

How can you model permeability in cells?



Materials

graduated cylinder, plastic sandwich bag, starch, twist tie, 500-mL beaker, iodine solution



Procedure

1. Pour about 50 mL of water into a plastic sandwich bag. Add 10 mL of starch. Secure the bag with a twist tie, and shake it gently to mix in the starch.
2. Put on your goggles, plastic gloves, and apron.
3. Pour 250 mL of water into a 500-mL beaker. **CAUTION: Handle the beaker carefully.** Add 15 drops of iodine. **CAUTION: Iodine is corrosive and irritating to the skin and can stain skin and clothing. Be careful not to spill it on yourself.**
4. Place the sandwich bag of water and starch into the beaker of water and iodine.
5. After 20 minutes, look at the sandwich bag in the beaker. Observe and record any changes that occurred.

Analyze and Conclude

1. **Using Models** What cell structure does the sandwich bag represent?

2. **Observing** What did you see inside the sandwich bag? Outside the sandwich bag?

3. **Inferring** Iodine turns blue-black in the presence of starch. What process do you think occurred that caused the results you observed? Explain your answer.
