Strand: Matter

Science Standard	K.4 TSW investigate and understand that the position, motion, and physical properties of an object can be described. K.5 TSW investigate and understand that water flows and has properties that can be observed and tested.	1.3 TSW investigate and understand how different common materials interact with water.	2.3 TSW investigate and understand basic properties of liquids, solids, and gases.	3.3 TSW investigate and understand that objects are made of materials that can be described by their physical properties.

Sonia Bhide and Jan Rubenstein

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Key Science Content Concepts	K.4	1.3	2.3	3.3
	• **identify** and **name** six basic colors, including red, orange, yellow, green, blue, and purple; and identify and name black and white. • **identify** and **name** a circle, triangle, square, and rectangle. • **compare** and **contrast** objects that are flexible, stiff, straight, and/or curved. • **compare** and **contrast** objects that are rough, smooth, hard, and/or soft. • **compare** objects using the concepts of heavy/ light, long/short, wide/ thin, big/little, and large/small. • **measure** objects, using nonstandard units, and direct comparisons. • **identify** the position of an object, using position words over/ under, in/out, above/ below, and left/right. • **group** objects according to their speed — fast or slow.	• **describe** and **apply** the term dissolve. • **predict** and **describe** how various materials (vinegar, milk, baking soda, powdered drink mix, sugar, salt, sand, oil, soil, rocks) act when mixed with water. • **classify** liquids and solids into those that will dissolve in water and those that will not. Use tables and/or charts to record and display the information. • **infer** that some substances will dissolve more easily in hot water than in cold water by conducting investigations using water at different temperatures.	• **classify** materials as to whether they are liquids, solids, or gases. • **describe** and **identify** examples of condensation, evaporation, melting, and freezing of water. • **measure** the mass of solids and the volume of liquids in metric and standard English units. • **examine** and describe the transformation of matter from one phase to another, i.e., solid water (ice) to liquid (water) to gas (water vapor). • **conduct** an investigation to observe the condensation of water. • **design** and **conduct** an investigation to determine basic factors that affect the evaporation of water. • **identify** the phases of water	• **explain** that physical properties are observable characteristics that enable one to differentiate objects. • **infer** that objects are made of one or more materials based on observations of the physical properties that are common to each individual object. • **compare** the physical properties of smaller, visible pieces of a material to those physical properties of the entire material. • **conclude** that materials have their own set of physical properties that are observable. • **design** an investigation to determine if the physical properties of a material will remain the same if the material is reduced in size.

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Learning activities/ curricula: how/what students will do	FCPS unit – Exploring Our World Hands-on activities Concept Maps Science Journal	FCPS unit Models Hands-on activities Concept Maps Science Journal	FCPS unit Matter and Magnets Building models Hands-on activities Concept Maps Science Journal	FCPS unit Soils Models Hands-on activities Concept Maps Science Journal
Teaching methods: how/ what teacher will do	Pre-assessment FCPS kit – Exploring Our World Activities: sorting/ classifying, comparing/ contrasting, making generalizations about categories Word Wall for vocabulary	Pre-assessment Demonstrations Word Wall for vocabulary	Pre-assessment FCPS kit Matter and Magnets Demonstrations Rubric Word Wall for vocabulary	Pre-assessment FCPS kit Soils Demonstrations Rubric Word Wall for vocabulary
Cross-curricular SOLs: Identify SOLs and how curriculum is integrated	**Math:** K.10, K.11, K.12, K.15 **English:** K.2dg, K.3gh, K.8b, K.10a, K.12bc	**Math:** 1.14, 1.15, 1.16 **English:** 1.1e, 1.2abd, 1.3d, 1.8, 1.10bdef, 1.13cg	**Math:** 2.1, 2.6, 2.7, 2.8, 2.11, 2.14, 2.17, 2.18, 2.19 **English:** 2.2ace, 2.3acde, 2.7de, 2.9bc	**Math:** 3.9abc, 3.13, 3.17, **English:** 3.1. 3.4defg, 3.6bcdek, 3.7, 3.9fg, 3.11
Vertical team objectives: how and what the team does to support the process	Meet with team to review objectives.	Meet with team to review objectives.	Meet with team to review objectives.	Meet with team to review objectives.
Resources: What resources the team has and what resources are needed	FCPS kit Exploring Our World Learn 360 Science Lab	FCPS kit Learn 360 Science Lab	FCPS kit Matter and Magnets Learn 360 Science Lab	FCPS kit Soils Learn 360 Science Lab
Timeframe: duration and sequence			3 weeks	2-3 weeks

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Nature and form of assessment	Observations Anecdotal Notes Performance Assessment Student Journal (pictures) Student Reflection	Observations Anecdotal Notes Performance Assessment Student Journal Student Reflection	Observations Anecdotal Notes Student Journal Student Reflection Post-Assessment	Observations Anecdotal Notes Student Journal Student Reflection Post-Assessment SOL Test