

## NGSS Correlations

### Steel Sphere Density Kit DEN-350

#### Elementary

##### 2-PS1-1

Students can use the Steel Spheres Density Kit 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 two spheres in the Steel Spheres Density Kit to determine which materials have the properties that are best suited for an intended purpose.

##### 3-PS2-1

Students can use Steel Spheres Density Kit in an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

##### 5-PS1-1

Students can use the Steel Spheres Density Kit in an investigation to develop a model to describe that matter is made of particles too small to be seen.

#### Middle School

##### MS-PS1-1

Students can use the Steel Spheres Density Kit in an investigation to develop models to describe the atomic composition of simple molecules and extended structures.

##### MS-PS2-2

Students can use the Steel Spheres Density Kit in an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

#### High School

##### HS-PS1-1

Students can use the Steel Spheres Density Kit 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 Steel Spheres Density Kit in an investigation to communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

**5-PS1-3**

Students can make observations and measurements of the steel spheres to identify materials based on their properties.

**Suggested Science Idea(s)****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 Steel Spheres Density Kit in an investigation to make sense of density and the forces that act upon them, specifically, buoyancy. Secondary students can do the math to determine the density of each sphere. Density is a fundamental property of matter. Density is defined as mass divided by unit volume; Buoyancy is the upward force experienced by a submerged object. The size of the buoyant force on an object submerged in any liquid is the same as the weight of the displaced liquid. The principle of buoyancy is called Archimedes' Principle.

**53-PS2-1****MS-PS2-2**

Students can use Steel Spheres Density Kit in an investigation about density and buoyancy. Although both spheres have the same mass, effects of balanced and unbalanced forces on the motion of the spheres is quite different. An outstanding inquiry activity.

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