

## 2<sup>nd</sup> Grade - Lesson 1.3

### Designing an Absorbency Test

#### NGSS Alignment

#### Performance Expectations

**2-PS1-1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

**2-PS1-2** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

#### Disciplinary Core Ideas

##### PS1.A: Structure and Properties of Matter

- Matter can be described and classified by its observable properties. (2-PS1-1)

*Students investigate the absorbency of paper, plastic, felt, and aluminum foil. They observe that paper and felt are absorbent and that plastic and aluminum are not. Students see that different materials have their own characteristic properties.*

- Different properties are suited to different purposes. (2-PS1-2)

*Students conduct the absorbency test and use the results in the next lesson (Lesson 1.4) to decide which materials to use to make a boat that will hold the most weight.*

*Students also see a close-up photograph of a sponge and a towel and discuss how they are similar and well-suited for their intended purpose.*

#### Science and Engineering Practices

##### Planning and Carrying Out Investigations

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-PS1-1)

##### Constructing Explanations and Designing Solutions

- Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.

*Students help plan an investigation to compare the absorbency of paper, plastic, felt, and aluminum foil. The point is stressed that when comparing a certain property of different materials, all the materials need to be tested in the same way. Students watch an animation which explains why felt and paper absorb water and why plastic and aluminum foil do not.*

#### Crosscutting Concepts

##### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes. (2-PS1-2)

*Through testing and an animation, students see that absorbing water has to do with the attraction of water molecules for the material and if the material has tiny holes and spaces for the water to move through.*