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TEACHER GUIDE

MATERIAL PROPERTIES AND PURPOSES GRADES K-2

COMMON MISCONCEPTIONS

Young students have some difficulty understanding that material can refer to any type of matter. In their early experiences, material has referred to fabric such as their clothing or bedding. Expanding this vocabulary to include all things is a hard transition for some. Continue to use the word material to describe all substances.

Another area that poses some challenges for young students is understanding that materials have many different properties. As we first introduce students to properties of materials, we tend to focus on just one specific property when several may in fact be key to the purpose.

PROPERTIES OF MATTER

All matter has unique properties. To introduce this idea to young students, keeping the list of properties simple. As they get older, more abstract properties will be introduced, but for this age group, concrete properties should be the focus. Observable properties could be color, texture, hardness, flexibility, absorbency, magnetism and stretchiness.

FAIR TESTS

Comparing different materials involves testing. Fair tests mean that all conditions should be the same and only one thing is changed at a time. Focusing on one variable is critical. For example, when testing a sling shot for effectiveness, students should attempt to launch the object in the same way each time. Students should be given opportunities to collect and record data when performing fair tests.

TIPS FOR TEACHERS

Testing materials for effectiveness gives students many opportunities to incorporate math through data collection. Measuring distances, finding different weights, and tallying are all great tools for students to use for collecting and comparing scientific evidence.