

# Performance Assessment—Unit 1.3

## Describing the Components of a Mixture

### Grade 8 Science

#### Overview

Given an unknown sample, students must determine that it is a mixture. They describe the appearance and other physical properties of the parts of the mixture.

#### Content Standards

Science GLE 0807.9.2 Explain that matter has properties that are determined by the structure and arrangement of its atoms.

Science GLE 0807.9.3 Interpret data from an investigation to differentiate between physical and chemical changes.

Science GLE 0807.9.4 Distinguish among elements, compounds and mixtures.

Science GLE 0807.Inq.1 Design and conduct open-ended scientific investigations.

Science GLE 0807.Inq.2 Use appropriate tools and techniques to gather, organize, analyze, and interpret data.

Science GLE 0807.Inq.5 Communicate scientific understanding using descriptions, explanations, and models.

Learning Outcome: Defend the identification of a substance made by analyzing data about the properties of the substance.

#### Materials

Test tubes and rack, beaker, petri dish, pipette, magnet, ruler, magnifying loupe, unknown mixture

#### Resources

See STCMS Properties of Matter, Lesson 19, for a complete description of this assessment.

#### Assessment Rubric

Criteria	Advanced	Proficient	Below standard
<b>Number of Components</b>	Identifies 4 components	Identifies 3 components	Identifies less than 3 components
<b>Properties of sand</b>	Describes 3 types of properties: physical description, density, and solubility	Describes 2 of the 3 types of properties: physical description, density, and solubility	Includes less than 2 of the 3 types of properties: physical description, density, and solubility
<b>Properties of wax</b>	Describes 3 types of properties: physical description, density, and solubility	Describes 2 of the 3 types of properties: physical description, density, and solubility	Includes less than 2 of the 3 types of properties: physical description, density, and solubility
<b>Properties of iron filings</b>	Describes 4 types of properties: physical description, density, magnetic, and solubility	Describes 2 of the 3 types of properties: physical description, density, magnetic, and solubility	Includes less than 2 of the 3 types of properties: physical description, density, magnetic, and solubility
<b>Properties of drink mix</b>	Describes 2 types of properties: physical description and solubility	Describes 1 of the 2 types of properties: physical description and solubility	Describes no properties