

Still Themselves

Track physical properties in mixtures.

5.6.B “demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each phrase that tells a physical property a material keeps after mixing, and circle each method used to separate a mixture.

Maya's Mixture Tests

- ① At the science table, Maya mixed dry sand with iron filings in a clear cup. The mixture looked like one pile, but it was not a new substance. Each grain of sand stayed gritty and did not stick to a magnet. Each iron filing stayed magnetic, even while it touched the sand. Mixing changed where the materials were, not what they were.
- ② Next, Maya held a magnet just above the pile and moved it slowly. The iron filings lifted toward the magnet, while the sand remained in the cup. She placed paper over the magnet before collecting the filings, so they could drop into a second cup. The magnet worked because iron kept its magnetic property after being mixed.
- ③ Then Maya stirred sand into water in a jar. For a short time, moving water carried the sand around. When she stopped stirring, the sand settled at the bottom because it did not dissolve. The water stayed liquid and could be poured through a filter. The filter trapped the sand, showing that sand still had its grain size in the mixture.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What physical property did the iron filings keep when Maya mixed them with sand?

2 What evidence from the test shows that the sand and iron filings kept different properties?

3 Explain why a magnet could separate the iron filings from the sand.

4 How did the sand and water mixture show that both materials kept physical properties?

3 YOUR TURN _____ Your own words

Invent a mixture of two safe classroom materials. In three sentences, name the materials, describe one property each material keeps after mixing, and explain how you would use a property to separate them.

PART 1 • READ AND MARK

Underline each phrase that tells a physical property a material keeps after mixing, and circle each method used to separate a mixture. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What physical property did the iron filings keep when Maya mixed them with sand?	The iron filings kept their magnetic property.
2	What evidence from the test shows that the sand and iron filings kept different properties?	The iron filings lifted toward the magnet, but the sand remained in the cup.
3	Explain why a magnet could separate the iron filings from the sand.	Iron remained magnetic after mixing, so the magnet attracted the iron filings. Sand did not stick to the magnet.
4	How did the sand and water mixture show that both materials kept physical properties?	The sand did not dissolve and settled at the bottom. The water stayed liquid and could be poured through a filter, while the filter trapped the sand grains.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I would mix dry rice grains and large plastic beads. The rice grains stay smaller than the beads, and the beads stay smooth and solid. I would pour the mixture through a sieve whose holes let rice pass but hold the beads.

Accept answers that identify physical properties retained by materials in a mixture and connect a separation method to one of those properties. For Part 3, accept any safe, scientifically reasonable mixture and separation explanation.