St. Lucie County Public Schools Scope and Sequence 2012-2013

Course: 2nd Grade Science | Course Code: 5020010 | Quarter: 4

Topic of Study: Properties of Matter & Energy

Big Ideas: 8. Properties of Matter 10. Forms of Energy

Essential Questions: What are properties of matter? How can we measure and compare objects? What are solids, liquids, and gases? How can we compare volumes? How do we use energy? How does the sun warm our homes?

Optional Teacher Resource: *ScienceSaurus*-Physical Science

RESOURCES **SCIENCE CENTER**

Vocabulary: matter, property, texture, measure, weight, mass, solid, liquid, gas, water vapor, freeze, melt, dissolve, burning, motion, force, speed, gravity, friction, magnet, pole, repel, attract

Common Labs:

- *Science Fusion* Inquiry Flipchart "Sink the Boat" & "Property Scavenger Hunt" p.l4
- *Science Fusion* Inquiry Flipchart "How Can We Measure and Compare Objects" p.15
- *Science Fusion* Inquiry Flipchart "The Paper Towel Mystery" & "What State Is It?" p. 16
- *Science Fusion* Inquiry Flipchart "How Can We Compare Volumes?" p. 17
- *Science Fusion* Inquiry Flipchart "Making Toast" & "My Energy Survey" p. 20
- *Science Fusion* Inquiry Flipchart "How Does the Sun Warm Our Homes?" p.21

	Technology Links:	
Lab Assistance:	**Science Links:**	**Online Guides:**
Daily Inquiries	www.Thinkcentral.com	Above Level
Logs and Mini Lessons	Fusion Teacher Resources	On Level
Health Activities	Graphic Organizers	Below Level

NGSSS	Content	Targets
SC.2.P.8.1 Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking, or floating in water, and attraction and repulsion of magnets. Cognitive Complexity: **Moderate** SC.2.P.8.2 Identify objects and materials as solid, liquid, or gas. Cognitive Complexity: **Low** SC.2.P.8.3 Recognize that solids have a definite shape and that liquids and gases take the shape of their container. Cognitive Complexity: **Low** SC.2.P.8.4 Observe and describe water in its solid, liquid, and gaseous states. Cognitive Complexity: **Low** SC.2.P.8.6 Measure and compare the volume of liquids using containers of various shapes and sizes. Cognitive Complexity: **High**	What are properties of matter? ▪ Shape ▪ Color ▪ Size ▪ Texture ▪ Weight ▪ Sink or Float How can we measure and compare objects? ▪ Length ▪ Weight What are solids, liquids, and gases? ▪ 3 states of matter How can we compare volumes? ▪ Shape of Container ▪ Amount of Water	▪ Identify and describe properties of matter. ▪ Identify tools that are used to measure objects. ▪ Measure objects by weight and size using the appropriate tools. ▪ Order a group of objects first by length and then by weight. ▪ Compare the order of two groups. ▪ Compare data with those of classmates. ▪ Explain that repeating an investigation should result in similar conclusions. ▪ Identify solids, liquids, and gases. ▪ Describe and compare the properties of solids, liquids, and gases. ▪ Identify water in each of the three states of matter. ▪ Measure and compare the volumes of liquids. ▪ Communicate the results of an investigation.
SC.2.P.9.1 Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration. Cognitive Complexity: **Low**	How does matter change? ▪ Cutting ▪ Breaking ▪ Dissolving ▪ Freezing ▪ Melting How can we change matter? ▪ Communicate the results of an investigation	▪ Describe how cutting, breaking, dissolving, freezing, and melting can change matter. ▪ Describe how burning and cooking can change the texture, size, color, shape, and taste of different matter. ▪ Explain that not all matter responds to change in the same way. ▪ Experiment with dissolving objects to change their properties. ▪ Demonstrate that not all objects respond to the same alteration in the same way. ▪ Communicate the results of an investigation.