

## Appendix A

### Minimum Levels of Learning (MLLs)

#### Field of study I Science in Everyday Life

1.7.1	Knows about the advancement in the field of communication
1.7.2	Knows about the advancement in the field of transportation
1.7.3	Knows about the advancement in the field of entertainment
1.7.4	Knows about the advancement in the field of information
1.7.5	Knows about the advancement in the field of medicine
1.7.6	What is meant by lever? Understands it
1.7.7	Knows about the types of lever
1.7.8	Deduces the principle of lever by experiment
1.7.9	Knows the practicable uses of lever
1.7.10	Obtains the concept of the meaning of motion and its types through examples
1.7.11	Knows that the reason for motion is the force
1.7.12	What is meant by speed? Knows it and is able to calculate it by the formula
1.7.13	Knows different effects of force
1.7.14	Understands with practicable examples, the concept of different types of force
1.7.15	Knows advantages- disadvantages of the friction force
1.7.16	Knows about man-made substances like glass, fibers, plastic, rubber
1.7.17	Understands the phenomenon of reflection of light. Possesses knowledge about incident ray, reflected ray, incident angle, reflection angle
1.7.18	Understands the regular reflection by smooth surface
1.7.19	Understands the principles of reflection by experiment is able to express them
1.7.20	Understands how the image is formed by a plane mirror
1.7.21	Knows the characteristics of the image formed by a plane mirror
1.7.22	Knows the preparation, working and uses of periscope by making periscope based on the law of reflection
1.7.23	Calculates the number of images obtained because of multiple reflection by placing two plane mirrors at different angles
1.7.24	Understands the principle, construction and working of kaleidoscope by making it
1.7.25	Obtains explanation about curved mirror and its types (concave and convex)
1.7.26	Knows the different uses of curved mirrors in everyday life
1.7.27	Understands about good conductors and nonconductors (insulators) of electricity and classifies different substances as good conductors of electricity and non conductors
1.7.28	Understands about the construction and working of lightening conductor
1.7.29	Obtains primary concept of electric circuit and knows its uses

#### Field of study II Living kingdom

2.7.1	Recognizes different parts of flowers and knows about their functions
2.7.2	Knows what is meant by pollination. Knows the types of pollination and the difference between them
2.7.3	Knows about the process of formation of fruits

2.7.4	Knows about types of fruits
2.7.5	knows what is meant by adaptation in organisms
2.7.6	Knows about aqueous adaptation in aquatic animals and understands its examples
2.7.7	Knows about aerial adaptation in avians and understands its examples
2.7.8	Knows different adaptations in the terrestrial animals. Understands its examples. Classifies the given terrestrial animals in arborail, burrowing and desert
2.7.9	Classifies the given animals into aquatic, terrestrial and amphibians on the basis of their adaptation
2.7.10	Knows different adaptations in plants (vegetation)
2.7.11	Knows about circulatory system
2.7.12	Knows about the parts of the circulatory system and knows about their functions
2.7.13	Knows about the constitution of blood
2.7.14	Knows about the excretory system
2.7.15	Knows about reproductive system
2.7.16	Knows about the parts of the male reproductive system and female reproductive system
2.7.17	Knows about the secretion and secretion glands
2.7.18	Knows about nervous system
2.7.19	Able to mention the types of nerves and their functions
2.7.20	Knows about the sensation experienced by five sensory organs-skin, tongue, nose, ear and eye, and also knows about their functions

### **Field of study III Preservation of Environment**

3.7.1	Gets acquainted with the concept of environment and natural balance
3.7.2	Knows about biotic and abiotic factors affecting the environment and understands their importance in the sustaining of life of living organisms
3.7.3	Knows about food chain and also knows about living organisms dependence on one another
3.7.4	Develops the awareness about the precautions to be taken and care for preservation of the environment

### **Field of study IV Water, Air, Soil, Sky and Energy**

4.7.1	Knows about the fertility of the soil and knows about different remedies for increasing the crop-production on their bases
4.7.2	Gives the names of the nutrient elements present in the artificial fertilizers
4.7.3	Knows about the method of preparing different bio-fertilizers
4.7.4	Knows about crop-preservatives (drugs, parasites)
4.7.5	Understands that there is loss to the soil by using the chemical fertilizers used for increase in crop production and not understanding its ill effects
4.7.6	Understands the remedies to stop it
4.7.7	Knows about physical and chemical properties of water
4.7.8	Water can dissolve many substances. This he knows by examples. Able to

	say about substances dissolving and substances not dissolving in water
4.7.9	Knows about solvent, solute and solution
4.7.10	Can show the identification of soft and hard water by the experiment of froth of soap
4.7.11	Knows different methods of purification of water
4.7.12	Knows the methods of removal of hardness of water
4.7.13	Understands how water is polluted. Mentions the remedies to stop that
4.7.14	Understands what is heavy rain and what precautions should be taken care of when there is heavy rain
4.7.15	Understands how the air is polluted and knows the remedies to stop it
4.7.16	Knows about the storm by speedy air and knows about the steps of safety
4.7.17	Mentions that the solar system is formed by sun, the planets moving around it, satellites, comets, meteorites and other celestial substances
4.7.18	Knows about the different celestial phenomena occurring from time to time
4.7.19	Knows what is meant by renewable and non renewable sources of energy and understands the difference between them. Give examples of them. Classifies the sources of energy into renewable and non renewable source
4.7.20	Knows about the thoughtful use of non renewable energy sources and which things should be kept in mind for it
4.7.21	What is wind energy? He knows and also knows about its uses
4.7.22	What is hydro energy? He knows and also knows about its uses
4.7.23	What is solar energy? He knows and also gets acquainted with the devices or instruments based on its uses
4.7.24	Understands the importance of solar energy in comparison to the other sources of energy

### **Field of study V Food and Health**

5.7.1	What is meant by healthy life? Knows
5.7.2	Understands the importance of balanced diet for healthy life
5.7.3	Knows about chief nutrients, their occurrence and their importance
5.7.4	Knows about type of microorganisms. Obtains information about the diseases caused by them