

Water Mixing Lab

Read evidence about materials in water and temperature.

3.3 “The student will investigate and understand how materials interact with water. Key ideas include solids and liquids mix with water in different ways; and many solids dissolve more easily in hot water than in cold water.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each sentence that tells what happened when a material was mixed with water. Circle words that show whether a material dissolved, stayed separate, or dissolved more in hot water.

Maya Tests Materials

- ① At the science table, Maya poured the same amount of water into three clear cups. She added a spoonful of salt to the first cup and stirred. The salt seemed to disappear, but it was still there in the water. This is called dissolving. The water and salt made a mixture that looked clear. Maya could not pick the salt back out with a spoon.
- ② Next, Maya put a spoonful of sand into the second cup. Even after stirring, the sand did not dissolve. Its tiny pieces stayed visible, then sank to the bottom. Maya also poured cooking oil into the third cup. Oil is a liquid, yet it formed a layer on top of the water. Shaking made small drops for a short time, but the oil separated again.
- ③ To test temperature, Maya used two new cups with equal amounts of water and equal spoonfuls of sugar. One cup had cold water. One had hot water, with an adult helping. She stirred each cup the same number of times. More sugar dissolved in the hot water. The cold cup still had sugar grains at the bottom. Many solids, including sugar, dissolve more easily in hot water than in cold water.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What happened to the salt after Maya stirred it in water?

2 What two observations showed that sand did not dissolve?

3 How did the oil act differently from the salt when each was mixed with water?

4 What did Maya learn when she compared sugar in hot water and cold water?

3 YOUR TURN _____ Your own words

Plan a fair test for two safe solids that were not named in the passage. In each row, predict what may happen, then describe how you will keep the amounts of water, solid, and stirring the same while you compare cold and hot water.

SOLID	PREDICTION	COLD-WATER PLAN	HOT-WATER PLAN	WHAT I WILL COMPARE

PART 1 • READ AND MARK

Underline each sentence that tells what happened when a material was mixed with water. Circle words that show whether a material dissolved, stayed separate, or dissolved more in hot water. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What happened to the salt after Maya stirred it in water?	The salt dissolved in the water and made a clear mixture.
2	What two observations showed that sand did not dissolve?	The sand pieces stayed visible and then sank to the bottom.
3	How did the oil act differently from the salt when each was mixed with water?	Salt dissolved and mixed with the water. Oil formed a layer and separated again after shaking.
4	What did Maya learn when she compared sugar in hot water and cold water?	More sugar dissolved in hot water. Some sugar grains were left in the cold water.

PART 3 • YOUR TURN (SAMPLE ANSWER)

SOLID	PREDICTION	COLD-WATER PLAN	HOT-WATER PLAN	WHAT I WILL COMPARE
Baking soda	It may dissolve more in hot water.	Put 1 level spoonful in 1 cup of cold water and stir 20 times.	Put 1 level spoonful in 1 cup of hot water and stir 20 times with adult help.	Compare how much baking soda is left.
Flour	It may not dissolve fully in either cup.	Put 1 level spoonful in 1 cup of cold water and stir 20 times.	Put 1 level spoonful in 1 cup of hot water and stir 20 times with adult help.	Compare whether flour pieces are still visible.

Accept answers that use passage evidence about dissolving, visible pieces, layering, separating, or temperature. For the test plan, accept any safe solids and a fair comparison that keeps the amounts and stirring the same.