THE LEARNING STANDARDS - GRADE 1

At the completion of Grade 1, pupils who demonstrate understanding will:

STRAND: EARTH AND SPACE SCIENCE (ESS)

Sub-Strand: Earth's Weather (EW)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	ESS	EW	1	Observe and report on different types of weather in their country e.g. rainy, sunny,
					cloudy, windy
ST	1	ESS	EW	2	Observe changes in weather patterns over a week end, and use simple language to
					illustrate such patterns
ST	1	ESS	EW	3	Interpret weather information and predict likely pattern changes.
ST	1	ESS	EW	4	Discuss how the various weather patterns affect their activities, the type of clothes
					they wear, and ways of dealing with various weather types.
ST	1	ESS	EW	5	Discuss, design and construct simple instruments to determine wind direction, and
					measure rainfall.
ST	1	ESS	EW	6	Observe and report on changes of temperature in the environment.

SKILLS	Obs.	Int.D	Rep.	Comm.	Des.	UT	ATTITUDES ADDRESSED	Conc.S	Int.O.E.R.	Inv.
ADDRESSED										

Sub-Strand: Earth's Resources (ER)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	ESS	ER	1	Identify and name some objects found in their environment.
ST	1	ESS	ER	2	Classify these objects according to shape, colour, texture, size, composition.
ST	1	ESS	ER	3	Identify items of litter around the school, organise/participate in a cleanup project.
ST	1	ESS	ER	4	State properties of clean air and describe conditions of air e.g. hot, cold, sticky.
ST	1	ESS	ER	5	State different uses of water and list where water can be found in their country.

SKILLS	Obs.	Class.	Comm.	ATTITUDES ADDRESSED	Stew.Env
ADDRESSED					

Sub-Strand: Solar System (SS)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	ESS	SS	1	Observe and record materials occurrences of day and night.
ST	1	ESS	SS	2	Identify and name the sun, earth and the moon as parts of the solar system.

SKILLS	Obs.	Rec.	Comm.	ATTITUDES ADDRESSED	Com.A.P.
ADDRESSED					

STRAND: LIFE SCIENCE (LS)

Sub-Strand: Diversity and Classification (DC)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	LS	DC	1	Name and describe some living and non-living things in the environment.
ST	1	LS	DC	2	Identify and name some characteristics of living things.
ST	1	LS	DC	3	Identify items of litter around the school, organize/participate in a cleanup project.
ST	1	LS	DC	4 Define: plants, tree, shrub, vine, herb, and identify some local examples.	
ST	1	LS	DC	5	Identify and name two types of leaves that are found in plants.

SKILLS	Obs.	Class.	Comm.	ATTITUDES ADDRESSED	Res.LT.	Com.A.P.
ADDRESSED						

Sub-Strand: Ecosystems (ECS)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	LS	ECS	1	Name and identify some common pets and different foods that they eat.
ST	1	LS	ECS	2	Identify homes/habitats of animals and plants.
ST	1	LS	ECS	3	Compare human vs animal homes, using local examples.
ST	1	LS	ECS	4	Identify some features of organisms that allow them to survive in their homes/
					habitat.
ST	1	LS	ECS	5	Outline the main features of a plant, and name the main parts.
ST	1	LS	ECS	6	Classify plants according to certain features such as: size, shape of leaves, flowering
					and non-flowering.
ST	1	LS	ECS	7 Discuss different uses of plants in society.	
ST	1	LS	ECS	8	Identify, giving examples, plants used for food, decoration, or for providing shelter.
ST	1	LS	ECS	9	Identify and describe the main features of different animals found in their country.

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	LS	ECS	10	Name the five senses organs and discuss the importance of the senses in the proper
					function of the human body.
ST	1	LS	ECS	11	Construct and use simple musical instruments to identify different sounds in the
					environment.
ST	1	LS	ECS	12	Identify and describe natural defenses that local animals use to help them survive
					(spines, camouflage etc.)
ST	1	LS	ECS	13	Give a simple definition of drought and outline its effects in their country.

SKILLS	Obs.	Class.	UT	Comm.	Des.	ATTITUDES	Conc.S	Int.O.E.R.	Stew.Env	Res.L.T
ADDRESSED						ADDRESSED				

Sub-Strand: Structure and Function (SF)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	LS	SF	1	Name the external parts of local animals and discuss their functions.
ST	1	LS	SF	2	Describe the external parts of plants, and outline the function of each part.

SKILLS	Obs.	Comm.	ATTITUDES ADDRESSED	Res.L.T.	Stew.Env.
ADDRESSED					

STRAND: PHYSICAL SCIENCE (PS)

Sub-Strand: Energy (EN)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	PS	EN	1	Identify a variety of moving objects and list the variety of ways in which they
					move.
ST	1	PS	EN	2	Design and make simple paper objects like planes, windmills.
ST	1	PS	EN	3	List some uses of the sun in everyday activities.
ST	1	PS	EN	4	Identify and name devices in the home that use electricity, outlining what
					type of environment would exist without this energy source.

SKILLS	Obs.	Rec.	Des.	PS	UT	ATTITUDES ADDRESSED	Conc.S	Inv.
ADDRESSED								

Sub-Strand: Forces, Motion and Structures (FMS)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	PS	FMS	1	Identify, demonstrate and give examples of pushes and pulls.
ST	1	PS	FMS	2	Identify forces at work in the home situation.
ST	1	PS	FMS	3 Identify and name structures in their everyday life (houses, bridges, walls, vehicles etc.)	

SKILLS	Obs.	Comm.	ATTITUDES ADDRESSED	Cur.
ADDRESSED				

Sub-Strand: Matter and Materials (MM)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	PS	MM	1	Identify, describe and classify objects according to properties such as colour, size,
					shape and texture.
ST	1	PS	MM	2	Identify and describe materials that are suitable for constructing kites, windmills, and
					other simple structures, giving reasons for their choice.
ST	1	PS	MM	3	Recognize that water can exist in both solid and liquid states, and give examples of
					other solids and liquids.

SKILLS	Obs.	Comm.	Exp.	Class.	ATTITUDES ADDRESSED	Com.A.P.
ADDRESSED						

STRAND: TECHNOLOGY (TE)

Sub-Strand: Technological Methods (TM)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	TE	ТМ	1 Discuss and make simple gadgets.	
ST	1	TE	ТМ	2 Develop simple technological designs in keeping with particular challenges in the	
					environment.
ST	1	TE	ТМ	3	Explain the meaning of science and technology and recognize the interrelationships.
ST	1	TE	ТМ	4 Match various simple gadgets and the use to which they are put.	
ST	1	TE	ТМ	5 Explain a problem in their own words and solutions related to the problem.	

SKILLS	Obs.	Int.D	Mea.	PS	ATTITUDES ADDRESSED	Conc.S	Com.AP.
ADDRESSED							

Sub-Strand: Use of Technology (UT)

Subject	Grade	Strand	Sub- Strand	Standard #	Performance Standards
ST	1	TE	UT	1	Understand and appreciate the use of man-made gadgets /tools in the home.
ST	1	TE	UT	2	Identify clearly which gadgets are used for what purpose.
ST	1	TE	UT	3 Communicate using oral, written and/or pictures the technological process and product.	

SKILLS	Obs.	Class.	ATTITUDES ADDRESSED	Conc.S
ADDRESSED				

STRAND: SCIENCE, TECHNOLOGY, SOCIETY AND THE ENVIRONMENT (STSE)

Subject	Grade	Strand	Standard #	Performance Standards
ST	1	STSE	1	The quest by humans to explore and exploit the world's resources affect human life, the society and the environment.
ST	1	STSE	2	Resources must be used wisely to ensure their sustainability and to avert potential disastrous consequences to the environment.
ST	1	STSE	3	Impact of Science and Technology on human life may be desirable or undesirable.
ST	1	STSE	4	Unplanned scientific and technological activities may impact humans and the environment in such a way that there is little to leave behind for succeeding generations.
ST	1	STSE	5	Human values, beliefs and attitudes directly influence scientific and technological activity and use.

In this strand pupils will begin to develop the understanding that:

SKILLS - A Summary of Skills to be demonstrated by end of Grade 1

In the development of inquiry, problem identification and design pupils will demonstrate the following:

Observing	Using their senses to gather information safely and effectively.
Measuring	Design and use simple measuring instruments.
Manipulating	Design simple experiments, compare results and make inferences.
Recording	Report results accurately using a variety of methods.
Classifying	Group objects using only one criterion.
Communicating	Orally share their ideas with others.
Inferring	Identify patterns in everyday events in the environment.
Experimenting	Ask relevant questions and follow up on areas of interest and simple investigation.
Predicting	Use patterns identified to suggest likely changes/ directions for the future.
Problem Solving	Identify likely solutions for simple everyday problems.
Designing	Construct models by following instructions of peers of teachers.

ATTITUDES - Summary of Attitudes to be developed by Grade 1 Pupils

In the activities throughout Grade 1, pupils are encouraged to develop the attitudes critical for positively interacting with scientific and technological ideas and concepts. At the end of the Grade these are some of the attitudes that should be evident:

Curiosity	Ask questions about objects, events and the results of investigations.
Inventiveness	Identify and use new ways to design and solve problems.
Respect for evidence	Explain their findings and conclusions.
Persistence	Ensure that no matter the obstacles presented activities will be completed accurately.
Respect for living things	Appreciate that all living things should be treated with respect.
Cooperation	Willingness to share ideas and activities with others.
Concerns for safety	Awareness of the dangers involved in using various objects in the environment.

THE LEARNING STANDARDS - GRADE 2

At the completion of Grade 2, pupils who demonstrate understanding will:

STRAND: EARTH AND SPACE SCIENCE (ESS)

Sub-Strand: Earth's Weather (EW)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	ESS	EW	1	Observe different types of weatherrainy, sunny, cloudy windy.
ST	2	ESS	EW	2	Make weather charts using drawings or pictures, graphs to illustrate daily weather
					changes.
ST	2	ESS	EW	3	Interpret data resulting from #2 above.
ST	2	ESS	EW	4	Predict weather patterns.
ST	2	ESS	EW	5	Design, draw and label a simple diagram to indicate the water cycle.
ST	2	ESS	EW	6	Record wind direction at specified times of the day, using self-designed and
					constructed wind vane.
ST	2	ESS	EW	7	Collect and compare measurements of rainfall, temperature, wind direction and
					wind speed during a specified period eg. a weekend.

SKILLS	Obs.	Rec.	Comm.	Нур.	Des.	UT	Pred.	ATTITUDES	Com.A.P.	Int.O.E.R.	Inv.
ADDRESSED								ADDRESSED			

Sub-Strand: Earth's Resources (ER)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	ESS	ER	1	Classify objects in their environment according to living and non-living, natural and
					human-made.
ST	2	ESS	ER	2	Record data using bar or line graphs.
ST	2	ESS	ER	3	Group litter in their school according to size, colour, what it is made of, recyclable
					and non-recyclable.
ST	2	ESS	ER	4	Explain the dangers of litter in the school and organize a clean-up project.
ST	2	ESS	ER	5	Design and make a toy/ gadget using discarded materials.
ST	2	ESS	ER	6	Infer that air is all around us and describe conditions of air at different times.
ST	2	ESS	ER	7	Identify and name at least two (2) air pollutants in a named environment.
ST	2	ESS	ER	8	Describe how pollutants affect people's activities and their health.
ST	2	ESS	ER	9	Design and construct a device for trapping dust particles from air.
ST	2	ESS	ER	10	Collect data and compare the amount of particles in named areas using their
					constructed air trap.
ST	2	ESS	ER	11	State at least three (3) properties of water.
ST	2	ESS	ER	12	Identify and list at least three (3) uses of water.

SKILLS	Rec.	Comm.	Class.	Inf.	Mea.	Int.D	PS	ATTITUDES	Conc.S	Res.L.T	Stew.Env	Per	Int.O.E.R
ADDRESSED								ADDRESSED					

Sub-Strand: Solar System (SS)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	ESS	SS	1	Infer that day and night occur in regular cycles.
ST	2	ESS	SS	2	Distinguish between natural and human-made sources of light.
ST	2	ESS	SS	3	Infer that the position of the sun changes at different times during the day.
ST	2	ESS	SS	4	Identify the phases of the moon and explain how they affect weather
					patterns.

SKILLS	Obs.	Inf.	Exp.	ATTITUDES ADDRESSED	Com.A.P.	Int.OE.R
ADDRESSED						

STRAND: LIFE SCIENCE (LS)

Sub-Strand: Diversity and Classification (DC)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	LS	DC	1	Classify, giving examples, living and non-living things.
ST	2	LS	DC	2	Classify animals according to their size, body coverings, and the food they eat.
ST	2	LS	DC	3	Prepare and present a display of living and non-living things for their class.
ST	2	LS	DC	4	Identify and name at least three (3) characteristics of living things.
ST	2	LS	DC	5	Role play the behaviour or habits of some local animals.
ST	2	LS	DC	6	Define the following: plant, tree, shrub, vine, herb.
ST	2	LS	DC	7	Identify and name different kinds of plants.
ST	2	LS	DC	8	List different uses of leaves in everyday life.

SKILLS	Obs.	Class.	Comm.	Des.	ATTITUDES ADDRESSED	Res.L.T.	Com.A.P.
ADDRESSED							

Sub-Strand: Ecosystem (ECS)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	LS	ECS	1	Describe and demonstrate appropriate ways of feeding and caring for pets.
ST	2	LS	ECS	2	Identify and describe precautionary strategies that would ensure to self and others, the environment and the pets as well.
ST	2	LS	ECS	3	Observe homes / habitats of different animals, indicating how each habitat satisfies the various needs of the animals.
ST	2	LS	ECS	4	Identify and appreciate the importance of caring for plants and animals and their environment.
ST	2	LS	ECS	5	Explain how some features of organisms enable their survival in their habitats.
ST	2	LS	ECS	6	Distinguish between activities that harm and those that preserve habitat/ the environment.

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	LS	ECS	7	Outline and explain the process of germination.
ST	2	LS	ECS	8	Identify and name the main conditions necessary for seed growth.
ST	2	LS	ECS	9	Identify plants that are found in their country and classify them into ornamentals, decorative, shelter etc.
ST	2	LS	ECS	10	Identify and describe how plants and their parts can be processed into valuable food for all.
ST	2	LS	ECS	11	Classify animals as domesticated, wild, useful.
ST	2	LS	ECS	12	Explain, with examples, what are endangered species.
ST	2	LS	ECS	13	Identify and describe ways of protecting endangered species eg. laws, change of human's attitudes to life and the environment.
ST	2	LS	ECS	14	Outline what stimulates each of the five senses.
ST	2	LS	ECS	15	Name the organ that is stimulated by sounds, and classify sounds by pitch and loudness.
ST	2	LS	ECS	16	Design, construct and use simple musical instruments.
ST	2	LS	ECS	17	Identify, with examples, ways in which plants and animals depend on each other (feeding, shelter, protection, beauty).
ST	2	LS	ECS	18	Compare the feeding habits of named organisms (those which eat plants, meat, both of these).
ST	2	LS	ECS	19	Investigate and report on predator/prey relationships.
ST	2	LS	ECS	20	Construct and label simple food chains to depict feeding interrelationships among animals and plants.
ST	2	LS	ECS	21	Identify and discuss ways in which water may be polluted and ways in which it may be conserved.
ST	2	LS	ECS	22	Trace the movement of garbage from household pick up to final destination.
ST	2	LS	ECS	23	Define the term solid waste, identifying methods of managing this waste in home/school/community (recycling, composting etc.).
ST	2	LS	ECS	24	Define the term environmental destruction and investigate the factors that cause and prevent this destruction.

SKILLS	Obs.	Comm.	Class.	Rec.	Des.	UT	Exp/Hyp	ATTITUDES	Conc.S	Com.A.P.	Res.L.T	Int.O.E.R.	Stew.Env
ADDRESSED								ADDRESSED					

Sub-Strand: Structure and Function (SF)

Subject	Grade	Strand	Sub-Strand	Standard # Performance Standards	
ST	2	LS	SF	1	Name, draw and label the main external parts of a plant.
ST	2	LS	SF	2	Identify the role of each part of a flower and compare the external parts of different flowers (colour, shape, size, texture).
ST	2	LS	SF	3	Identify and name different stages in the development of animals in their environment.

SKILLS	Obs.	Comm.	ATTITUDES ADDRESSED	Int.O.E.R
ADDRESSED				

STRAND: PHYSICAL SCIENCE (PS)

Sub-Strand: Energy (EN)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	PS	EN	1	Identify the conditions needed for objects to move in a given situation.
ST	2	PS	EN	2	Identify, with examples, food as a source of energy for all living things.
ST	2	PS	EN	3	Operate a simple device or system and identify the input and output (flashlight, lamp, toy).
ST	2	PS	EN	4	Identify devices that use moving air and moving water as energy sources (windmills, water wheels, wave wheels).
ST	2	PS	EN	5	Demonstrate how and describe how sounds can be made; design and construct musical instruments - guitars, drums, bottle organ, steel pan.
ST	2	PS	EN	6	Investigate the effect of manipulating variables on sounds produced.
ST	2	PS	EN	7	Identify and explain ways in which technology related especially to energy use has enhanced the lives of people past and present, imaging how lives would change without electricity.
ST	2	PS	EN	8	Describe safety measures while using electrical device.

SKILLS	Obs.	Exp.	Mea.	Des.	UT	Man.	ATTITUDES ADDRESSED	Conc.S
ADDRESSED								

Sub-Strand: Forces, Motion and Structure (FMS)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	PS	FMS	1	Demonstrate ways in which motion can be changed (start movement, increase or
					decrease speed).
ST	2	PS	FMS	2 Construct models of structures from materials provided.	
ST	2	PS	FMS	3	Classify structures in different ways.
ST	2	PS	FMS	4	Identify and describe simple mechanical devices (hinges, screw, screw drivers).

SKILLS	Exp.	UT	Des.	ATTITUDES ADDRESSED	Conc.S
ADDRESSED					

Sub-Strand: Matter and Materials (MM)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	PS	MM	1	Distinguish between objects and the materials from which they are made.
ST	2	PS	ММ	2	Identity different materials such as wood, rubber, metal, plastic, and list objects made from each.
ST	2	PS	MM	3	Investigate the properties of various materials and match the properties to their use.
ST	2	PS	MM	4	Design and construct a simple object using chosen materials.
ST	2	PS	MM	5	Describe, giving examples, the properties of solids and liquids.
ST	2	PS	MM	6	Identify examples of at least two (2) solids and two (2) liquids.
ST	2	PS	MM	7	State that water can change from solid to liquid and from liquid to solid.
ST	2	PS	MM	8	Describe the conditions that cause the changes in 7 above.

SKILLS	Comm.	Class.	Int.D	ATTITUDES ADDRESSED	Com.A.P.	Res.Ev
ADDRESSED						

STRAND: TECHNOLOGY (TE)

Sub-Strand: Technological Methods (TM)

At the completion of Grade 2, pupils who demonstrate understanding will:

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	TE	ТМ	1	Given problems, be able to design and construct simple gadgets.
ST	2	TE	ТМ	2	Match simple gadgets to the use to which they are put.
ST	2	TE	ТМ	3	Explain in their own words, the interrelationships between Science and Technology.
ST	2	TE	ТМ	4	Evaluate two different gadgets using named criteria.

SKILLS	PS	Class.	Exp./Des	Int.D	Нур	ATTITUDES ADDRESSED	Conc.S	Int.O.E.R.
ADDRESSED								

Sub-Strand: Nature of Technology (NT)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	TE	NT	1	Realise that some things are natural and some are human-made.
ST	2	TE	NT	2	Share information with peers on the nature of technology.
ST	2	TE	NT	3	Realise the critical importance of safety in handling tools and making gadgets.

SKILLS	Comm.	ATTITUDES ADDRESSED	Conc.S
ADDRESSED			

Sub-Strand: Use of Technology (UT)

Subject	Grade	Strand	Sub-Strand	Standard #	Performance Standards
ST	2	TE	UT	1	Appreciate the advantages and disadvantages of using devices, tools and structures made by humans.
ST	2	TE	UT	2	Acknowledge that human-made things hold the potential to pollute the atmosphere and disrupt the environment.

SKILLS	Rec.	Comm.	Int.D	ATTITUDES ADDRESSED	Stew.Env
ADDRESSED					

STRAND: SCIENCE, TECHNOLOGY, SOCIETY AND THE ENVIRONMENT (STSE)

In this area pupils will begin to develop the understanding that:

Subject	Grade	Strand	Standard #	Performance Standards
ST	2	STSE	1	Humans must realise that in their attempts to understand the world and exploit the environment
				to fulfill their needs there are consequences.
ST	2	STSE	2	Unplanned and excessive Science and Technological activities may destroy the earth as we know
				it, resulting in untold disasters. (fracking, oil exploration, global warming etc).
ST	2	STSE	3	Natural resources are not likely to last forever so judicious use and looking for renewable sources
				like solar alternatives is advisable.
ST	2	STSE	4	Scientific and technological activities are usually influenced by the values and beliefs of humans
				and their societies.

SKILLS - A Summary of Skills to be demonstrated by end of Grade 2

In the development of skills of inquiry, problem identification, design and solution pupils should demonstrate the following:

Observing	Identify similarities and differences between objects and events
Measuring	Use simple measuring instruments supplied to investigate objects and events.
Manipulating	Set simple instruments and manipulate simple equipment.
Recording	Use pictures and charts to report results as well as simple tables.
Classifying	Group objects according to two (2) criteria.
Communicating	Use appropriate vocabulary, demonstrations, role play to report results.
Inferring	Notice and describe patterns in simple measurements and events.
Interpreting Data	Discuss what they deduce in response to questions.
Experimenting	Give suggestions as to the procedure to investigate to find answers to questions.
Predicting	Use information other than patterns to attempt predictions.
Problem Solving	Evaluate two different suggestions for solving every-day problems.
Designing	Select appropriate materials to construct models and gadgets.

ATTITUDES - Summary of Attitudes to be developed by Grade 2 pupils

In the activities throughout the Grade 2, pupils are encouraged to develop attitudes required for positively interacting with scientific and technological ideas and concepts. At the end of the Grade these are some of the attitudes that should be evident:

Curiosity	Find out information about objects, events and investigations on their own.
Inventiveness	Suggest new and innovative ways of approaching investigations.
Respect for evidence	Listen attentively to other pupils' presentations, results and explanations.
Persistence	Persist at tasks even though expected results are not materializing.
Respect for living	Appreciate that all living things are important in their own way, and should be
things	protected and respected.
Cooperation	Work alone and with others.
Concern for safety	Identify and observe safety instructions.