

# Still the Same

Identify evidence that materials keep their properties when mixed.

**5.7.b** “substances can be mixed together without changes in their physical properties; and”

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline three details that show a material kept a physical property after mixing, and circle the two ways Nia separates materials.

### A Tray of Materials

- ① At the makerspace, Nia pours dry beans, steel paper clips, and plastic beads into a clear tray. The tray now holds a mixture, meaning two or more substances are together. Each item is still the same kind of material it was before. The beans remain hard and oval. The paper clips remain shiny steel, and the beads remain smooth plastic.
- ② Mixing did not turn the beans into plastic or make the beads magnetic. The properties that help identify each substance are still present. Nia can use a magnet to pull out the steel paper clips because steel is magnetic. She can then use a sieve to separate the beans from the smaller beads. These actions separate materials without making new substances.
- ③ Sometimes a mixture looks different overall from any one ingredient. Nia sees many colors in the tray, but no new material has formed. She records observations before and after mixing: bean shape, paper clip magnetism, and bead texture. If she crushed a bean, its shape would change. Simply stirring the tray does not crush, melt, or otherwise change the physical properties of its materials.

**2 ANSWER WITH EVIDENCE** \_\_\_\_\_ Use the passage

**1** Name one physical property of each material in Nia's tray.

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**2** Which material does Nia remove with a magnet, and why can she remove it this way?

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**3** What does Nia use the sieve to separate?

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**4** Give two observations from the passage that show no new material formed after mixing.

**3 YOUR TURN** \_\_\_\_\_ Your own words

Invent a mixture of two solid substances. Write three sentences: name the substances, describe one physical property each would keep after mixing, and explain why no new substance would form.

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**PART 1 • READ AND MARK**

Underline three details that show a material kept a physical property after mixing, and circle the two ways Nia separates materials. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                              | ANSWER                                                                                                                                |
|---|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Name one physical property of each material in Nia's tray.                            | <b>Beans are hard or oval. Paper clips are shiny steel and magnetic. Beads are smooth plastic.</b>                                    |
| 2 | Which material does Nia remove with a magnet, and why can she remove it this way?     | <b>She removes the steel paper clips because steel is magnetic.</b>                                                                   |
| 3 | What does Nia use the sieve to separate?                                              | <b>She uses the sieve to separate the beans from the smaller beads.</b>                                                               |
| 4 | Give two observations from the passage that show no new material formed after mixing. | <b>Answers include that beans stayed hard and oval, paper clips stayed shiny steel and magnetic, and beads stayed smooth plastic.</b> |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

I would mix dried pasta shells and wooden craft sticks in a bowl. The pasta shells would stay hard and curved, and the craft sticks would stay light brown and smooth after mixing. No new substance would form because both materials would still have their original properties.

Accept any accurate pair of solid substances and physical properties that would remain after ordinary mixing. The explanation should state that the materials keep their original properties and do not form a new substance.