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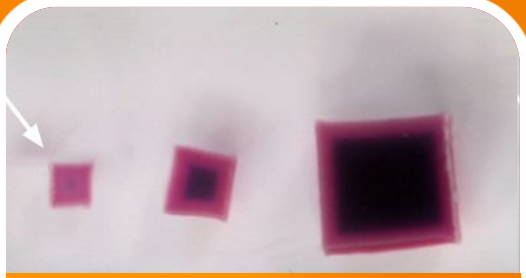

Watch Video

Plant & Animal Cells Activity for Kids

Cell Diffusion Model DIY

Duration: **30-45 min** Difficulty: **Medium** Cost: **$0 to $15**

Make color-changing gelatin blocks to model diffusion!

Material List

- 1/4 Red Cabbage
- 4 Cups of water
- 4 Packets of gelatin
- 1 Teaspoon of ammonia
- 1 Cup of vinegar
- 1 Blender
- 1 Strainer
- 1 Pot
- 1 Plastic knife
- 1 Ruler
- 2 Tupperware containers

Instructions

1. Blend ¼ of a red cabbage in 4 cups of water for 1 min.
2. Strain the mixture into a pot and heat until almost boiling.

Warning: Use caution and an adult's help when heating.

3. Stir 4 packets of gelatin (~28 grams) into the heated mixture.
4. Transfer the mixture into a plastic container and stir in 1 teaspoon of ammonia.

Warning: Ammonia has a strong odor. Once mixed in, the odor goes away.

5. Place the mixture in the fridge overnight.
6. Cut out 3 gelatin cubes: 2cm, 1cm, and 0.5 cm cubed
7. Add the cubes into a bowl of vinegar and observe.

How It Works

The vinegar molecules move into the gelatin cubes through a process called "diffusion." This causes the color to change due to the red cabbage juice. Diffusion is when molecules randomly vibrate from areas of high concentration to areas of low concentration. Diffusion in and out of the gelatin cubes happens more quickly in the smaller ones. This is why it is an advantage for cells to be tiny: molecules can diffuse in or out much faster.

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