Fifth Grade Science

Strand	Big Idea	Concept	GLE code	GLE
ME	1	C	a.	Recognize how changes in state (i.e., freezing/melting, condensation/evaporation/boiling) provide evidence that matter is made of particles too small to be seen
ME	1	D	a.	Classify matter as a solid, a liquid, or a gas, as it exists at room temperature, using physical properties (i.e., volume, shape, ability to flow)
ME	1	D	b.	Predict the effect of heat (thermal energy) on the physical properties of water as it changes to and from a solid, liquid, or gas (i.e., freezes/melts, evaporates/condenses/boils)
ME	1	I	a.	Recognize the mass of water remains constant as it changes state (as evidenced in a closed container)
ME	2	A	a.	Recognize light transferred from the source to the receiver (eye) through space in straight lines
ME	2	A	b.	Recognize how an object (e.g., moon, mirror, objects in a room) can only be seen when light is reflected from that object to the receiver (eye
ME	2	C	a.	Recognize the Sun as the primary source of energy for temperature change on Earth
FM	2	A	a.	Identify the forces acting on a load and use a spring scale to measure the weight (resistance force) of the load
FM	2	D	a.	Describe how friction affects the amount of force needed to do work over different surfaces or through different media
FM	2	F	a.	Explain how work can be done on an object (force applied and distance moved) (No formula calculations at this level)
FM	2	F	b.	Identify the simple machines in common tools and household items

FM	2	F	c.	Compare the measures of effort force (measured using a spring scale to the nearest Newton) needed to lift a load with and without the use of simple machines
FM	2	F	d.	Recognize simple machines change the amount of effort force and/or direction of force
LO	1	D	a.	Compare structures (e.g., wings vs. fins vs. legs; gills vs. lungs; feathers vs. hair vs. scales) that serve similar functions for animals belonging to different vertebrate classes
LO	1	E	a.	Explain how similarities are the basis for classification
LO	1	E	b.	Distinguish between plants (which use sunlight to make their own food) and animals (which must consume energy-rich food)
LO	1	E	c.	Classify animals as vertebrates or invertebrates
LO	1	E	d.	Classify vertebrate animals into classes (amphibians, birds, reptiles, mammals, fish) based on their characteristics
LO	1	E	e	Identify plants or animals using simple dichotomous keys
LO	2	C	a.	Recognize the major life processes carried out by the major systems of plants and animals (e.g., support, reporductive, digestive, transport/circulatory, excretory, response)(DO NOT assess naming of organs within each system or sxplanation of the process carried out by
ES	1	B	a.	Classify major bodies of surface water (e.g., rivers, lakes, oceans, glaciers) as fresh or salt water, flowing or stationary, large or small, solid or liquid, surface or groundwater
ES	1	C	a.	Recognize the atmosphere is composed of a mixture of gases, water, and minute particles.
ES	2	E	a.	Describe and trace the path of water as it cycles through the hydrosphere, geosphere, and atmosphere (i.e., the water cycle: evaporation, condensation, precipitation, surface run-off/ groundwater flow
ES	2	E	b.	Identify the different forms water can take (e.g., snow, rain, sleet, fog, clouds, dew) as it moves through the water cycle

ES	2	F	a.	Identify and use appropriate tools (i.e., thermometer, anemometer, wind vane, rain gauge, satellite images, weather maps) to collect weather data(i.e., temperature, wind speed and direction, precipitation, cloud type and cover.)
ES	2	F	b.	Recognize and summarize relationships between weather data (e.g., temperature and time of day, cloud cover and temperature, wind direction and temperature) collected over a period of time.
ES	3	A	a.	Explain how major bodies of water are important natural resources for human activity(e.g., food recreation, habitat, irrigation, solvent, transportation
ES	3	A	b.	Describe how human needs and activities (e.g., irrigation damming of rivers, waste management, sources of drinking water) have affected the quantity and quality of major bodies of fresh wate
ES	3	A	c.	Propose solutions to problems related to water quality and availability that result from human activity.
UN	1	A	a.	Recognize the Earth is one of several planets within a solar system that orbits the Sun
UN	1	A	b.	Recognize the Moon orbits the Earth in about a month
UN	1	A	c.	Recognize planets look like stars and appear to move across the sky among the stars
UN	1	B	a.	Describe physical features of the planet Earth that allows life to exist (e.g., air, water, temperature) and compare these to the physical features of the Sun, the Moon, and other planets
UN	2	B	a.	Sequence images of the lit portion of the Moon seen from Earth as it cycles day-to-day in about a month in order of occurrence
UN	2	C	a.	Recognize the Earth rotates once every 24 hours
UN	2	C	b.	Relate changes in the length and position of a shadow to the time of day and apparent position of the Sun in the sky, as determined by Earth's rotation
UN	2	C	c.	Relate the apparent motion of the Sun, Moon, and stars in the sky to the rotation of the Earth (Do not assess apparent motion of polar constellations)

IN	1	A	a.	Formulate testable questions and explanations (hypotheses
IN	1	A	b.	Recognize the characteristics of a fair and unbiased test
IN	1	A	c.	Conduct a fair test to answer a question
IN	1	A	d.	Make suggestions for reasonable improvements or extensions of a fair test
IN	1	B	a.	Make qualitative observations using the five senses
IN	1	B	b.	Determine the appropriate tools and techniques to collect data
IN	1	B	c.	Use a variety of tools and equipment to gather data (e.g., hand lenses, magnets, thermometers, metric rulers, balances, graduated cylinders, spring scales
IN	1	B	d.	Measure length to the nearest centimeter, mass to the nearest gram, volume to the nearest milliliter, temperature to the nearest degree Celsius, force/weight to the nearest Newton
IN	1	B	e	Compare amounts/measurements
IN	1	B	f	Judge whether measurements and computation of quantities are reasonable
IN	1	C	a.	Use quantitative and qualitative data as support for reasonable explanations
IN	1	C	b.	Use data as support for observed patterns and relationships, and to make predictions to be tested
IN	1	C	c.	Evaluate the reasonableness of an explanation

IN	1	C	d.	Analyze whether evidence supports proposed explanations
IN	1	D	a.	Communicate simple procedures and results of investigations and explanations through:oral presentations,drawings and maps,drawings and maps,data tables, graphs (bar, single line, pictograph), writings
ST	1	A	a.	Design and construct a machine, using materials and/or existing objects, that can be used to perform a task (Assess Locally
ST	1	B	a.	Describe how new technologies have helped scientists make better observations and measurements for investigations (e.g., telescopes, electronic balances, electronic microscopes, x-ray technology, computers, ultrasounds, computer probes such as
ST	1	C	a.	Identify how the effects of inventions or technological advances (e.g., different types of light bulbs, semiconductors/integrated circuits and electronics, satellite imagery, robotics, communication, transportation, generation of energy, renewable materials) may be helpful,
ST	2	A	a.	Research biographical information about various scientists and inventors from different gender and ethnic backgrounds, and describe how their work contributed to science and technology (Assess Locally)
ST	3	A	a.	Identify a question that was asked, or could be asked, or a problem that needed to be solved when given a brief scenario (fiction or nonfiction of individuals solving everyday problems or learning through discovery)
ST	3	A	b.	Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member (Assess Locally