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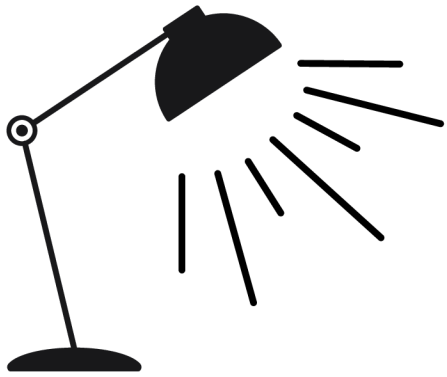
Energy Use Experiment

Materials:

- Lamp with a timer (or track manually)
- Notebook
- Clock



Instructions:

1. Set up the lamp in a common area where family members spend time.
2. Over one week, track how long the lamp is on each evening, recording the start and stop times.
3. Calculate the total daily and weekly time the lamp was used.
4. As the seasons change, repeat this experiment and see if you use the lamp more or less often during certain seasons.

Why it works:

As days get shorter, we naturally use more artificial light, which uses energy. This experiment encourages us to consider why daylight savings time was initially created—to reduce energy use during darker months.

Take it further:

Can you brainstorm ways to save energy as daylight decreases?

Name: _____ Date: _____

Experiment: Energy Use

Question:

Hypothesis:

Observations:

Conclusions:

The Scientific Method

A series of steps used to help solve a question

Question:

Make an interesting observation and ask a question about it. Is there something you want to know more about?
E*xample: Why don't all balloons float?*

Research/ Background Information:

Use your 5 senses to make observations about the topic. Read books and collect facts about the topic.
Example: Research different gases. Do they all have the same density?

Hypothesis:

A hypothesis is an educated guess. It can be tested. A hypothesis will start with the words, "If I (do something), then (this will happen)."
Example: If I fill the balloon with helium, it will float.

Procedure:

Design a set of steps to test your hypothesis. Consider variables like what will stay the same and what will change.
*Example: The balloon will stay the same (**controlled variable**), but it will be filled with different gases **(independent variable**), and it will either sink or float **(dependent variable**).*

Experiment:

Conduct your experiment and record your data. Write down the materials you use, the amount, the temperature, the time, and anything else important to your testing.
Example: A latex balloon was filled with 500mL of helium at 70'F. It floated 8 ft (the height of the ceiling). A latex balloon was filled with 500mL of carbon dioxide at 70'F. It stayed on the ground.

Observations/ Results:

Analyze your data to determine what effect your independent variable had on your dependent variable. Was your hypothesis right? Wrong? Why?
Example: When the balloon was filled with helium (independent variable) it would float (dependent variable) but when it was filled with carbon dioxide (independent variable) it did not float.

Conclusion:

Write a paper or give an oral presentation stating your conclusion. You can create a poster to display your findings.

Name: _____ Date: _____

Experiment: Energy Use

Question/ Purpose:

Background information:

Hypothesis:

Experiment:

Materials:

Procedure:

Observations/ Results:

Conclusion: