



SCIENCE EXPERIMENT



Growing Radishes Under Different Light Wavelengths

QUESTION: How does different light wavelength affect radish plant growth?



BACKGROUND

Plants use light to make food through a process called photosynthesis. Different wavelengths (colors) of light may affect how well plants grow. In this experiment, we will grow radishes under different light wavelengths and compare their growth.



HYPOTHESIS

If radishes are grown under different light wavelengths, then _____

because _____



METHOD

1. Label the 4 pots: Red, Blue, Green, White.
2. Fill each pot with potting soil.
3. Plant 3–5 radish seeds in each pot about 1/2 inch deep. Water gently.
4. Place each pot under its assigned light color. Keep the lights the same distance above each pot.
5. Keep lights on for 12–14 hours each day. Keep all other conditions the same (water, distance, temperature).
6. Water as needed to keep soil moist but not soggy.
7. Measure and record growth every 2–3 days for 2 weeks.



MATERIALS

- Radish seeds
- 4 small pots or cups with drainage holes
- Potting soil
- Grow lights or LED bulbs in these colors:
 - Red ● Blue ● Green ○ White (full spectrum)
- Ruler
- Water
- Labels or tape and marker
- Notebook or data sheet (this page)



CONSTANTS (Keep the Same)

- Type of seeds
- Soil
- Pot size
- Amount of water
- Distance from light
- Light duration (12–14 hours/day)
- Room temperature



DATA TABLE

Measure plant height from the soil line to the top of the tallest leaf.

Day	Plant Height (cm)			
	Red Light	Blue Light	Green Light	White Light
Day 0 (planted)				
Day 3				
Day 6				
Day 9				
Day 12				
Day 14				



OBSERVATIONS

Describe what you see about the growth and appearance of the radishes under each light.



CONCLUSION

Which light produced the best growth? Which produced the least? What does this tell you about how light wavelength affects plant growth?



EXTENSION IDEAS

- Test more light colors (yellow, purple, amber).
- Measure other factors like number of leaves or leaf size.
- Research how plants use light for photosynthesis.