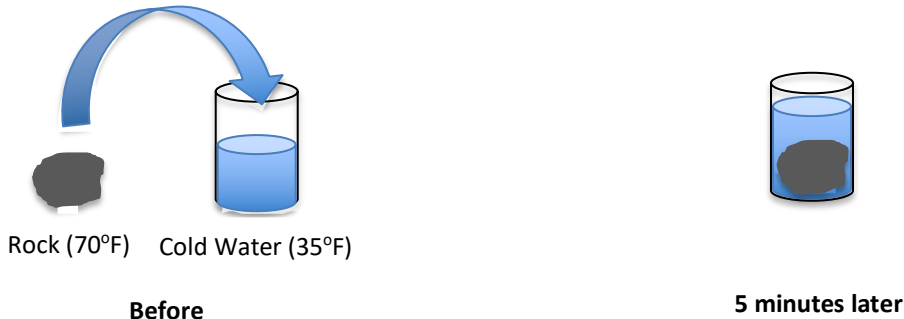


## Quick Check: Rock in Cold Water

A rock has been sitting on the table for a while and is at room temperature. Luisa has just taken a cup of cold water out of the refrigerator. She puts the rock in the cup of cold water. She then waits for 5 minutes to see what will happen.



1. During the 5 minutes the rock is in the cold water, the water will:

- Gain energy – **Energy will transfer from the warmer rock to the colder water.**
- Lose energy – **Students may think that the cold water will lose 'cold energy.'**
- Neither gain or lose energy - **Students may think the water can cool off the rock without gaining any energy.**

How could you *collect evidence* to test your answer:

**Students may recognize that they could use their hand or a thermometer to see if the water temperature changes. If the water temperature increases this would provide evidence that the water has gained energy.**

2. During the 5 minutes after the rock is placed in the cold water the rock will:

- Gain energy - **Students may think the rock will gain 'cold energy' from the water.**
- Lose energy - **Energy will transfer from the warmer rock to the colder water.**
- Neither gain or lose energy

The statement I chose makes sense to me because:

3. Which of these statements about energy transfer do you agree with?

- There was a transfer of energy from the water to the rock. **Students may be thinking about a model in which 'coldness' or 'cold energy' transfers from the water to the rock.**
- There was a transfer of energy from the rock to the water.
- There wasn't a transfer of energy, just temperature changes. **Students may not be associated changes in temperature with transfers of thermal energy.**
- There would not be a transfer of energy or temperature changes. **Students may need further evidence to convince them that the temperature of the water will change.**

The statement I chose makes sense to me because: