East Knox 6th Grade Science
Ms. Reams

Time/ Unit	**Strands/ Topic/ Content/ Statement**	**Student Learning Targets "I Can" Statement**	**Assessment**
Minerals	- Minerals are naturally occurring, inorganic solids that have a defined chemical composition -Minerals have properties that can be observed and measured -Minerals form in specific environments -Minerals have specific, quantifiable properties	-"I can"... -Identify minerals by testing their properties. -Use mineral properties to identify minerals. -Identify the types of environments/ conditions that existed when a specific mineral was formed	Be able to: Answer critical questions Observational data based on class participation Tests/ quizzes/ homework Lab activities Growing Crystals Identifying a mineral from a sample
Types of Rocks	-Igneous, Metamorphic and Sedimentary rocks have unique characteristics that can be used for identification and/or classification -Igneous, Metamorphic, and Sedimentary rocks form in different ways -Most rocks are composed of one or more minerals -	"I can"... -Identify the unique characteristics to classify rocks -Identify the ways in which geologist classify metamorphic rocks -Identify and describe the three major groups of rocks -Identify the characteristics used to classify igneous rocks -List and describe the three major types of sedimentary rocks	Answer critical questions Observational data based on class participation Tests/ quizzes/ homework Lab activities - Identifying a rock from a sample - Create a rock finders journal

East Knox 6th Grade Science
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Rock Cycle	-Magma or lava cools and crystallizes to form igneous rocks. -Heat and pressure applied to existing rock forms metamorphic rocks. -Sedimentary rock forms as existing rock weathers chemically and/ or physically and the weathered material is compressed then lithified. -Each rock type can provide information about the environment in which it was formed	"I can"... -Analyze the characteristics of rocks -Describe and identify the process of the rock cycle -Identify how rocks provide information about the environment in which it was formed	Answer critical questions Observational data based on class participation Tests/ quizzes/ homework Lab activities - Rock Cycle Lab
Soil	-Soil formation occurs at different rates and is based on environmental conditions -Soil forms in layers known as horizons -Soil horizons can be distinguished from one another	"I can"... -Describe the composition of soil and explain how it forms -Explain how scientists classify soils	Observational data based on class participation Tests/ quizzes/ homework Lab activities - Comparing soils - Which soil is better for

East Knox 6th Grade Science
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	-Soil is unconsolidated material that contains nutrient matter and weathered rock -Rocks, minerals, and soil have common and practical uses	-Identify the roles of plants and animals in soil formation	plants Project - Making the model soil layers scroll

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Composition of Matter	-All matter is made up of small particles called atoms - Matter has mass, volume, and density -Elements are a class of substances composed of a single kind of atom -Molecules are the combination of two or more atoms that are joined together chemically	"I can".. -Describe the modern theory of the atom -Identify how matter can be described	Answer critical questions Observational data based on class participation Tests/ quizzes/ homework Lab Activities -
Changes of State	-Changes of state ate explained by a model of matter composed of particles that are in motion -When substances undergo changes of state, neither atoms nor molecules themselves are changed in structure	"I can".. -Describe the characteristics of a solid, liquid, and a gas -Identify the properties used to describe matter -Differentiate	Answer critical questions Observational data based on class participation Tests/ quizzes/ homework Lab activities - Mass, volume,

	- Thermal energy is a measure of the motion of the atoms and molecules in a substance	between weight and mass -Explain how changes in matter are related to changes in energy -Identify forms of energy that are related to changes in matter	density - Solids in liquids

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Cells Cellular to Multicellular	Cells are the fundamental unit of life	I can… -Explain how the invention of the microscope contributed to scientists understanding of living things -State three points of the cell theory -Explain that all living things are composed of cells -Describe the results of Mendel's experiment including probability; identify what controls the inheritance of traits in organisms	-Answer critical questions -Observational data based on class participation -Test/quizzes/homework -Various lab activities using microscopes and slides

East Knox 6th Grade Science
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Cell Reproduction	All cells come from pre- existing cells (cell division)	-Identify the events that occur in mitosis and meiosis -Cells repeatedly divide resulting in more cells and growth and repair in multicellular organisms -Explain that all cells come from pre-existing cells	Mitosis student models -Cell Cycle sketch design with stages -Punnett Squares
Cellular Function	Cells carry on specific functions that sustain life	"I can"... -Explain that many basic functions of organisms occur in cells -Identify that different body tissues and organs are made of different kinds of cells -Describe the structure of DNA and how DNA replication occurs -Every cell is covered by a membrane that controls what can enter and leave the cell -Explain that cells take in nutrients and energy to perform work	-DNA -Genetics lab -Punnett Squares
Levels of Organization	Living systems at all levels of organization demonstrate the complementary nature of structure and function	"I can"... -Describe the role of specialized cells in many-celled organisms -Explain the levels of	-Compare a variety of plant and animal cells -Compare four major types of tissue -Conduct a study to

		organization include cells, tissues, organs, organ system and whole organisms -	compare organisms that are living in an aquatic environment

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Physical Science Matter & Motion	An object's motion can be described by its speed and the direction in which it is moving An object's position and speed can be measured and graphed as a function of time	"I can"... - Determine when an object is in motion -Describe how scientists measure distance -Calculate an object's speed and velocity -Demonstrate how to graph motion	-Answer critical questions -Observational data based on class participation -Test/Quizzes Homework -Lab activity Metric Measurements
Kinetic & Potential Energy	-Gravitational potential energy -Thermal Energy -Sound Energy	"I can"... -Identify that objects and substances in motion have kinetic energy -Explain that objects and substances can have energy as a result of their position (potential energy)	-Answer critical questions -Observational data based on class participation -Test/Quizzes Homework -Lab activity KE & PE
Motion & Speed	An object's motion can be described by its speed and the direction in which it is moving. An object's position and speed can be measured and graphed as a function of time	"I can"... -Describe an object's motion can be described by its speed and the direction in which it is moving	-Answer critical questions -Observational data based on class participation -Test/Quizzes Homework -Labs with Speed &

East Knox 6th Grade Science
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			Motion