



Hot Cocoa Science!

Conduct an experiment to determine how water temperature affects the rate at which hot chocolate mix dissolves.

Materials:

- 3 mugs (microwave/hot water safe)
- 3 packets of instant hot chocolate
- Water
- Stopwatch or timer
- Notebook for recording your results

Procedure:

1. Make a prediction- which temperature of water will dissolve the chocolate mix the fastest: cold water, room temperature water, or hot water?
2. Empty the hot chocolate packets into the mugs. You need 3 mugs with one packet per mug.
3. Get your stopwatch or timer ready.
4. Choose the first mug and add 1 cup of **cold** water to the mix.
5. Start the timer and start stirring. Record how long it takes for the hot chocolate mix to dissolve.
6. Repeat for the remaining two mugs. Add **room temperature** water to one and **hot water** to the other. How long does it take for the mix to dissolve?
7. Compare your results to your prediction- were you right?
8. **Spoiler alert-** check the back page for the science behind the results!

Final step- ENJOY YOUR HOT COCOA!



What's happening?

Hot water has more energy than cold water. With more energy, the molecules move faster which breaks down the hot chocolate mix quicker.