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## SCIENCE PARENT NEWSLETTER

FIFTH GRADE

UNIT 1

PHYSICAL SCIENCE

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### IN SCHOOL...

In Unit 1 students are able to describe that matter is made of particles too small to be seen through the development of a model. Students develop an understanding of the idea that regardless of the type of change that matter undergoes, the total weight of matter is conserved. Students determine whether the mixing of two or more substances results in new substances. Students inquire to answer questions like “When matter changes, does its weight change? Where does the energy in food come from and what is it used for?”

STUDENTS WILL KNOW...	STUDENTS WILL BE ABLE TO...
<ul style="list-style-type: none"><li>• All substances and objects are composed of matter with chemical and physical properties</li><li>• Matter exists in several states (solid, liquid and gases)</li><li>• Regardless of the type of change that occurs when heating, cooling, or mixing matter, the total weight is conserved</li></ul>	<ul style="list-style-type: none"><li>• Make models</li><li>• Measure and graph quantities</li><li>• Make observations and measurements</li></ul>






### AT HOME...

ASK YOUR STUDENTS...	ENGAGE YOUR STUDENTS...
<ul style="list-style-type: none"><li>• What are things made of?</li><li>• How do you know what things are made of?</li><li>• How do you describe and identify things?</li><li>• How are things different?</li><li>• How do things change? What causes change?</li><li>• Do things ever disappear?</li></ul>	<ul style="list-style-type: none"><li>• Matter of any type can be subdivided into particles that are too small to see, but can be detected by other means.</li><li>• Gases are made from particles (matter) that are too small to see and move freely around in space.</li><li>• Measurements of a variety of properties can be used to identify materials (i.e solubility, color, hardness, reflectivity, electrical conductivity, magnetic, thermal conductivity.)</li></ul>



# OFFICE OF K-12 SCIENCE & PLANETARIUM

## IN THE COMMUNITY...

- Bake or cook in your own kitchen. Carefully weigh each component of the recipe and compare it to the final product. Talk about the appearance of “losses”, was it from heat loss or a cooling process?
- Create a compost pile in your yard. Document the decomposition with sketches or photos. Study the interactions among the various earth compartments (geosphere, atmosphere, hydrosphere and biosphere) and also document how the original mass of the waste food changes over time. Since mass, matter and energy can never be lost, how did it change? Propose other components, forms or life forms the mass may have transformed.

## STEM Expo...

- regardless of the type of change (heating, cooling, or mixing) total weight of the combined matter does not change
- Mix 2 or more substances to see if a new substance is created
- Use composting or some other example to describe the geosphere, biosphere, hydrosphere and atmosphere or the interactions between the geosphere, atmosphere, hydrosphere, biosphere