a skill used to summarize observations.

B is correct. Joseph would need to observe the birds in his neighborhood.

C is incorrect because Joseph could list the birds he saw in the order he saw them, but ordering would not tell him what kinds of birds live in his neighborhood.

D is incorrect because communicating is a skill for sharing results, not for investigating.

**8.** ANS: C

A is incorrect because Sarah must first ask a question, then plan an investigation, then gather evidence, and finally draw conclusions.

B is incorrect because Sarah must first ask a question, then plan an investigation, then gather evidence, and finally draw conclusions.

C is correct. Sarah must first ask a question, then plan an investigation, then gather evidence, and finally draw conclusions.

D is incorrect because Sarah must first ask a question, then plan an investigation, then gather evidence, and finally draw conclusions.

**9.** ANS: C

A is incorrect. Although it is an observation, it is not descriptive and as detailed as it could be.

B is incorrect because it is an inference based on observation of the bubbling and prior knowledge of what is known about heating water.

C is correct because it is a description of what the bubbles can be seen doing.

D is incorrect because it is an inference based on prior knowledge of what is known about heating water.

**10.** ANS: A

A is correct. Disliking rainy days is an opinion.

B is incorrect because an inference is a conclusion drawn from repeated observations, and Matthew has so far observed only one quiz.

C is incorrect. Although Matthew did observe that there was a quiz on the day it rained, disliking rainy days is an opinion.

D is incorrect because a valid conclusion must be based on repeated observation and investigation, and so far there has been only one quiz.

**11.** ANS: C

A is incorrect because the pencil and chalk are writing implements, but the ruler is a measuring implement.

B is incorrect because the ruler is measuring implement, but the pen and chalk are writing implements.

C is correct because the pencil, pen, and chalk are all writing implements.

D is incorrect because the ruler is a measuring implement, but the pencil and pen are writing implements.

**12.** ANS: D

A is incorrect because the temperature increased until 1:00 p.m., then decreased.

B is incorrect because the temperature increased until 1:00 p.m., then decreased.

C is incorrect because the temperature increased until 1:00 p.m., then decreased.

D is correct because the temperature increased until 1:00 p.m., then decreased.

**13.** ANS: C

A is incorrect because results should never be changed once they are collected.

B is incorrect because the results of the investigation may not be correct. The investigation should be performed again before unexpected results are defended as correct.

C is correct. An investigation should always be repeated to make sure that it was conducted correctly and that the results are valid.

D is incorrect. Ignoring the results of an investigation is not good scientific practice because many discoveries have been made by getting unexpected results.

**14.** ANS: D

A is incorrect because although new theories may come from work that is duplicated, it is more likely that the accuracy of the original results will be proved valid or invalid.

B is incorrect because although research methods may be refined by duplicating the original work, it is more likely that the accuracy of the original results will be proved valid or invalid.

C is incorrect because although scientists like to win prizes, it is more likely that they will validate the accuracy of the original results or invalidate those results.

D is correct because reproducibility is a very important characteristic of good research. If work cannot be duplicated, it is less likely to be valid.

**15.** 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.