

B1.2 Water transport in plants

“Yeah, yeah, water always flows downward,” Ben teases his sister Mia, who just spilled her soft drink. “Or have you ever seen water spilled from a tipped drinking cup flow to the ceiling?” “No, of course not,” Mia replies. “But it seems to work that way in plants. They get water from the ground and somehow have to get it to the blossoms and leaves.” “Well, too bad you’re not a plant,” says Ben. “Then you wouldn’t have to wipe that up right now.”



Think about how water is transported in plants.



Write down your ideas and guesses:

You need the following for the experiment:

- 2 glasses of the same size
- 5 drops of ink
- 1 paper napkin
- 1 pipette
- water (one glassful)



Required materials.



How to set up the experiment:

Lay out all the materials as shown in the photo.

1. Place the two glasses right next to each other.
2. Fill one glass with water and leave the other glass empty.
3. Use the pipette to add a few drops of ink to the water, so that you can better observe what happens later.



How to conduct the experiment:

1. Roll up the napkin.
2. Place it over the glasses. One end of the napkin hangs in one glass, and the other end hangs in the second glass.
Important: The end of the napkin that is hanging in the glass of water must touch the water.



Write down your observations:

What happens with the napkin? What happens in the empty glass?



Evaluate your observations:

1. After a certain amount of time, compare the water level in the two glasses. What do you notice?

2. Do you now have an idea of how water is transported in plants? Note it down.

3. Now you know why the soft drink in the story at the beginning cannot flow from the floor back to the table. Write down the reason.



Doing further research:

1. Cut a flower out of white paper.
2. Now place it in the glass with the blue colored water.
3. Observe what happens and note it down.
4. With the aid of the first experiment, try to explain why the flower changed.