

Hot Water Mix-Up

Read how temperature can change dissolving.

3.3.b “many solids dissolve more easily in hot water than in cold water.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the sentence that tells how many solids dissolve in hot water. Circle two details that made Maya's test fair.

Maya Tests Sugar

- ① Maya wanted to sweeten a cup of water with sugar. She noticed that sugar crystals seemed to vanish faster when the water was warm. The sugar did not disappear. It broke into tiny pieces that spread through the water. When a solid mixes evenly into water this way, it has dissolved. Sugar is a solid, and water is the liquid.
- ② To test her idea, Maya put the same amount of sugar into two clear cups. One cup held cold water, and one held hot water. She used equal amounts of water and stirred each cup the same number of times. The sugar in the hot water dissolved sooner. Many solids, including sugar, dissolve more easily in hot water than in cold water.
- ③ Hot water does not make every solid dissolve. Sand stays visible in both hot and cold water because it does not dissolve in water. Also, a cup can hold only so much dissolved solid. If Maya keeps adding sugar, extra sugar may collect at the bottom. Temperature, the kind of solid, and the amount added can affect what students observe.

2 ANSWER WITH EVIDENCE Use the passage

1 Which cup made the sugar dissolve sooner?

2 Name two things Maya kept the same in her test.

3 Why did Maya use equal amounts of water and the same number of stirs?

4 Would sand dissolve more easily in hot water than in cold water? Explain using the passage.

3 YOUR TURN Your own words

Plan a fair test with a solid that can dissolve in water. Write two sentences that tell what you will keep the same and predict which cup will dissolve the solid more easily.

PART 1 • READ AND MARK

Underline the sentence that tells how many solids dissolve in hot water. Circle two details that made Maya's test fair. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which cup made the sugar dissolve sooner?	The cup with hot water made the sugar dissolve sooner.
2	Name two things Maya kept the same in her test.	She used the same amount of sugar, equal amounts of water, and the same number of stirs. Any two.
3	Why did Maya use equal amounts of water and the same number of stirs?	She kept those parts the same so temperature was the important difference in the test.
4	Would sand dissolve more easily in hot water than in cold water? Explain using the passage.	No. The passage says sand does not dissolve in water, so it stays visible in both hot and cold water.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I would put the same amount of salt in two cups with equal amounts of hot and cold water and stir both cups ten times. I predict the salt will dissolve more easily in the hot water.

Accept a plan that compares hot and cold water while keeping key parts, such as the amount of solid, water, and stirring, the same. The prediction should state that the chosen dissolving solid will dissolve more easily in hot water.