

NGSS Correlations

Mixture Separation Challenge MIX-100

Elementary

2-PS1-1

Students can use the Mixture Separation Challenge in an investigation to describe and classify different kinds of materials by their observable properties.

2-PS1-2

Students can analyze data obtained from testing the Mixture Separation Challenge to determine which materials have the properties that are best suited for an intended purpose.

5-PS1-1

Students can use the Mixture Separation Challenge in an investigation to develop a model to describe that matter is made of particles too small to be seen.

5-PS1-3

Students can make observations and measurements of the different materials in the Mixture Separation Challenge to identify materials based on their properties.

Middle School

MS-PS1-1

Students can use the Mixture Separation Challenge in an investigation to develop models to describe the atomic composition of simple molecules and extended structures.

High School

HS-PS1-1

Students can use the Mixture Separation Challenge in an investigation to predict properties of elements. Students can use the Periodic Table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

HS-PS2-6

Students can use the Mixture Separation Challenge in an investigation to communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

Suggested Science Idea(s)

ALL Levels

This Mixture Separation Challenge is an excellent demonstration for density, solubility, and the salting effect. Students will be amazed by the actions of the beads. Due to the unexpected results in the beaker, secondary students have to use science to dissect an explanation for the layering. Great inquiry opportunities for all students. Some teachers never give away the secret.

2-PS1-1

2-PS1-2

5-PS1-1

5-PS1-3

MS-PS1-1

HS-PS1-1

HS-PS2-6

Students can use the Mixture Separation Challenge in an investigation of density. Mix table salt and water in a beaker, students are asked to develop a method for separating this mixture of four different small plastic beads. Advanced students can continue on to determine the density of each different polymer.

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