Name: _____ Grade: _____

Science class

Why don't the waters of the Rio Negro and the Rio Solimões mix?

Observation guide for the demonstration activity

Description of the activity: In this experiment, an investigative demonstration will show the effect of the type of solute on the mixing of waters. Our scientific question is: *Do waters with different dissolved solutes mix?* Answer the initial question of this activity, then observe the demonstration carefully, answering the questions at each stage of the experiment.

Initial question: Do you think the type of dissolved solute affects the ability of the waters to mix? Why?

Carrying out the experiment

You will be told when to answer each question. Remember: this activity is done in groups and you may discuss the questions with your classmates, but you must answer the questions individually.

1. Describe what you are observing.

2. What do you think will happen if the barrier is removed?

3. Was your prediction confirmed? Propose an explanation for what was observed.

4. Answer the question asked orally by the teacher.*

5. What do you think will happen if the barrier is removed?

6. Was your prediction confirmed? How do you explain this phenomenon?

*Question asked orally: Do you believe that if we actively stir the solutions with a spoon, they will mix?

Examples of well-evaluated answers

Initial question: “Yes, depending on the amount of solute and the speed at which the divider is removed.”

Question 1: “One side has water with dissolved sugar and red dye, the other has dissolved salt and blue dye.”

Question 2: “In the middle it will be purple (red + blue), and at the ends each color will stay on its side.”

Question 3: “No. The salt water was denser than the sugar water, but they mixed a little in the middle and the rest stayed separate.”

Question 4: “Yes, if they are stirred.”

Question 5: “The purple (stirred) part will stay between the red part and the blue part.”

Question 6: “Yes, the density of the purple part became lower than that of the blue water and higher than that of the red water.”