

Scientific Problem Solving

Directions: List the basic steps used to solve scientific problems.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

To determine which of three types of batteries last the longest, Laura used three identical flashlights, put one type of battery in each, turned them on simultaneously, and timed how long each flashlight remained lit. Use Laura's experiment to answer these questions.

8. What are the independent variables? _____

9. What are the dependent variables? _____

10. What are the constants? _____

11. How could Laura make sure her conclusions were valid? _____

12. If one of the flashlights went off after only one minute, what would you conclude? _____

13. Wallace hypothesized that batteries will last longer if he plays his boom box at low rather than high volume. Describe how he could test his hypothesis. _____