Selective Barrier in a Cell

Question:

How does the selective barrier in a cell work?

Experiment:

To examine how a selective barrier works.

Materials:

You will need:

- Large beaker or jam-jar
- water
- iodine
- corn flour

Method:

1. Put two tablespoons of corn flour (a type of starch) into a bag.
2. Mix enough water with the starch to make the bag sink.
3. Fill ½ of the beaker with water.
4. Place the plastic bag into the beaker making sure that the tied part of the bag remains over the water.
5. Add a few drops of iodine to the water.
6. This turns the water pale brown orange in colour.
7. Leave overnight and record the results.

Result:

The starch inside the bag turned blue-black.

Conclusion:

Iodine molecules are small enough to pass into the bag.
The iodine reacts with the starch making it blue-black, but the larger starch molecules cannot leave the bag, so the colour outside does not change.
The iodine is in high concentration in the beaker and moves towards the starch. The large starch molecules can't move from the area of high concentration to low as they are too big to pass through the semi-permeable membrane.

Find out more!
Osmosis is a special case of diffusion – the movement of molecules from an area of high concentration to an area of low concentration across a semi-permeable membrane.