



BUILDING A SMALL GREENHOUSE FROM PLASTIC BOTTLES

QUESTION:

How does a mini greenhouse made from a plastic bottle affect temperature and plant growth?

MATERIALS

- 2 clear plastic bottles (1–2 liter size)
- Potting soil
- 2 small plants or seeds (fast growing, e.g., beans)
- 2 small pots or cups (fit inside the bottles)
- Thermometer (digital or stick)
- Tape
- Scissors or box cutter (use with adult help)
- Marker
- Ruler
- Water
- Sunny window or bright area



PROCEDURE

1. Cut both plastic bottles as shown in the setup overview. Keep the cap on the greenhouse bottle.
2. Fill the two small pots or cups with potting soil. Plant the same type and number of seeds (or use similar-sized seedlings).
3. Water both plants the same amount.
4. Place one pot inside the greenhouse bottle and close the top.
5. Place the other pot inside the open bottle (control).
6. Put both bottles in the same bright location.
7. Each day, measure and record the temperature inside each bottle.
8. Observe your plants daily. Water both plants with the same amount when needed.
9. Continue for 7 days.

SETUP OVERVIEW

GREENHOUSE (BOTTLE WITH TOP)



This bottle will act as your mini greenhouse.

CONTROL (OPEN BOTTLE)



This bottle is open to the air.



You are comparing the **greenhouse** (closed) to the control (open) to see the difference.

DATA TABLE

Day	Temperature in Greenhouse (°F or °C)	Temperature in Control (°F or °C)	Observations (Plant Growth, Leaves, Moisture, etc.)
1			
2			
3			
4			
5			
6			
7			

CONCLUSION

1. What differences did you notice in temperature between the greenhouse and the control?

2. How did the plants compare in growth and appearance?

3. Why do you think the greenhouse affected temperature and plant growth?

4. What would you change if you did this experiment again?



SCIENCE TIP: Greenhouses trap heat and moisture, creating a warmer, more stable environment for plants!