

Testing Hypotheses Practice Worksheet

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1. To test a hypothesis, a scientist could
 - a. Make observations
 - b. Perform experiments
 - c. Look to the scientific literature to find data
 - d. All of the above

2. One of the reasons for the increase in carbon dioxide in the atmosphere is due to the increase in the amount of fossil fuels used.
 - a. TRUE
 - b. FALSE

3. Select all possible answers:
Select each of following hypotheses that are testable and falsifiable.
 - a. Some people who travel through the Bermuda triangle are transported to the future.
 - b. Birds that sing a particular song have more offspring.
 - c. Earth has only one moon.
 - d. There is a planet in the universe that is made entirely of gold.

4. CO₂ has been increasing in the atmosphere for the past several decades.
 - a. TRUE
 - b. FALSE

5. If a hypothesis fails a test, then it should be discarded.
 - a. TRUE
 - b. FALSE

6. Sort the following into the categories based on the directions:
Drag each hypothesis into either the "falsifiable" or "not falsifiable" category based on whether or not it can be disproven through an experiment.
Fish that hide in seashells when predators approach are eaten less often than those that do not.
There is an undetectable force that holds all of the atoms in the universe together.
Birds of a particular species that fly south for the winter are more likely to survive to the next year than birds of the same species that choose not to migrate.
Categories:
 - Falsifiable = _____

- Not Falsifiable = _____

7. The hypothesis - the increase in carbon dioxide in the atmosphere is due to increased volcanic activity - is wrong because

- Volcanic gas compositions have changed over time
- Volcanic eruption rates have not changed over time
- The amount of carbon dioxide in volcanic gases has increased over time
- The number of volcanic eruptions has increased

8. Select the word pair that best completes the following sentence.

A strong scientific hypothesis must be both _____ and _____.

- accurate, precise
- testable, falsifiable
- correct, brief
- exciting, dangerous

9. Why does a hypothesis have to be falsifiable?

- It must be able to pass all its tests
- It must be possible to show that it is wrong
- It can be right only if its found to be false
- All of the above

10. A hypothesis can be disproven.

- TRUE
- FALSE

Printed: February 12, 2021

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