HORNET TARGETS

"CAN I?"

8TH GRADE SCIENCE

Discover · Explore · Practice · Create

Target #	*Target*	*Can I?'s*
ESS.1	I CAN explain the Earth's motions and the phenomena associated with this motion.	• demonstrate how Earth moves in space (rotation, revolution, orbit, and axis) • explain what causes the seasons on Earth • explain what causes the phases of the moon • differentiate between solar and lunar eclipses
ESS.2	I CAN develop a model of the solar system that illustrates the role of gravity.	• describe the factors that keep the Earth and the moon in orbit • identify what determines the strength of the force of gravity between two objects (mass, distance, and inertia)
ESS.3	I CAN create a scale model of an object(s) in the solar system.	• describe the objects that make up the solar system • compare and contrast objects in our solar system • analyze data from scientific instruments to determine similarities and differences of objects in the solar system
ESS.4	I CAN analyze rock and fossil data to construct a geologic time scale of Earth's history.	• analyze rock formations and fossil evidence to establish relative ages and major events in Earth's history
ESS.6	I CAN construct a scientific explanation about changes on Earth's surface over time.	• explain the ways in which heat is transferred • identify what causes convection currents • describe convection currents at Earth's mantle • describe how rocks change through the rock cycle
ESS.5	I CAN analyze rock and fossil data to provide evidence for the theory of plate tectonics.	• provide evidence that continents move • describe the process of subduction • provide evidence for seafloor spreading • describe plate boundaries • explain the theory of plate tectonics
PS.3	I CAN develop a model to describe the atomic composition of simple molecules and extended structures.	• determine the charge of subatomic particles • determine the location of the subatomic particles • determine the number of elements in a compound • differentiate between elements, compounds, and mixtures
PS.4	I CAN interpret data to determine if a chemical reaction has occurred in a substance.	• explain how thermal energy is lost or gained as matter changes states • identify the chemical and physical properties of pure substances • determine if a chemical change has occurred

PS.1	I CAN develop a model that predicts and describes changes in a pure substance when thermal energy is added or removed.	• differentiate between solids, liquids, and gases • differentiate between chemical and physical properties • provide evidence that a chemical reaction has taken place (smoke, color change, light, or a new substance has formed)
PS.5	I CAN develop a model to explain the law of conservation of mass.	• determine the number of atoms in a compound • determine the reactants and products of a chemical reaction • determine the number of atoms in a chemical reaction before and after a reaction has taken place
PS.2	I CAN construct a device that either releases or absorbs thermal energy by chemical processes.	• differentiate between endothermic and exothermic reactions • develop a plan to create a device that releases or absorbs thermal energy by chemical properties

8th GRADE SCIENCE SKILLS

8SS1	I CAN apply the steps of the scientific method.	• *write a procedure that can be followed by another person* • *write a hypothesis.* • *identify variables.* • *isolate and control variables in an experiment.* • *display data in a graph* • *write a conclusion that summarizes the results of an experiment*
8SS2		• *identify the safety rules of the lab* • *identify and use the tools of science lab appropriately*
8SS3	I CAN be safe in the science lab.	• *be a careful observer using all senses.* • *differentiate between qualitative and quantitative observations.* • *distinguish between observations, inferences, and predictions.* • *measure using accuracy and precision.* • *based on logical observations and inferences, make logical predictions.*