Experiment: Ice melt

Objective:
Investigate the different influence of glaciers and sea ice melt on sea level rise.

Background:

A glacier is an enormous ice mass that forms in mountainous regions or on top of continents in polar regions due to water compaction. Sea ice is instead forming at the surface of the ocean when seawater freezes due to the cold atmospheric temperatures.

Before starting, formulate your hypotheses on oceans level rise: do glaciers or does sea ice melt contribute most to sea level rise? Why?

Materials:

- 2 glasses;
- 1 rock/Lego;
- 2 ice cubes.

Group structure

Not more than 4 persons

1-2p	experiment
1p	documentation
1p	presentation

1) Preparation:

Take the two glasses: position the rock at the bottom of one of the two (glass A). Pour some water in both the glasses, so that it doesn't go above the level of the rock. Place the two ice cubes respectively on top of the rock (glass A) and in the water (glass B).

Finally, mark the level of the water in the two glasses.

Draw your experimental setup below!

2) Observations:

Wait that both ice cubes have melted and compare the final water level with the initial one.

Melting will take about 20 minutes. In the meanwhile, think about what is happening:

3) Analysis:

- What kind of ice do you think is represented in each glass? (Glacier/sea-ice)
- Is the ice cube inside or outside the water in glass A? And in glass B?
- After the ice has melted, where does the water go?

4) Interpretation

1. Compare results with your hypothesis. Did things happen as you expected? Can you now explain better than before what happened and why?
2. What makes the "sea level" rise in this experiment? Mass or volume? Compare this result with the result from the thermal expansion!

(If your answers do not fit here, you can write behind)