

Grade 3 – 5 Science Standards and Benchmarks

Standard 1: Students will understand atmospheric processes and the water cycle

Benchmarks:

Level II 3-5

- 1.4 Knows that most of Earth's surface is covered by water, that most of that water is salt water in oceans, and that fresh water is found in rivers, lakes, underground sources, and glaciers

Standard 2: Students will understand Earth's composition and structure

Benchmarks:

- 2.1 Knows how features on the Earth's surface are constantly changed by a combination of slow and rapid processes (e.g., weathering, erosion, transport, and deposition of sediment caused by waves, wind, water, and ice; landslides, volcanic eruptions, earthquakes, drought)
- 2.4 Knows the composition and properties of soils (e.g., components of soil such as weathered rock, living organisms, products of plants and animals; properties of soil such as color, texture, capacity to retain water, ability to support plant growth)

Standard 5: Students will understand the structure and function of cells and organisms

Benchmarks:

- 5.1 Knows that plants and animals progress through life cycles of birth, growth and development, reproduction, and death; the details of these life cycles are different for different organisms
- 5.2 Knows that living organisms have distinct structures and body systems that serve specific functions in growth, survival, and reproduction (e.g., various body structures for walking, flying, or swimming)

Standard 6: Students will understand relationships among organisms and their physical

- 6.1 Knows the organization of simple food chains and food webs (e.g., green plants make their own food with sunlight, water, and air; some

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animals eat the plants; some animals eat the animals that eat the plants)

- 6.2 Knows that the transfer of energy (e.g., through the consumption of food) is essential to all living organisms
- 6.3 Knows that an organism's patterns of behavior are related to the nature of that organism's environment (e.g., kinds and numbers of other organisms present, availability of food and resources, physical characteristics of the environment)

Standard 8: Students will understand the structure and properties of matter

Benchmarks:

- 8.1 Knows that matter has different states (i.e., solid, liquid, gas) and that each state has distinct physical properties; some common materials such as water can be changed from one state to another by heating or cooling

Standard 10: Students will understand forces and motion

- 10.4 Knows that an object's motion can be described by tracing and measuring its position over time
- 10.5 Knows that when a force is applied to an object, the object either speeds up, slows down, or goes in a different direction
- 10.6 Knows the relationship between the strength of a force and its effect on an object (e.g., the greater the force, the greater the change in motion; the more massive the object, the smaller the effect of a given force)

Standard 11: Students will understand the nature of scientific knowledge

Benchmarks:

- 11.1 Knows that although the same scientific investigation may give slightly different results when it is carried out by different persons, or at different times or places, the general evidence collected from the investigation should be replicable by others
- 11.2 Knows that good scientific explanations are based on evidence (observations) and scientific knowledge

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Standard 12: Students will understand the nature of scientific inquiry

- 12.2 Knows that scientists use different kinds of investigations (e.g., naturalistic observation of things or events, data collection, controlled experiments), depending on the questions they are trying to answer
- 12.3 Plans and conducts simple investigations (e.g., formulates a testable question, makes systematic observations, develops logical conclusions)
- 12.4 Uses appropriate tools and simple equipment (e.g., thermometers, magnifiers, microscopes, calculators, graduated cylinders) to gather scientific data and extend the senses
- 12.5 Knows that different people may interpret the same set of observations differently

Standard 13: Students will understand the scientific enterprise

- 13.1 Knows that people of all ages, backgrounds, and groups have made contributions to science and technology throughout history
- 13.3 Knows that scientists and engineers often work in teams to accomplish a task

Science Units in ISKL Melawati

Grade	Earth and Space Sciences	Life Sciences	Physical Sciences	
Prep R & J				SENSES
Prep S		Characteristics and needs of Living Things	Water	

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Grade 1	Weather	Organisms	Solids and liquids	
Grade 2	SOILS	Life cycle of the butterfly	Changes	
Grade 3	Land and water	Plant growth		
Grade 4	Earth Structure		Motion and design	
Grade 5	Earth in Space		Electrical Circuits	