Repeating the Experiment **Answer Key**

1. If you conducted an experiment to test if plants need sunlight to grow and got surprising results, would you repeat the experiment? Why or why not?

- Answer: Yes, I would repeat the experiment. Repeating the experiment is important because it helps ensure that the unexpected results are not a one-time occurrence. It allows us to see if the results are consistent.

2. Why is it important for scientists to repeat experiments when they obtain surprising results?

- Answer: It's important for scientists to repeat experiments with surprising results because it helps confirm whether the unexpected findings were due to an error or if they represent a new discovery. Repeating experiments adds reliability to the results.

3. Can you think of a real-life situation where repeating an experiment would be important for scientists?

- Answer: Yes, one real-life situation could be in medicine when testing a new drug. If a drug shows unexpected results in an initial trial, scientists would repeat the experiment to determine if the results are consistent and reliable before making any conclusions about its effectiveness or safety.

4. What might you change or improve in the repeated experiment to ensure more accurate results?

- Answer: In the repeated experiment, you might pay extra attention to controlling variables, using more precise measuring tools, or increasing the sample size. Making these improvements can help ensure the results are as accurate as possible.

5. How does repeating an experiment contribute to the reliability and credibility of scientific research?

- Answer: Repeating an experiment adds credibility to scientific research because it demonstrates that the results are not random or due to chance. When multiple experiments yield the same findings, it strengthens the reliability of the results, making them more credible in the scientific community.