1.1 IT'S A GAS

How does biotic material form natural gas?

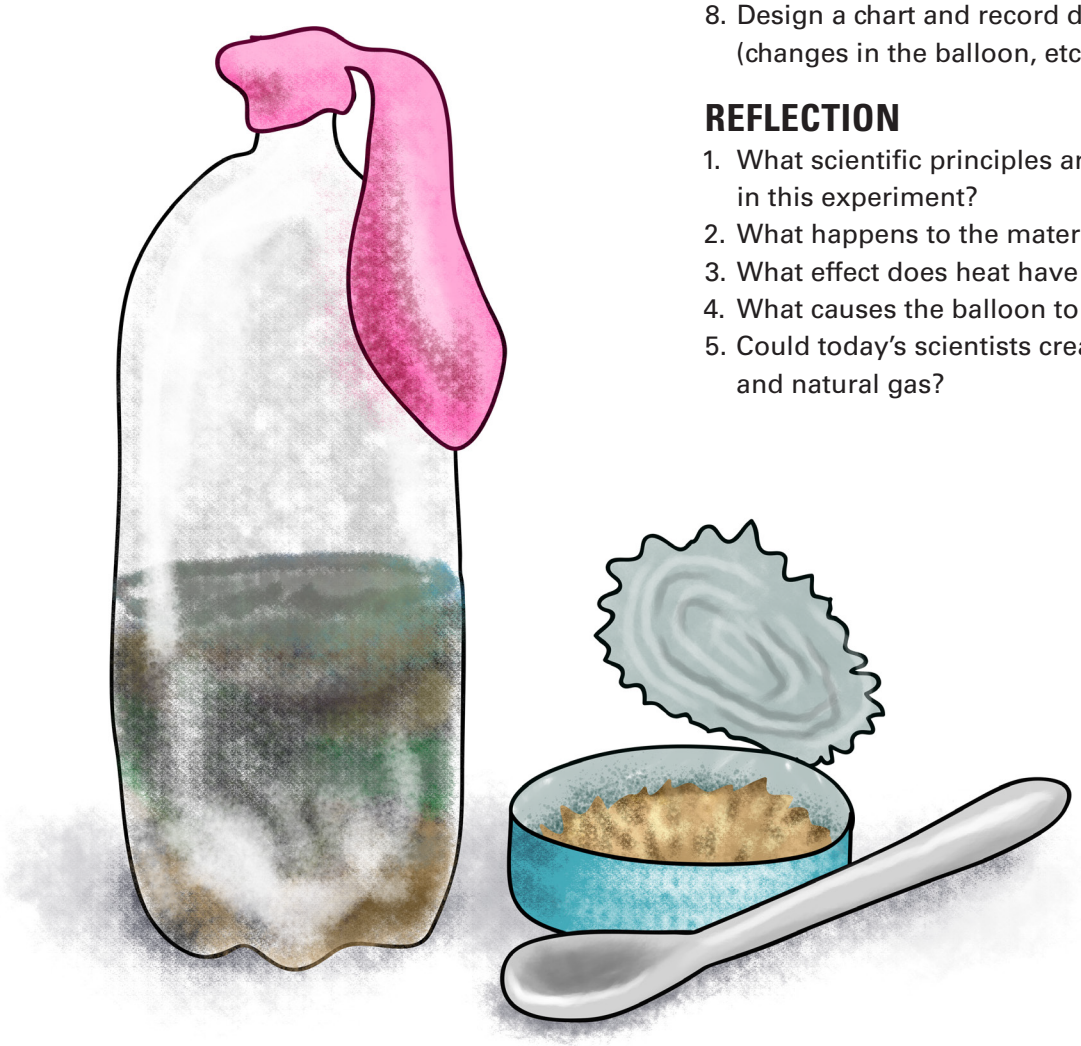
MATERIALS

Per small group of students:

- 10g of organic substance (tuna, beef, egg)
- A few lettuce leaves
- Drink bottle
- 50g sand
- Balloon
- Balance scale
- 10 ml pond or creek water
- Duct tape

DIRECTIONS

1. Measure 10g of an organic substance (tuna, beef, or egg to provide microbes) and put into the bottle.
2. Tear the lettuce leaves into small pieces and put it into the bottle.
3. Use the balance scale to measure 50g of sand. Carefully pour the sand into the bottle so that it covers the organic substance and lettuce. Do not shake the bottle.
4. Measure 10 ml of pond or creek water. Slowly pour the water into the bottle. Try to make it run down the inside of the bottle instead of pouring it directly onto the sand.
5. Stretch the opening of the balloon over the opening of the bottle. Seal with masking tape.
6. Put the bottle in a warm place (preferably outside as contents could produce a strong odor).
7. Predict what will happen over the next few days.
8. Design a chart and record daily observations (changes in the balloon, etc.).



REFLECTION

1. What scientific principles are demonstrated in this experiment?
2. What happens to the material in the bottle?
3. What effect does heat have on this process?
4. What causes the balloon to expand?
5. Could today's scientists create crude oil and natural gas?