Pakistan Urdu School- Kingdom of Bahrain

Curriculum Implementation Plan for Science Grade VII

No.	Month/Week	Starting Date	Topics from Textbook or Others (Specify Unit Titles and Numbers)	National Curriculum References (Competency, Standards, Themes)	Total Periods
1.	April	08-04-18	Unit No –1. Digestive system (Understanding Ourselves)	Life Science	10 periods
			Basic categories of food and digestive process.	To understand the basic nutrients and digestion.	
			The digestive system.	Examine the structure of human digestive system.	
			The small molecules absorption.	Explain the digestion of different kinds of food.	
			The problems with the digestive system	Review the causes of common disorders of digestion	
			Lab activity.	Assemble the parts of the human digestive system .Make the model of human digestive system(with colored chart paper)	
2.	April	22-04-18	Unit No –8. Atoms((Understanding Ourselves)	Physical Science	13 periods
			Introduction of an atom Atoms and elements Electrons& shells filling electron levels.	Introduce the idea of atoms. Explain the difference between mass number and atomic number	
			Mass number and isotopes Radioisotopes and uses of radioisotopes.	Explain the concept of valency and the formation of ions , isotopes & radioisotopes	
			Ionic and covalent bonding Valency Chemical formula	Explains ionic and covalent bonding, concept of valency and formation of ions, chemical formula	
			Law of constant composition	Explain anions and cations. Demonstrate the law of constant composition	

			Lab Activity	Draw the structure of atom(carbon and sodium)Diagrammatic representation of sodium chloride(ionic bonding)and water(covalent bonding).Draw the structure of methane. Write chemical formula from the list of anions and cations.	
3.	**May**	**09-05-18**	**Unit No –10 . Heat on move (Understanding Ourselves)**	**Physical science**	**12 periods**
			Heat and temperature	Explain the flow of heat from hot body to cold body.	
			Conduction **Convection**	Recognize the three modes of transfer of heat from enviroment	
			Radiation	Define radiation and explain the different types of radiation.	
			The vacuum flask. Thermograph	Describe the working of and principle of vacuum flask.	
			Lab Activity	Conduct simple experiment showing heat flows from hot to cold. Diagrammatic representation of sea breeze and land breeze. Make a models of greenhouse effect and global warming. Draw & label the internal structure of vacuum flask.	
4.	**May**	**27-05-18**	**Unit No –4. Transport in plant (Understanding Ourselves)**	**Life science**	**9 periods**
			Importance of xylem and phloem	**Explain the absorption of water by plants and importance of xylem and phloem** .	
			The structure of plant root **Water enters the plant/Mineral salt enters the root.**	**Explain the structure of plant root** **Explain absorption of water and minerals by the plant root**.	
			Transpiration	**Explain transpiration and factors affecting the rate of transpiration**	

			Transport of food. **Transport of gases**	**Illustrate the movement of food ,water and gases from different parts of the plant.**	
			Lab Activity	**Identify plant root and stem through microscope and experiment to show osmosis**	
5.	**Sep**	**23-09--18**	**Unit No –2. Respiration and energy from food(Understanding Ourselves)**	**Life science**	**6 periods**
			Aerobic and anaerobic	Explain the aerobic and anaerobic respiration with examples.	
			Human respiration system.	Discuss the structure of human respiratory system.	
			Respiration **How we breathe**	Describe the mechanism of respiration in human.	
			Making the air moist, warm and clean		
			Diseases of the respiratory system	Identify the common diseases of the respiratory system and discuss their causes and preventive measures.	
			Lab Activity	Make the model of chest and lungs with the help transparent plastic bottle and balloons.	
6.	**Oct**	**03-10-18**	**Unit No –7. Water, Water everywhere (Understanding Ourselves)**	**Physical Science**	**6 periods**
			Water and life. Animals ,plants and water	Explain the vital importance of clean water for humans and other living organisms.	
			Crops and irrigation industry	Explain the use of water in irrigation and industry	
			Water everywhere **Fresh water. The water supply .** **Water treatment** **Sewage treatment**	Identify the main sources of water. Outline the process involved in the purification of water	
			Distillation **Safe water** **Taking care of water**	Explain the process of distillation. Identify the substances in water that make the water impure and diseases	

				caused by impure water. To investigate the consumption of water in our daily life and suggest ways to reduce wastage of water.	
			Lab Activity	Conduct experiments to show filtration and evaporation.	
7.	**Oct**	**17-10-18**	**Unit No –11. Dispersion of light(Understanding Ourselves)**	**Physical Science**	**6 periods**
			Introduction to light	Categorize the light emitting objects and discuss the nature of object on the basis.	
			Refraction **Refractive index** **Mirages** **Total internal reflection** **Using total internal reflection** **Lenses**	Explain the causes of refraction of light .Its effect and refractive index. Explain the causes of mirages and total internal reflection. Explains periscope and optical fibre. Explain the structure and uses of periscope and optical fibre.	
			Prisms and refraction. **Rainbows. Mixing coloured light** **Seeing colours** **Colour subtraction** **Filters** **Mixing coloured pigments**	Describe the refraction of light by a prism and its effects. Identify the primary colours and to demonstrate how they combine to form secondary colours. Explains what is filter and how a filter works.	
			Lab Activity	Demonstrate how spinning of rainbow results in the appearance of white disc.	
2nd Term					
8.	**Nov**	**05-11-18**	**Unit No –5 Reproduction in plants(Understanding Ourselves)**	**Life science**	**8 periods**
			Reproduction **The parts of a flower**	Explain reproduction and understand the different parts of flower.	
			Pollination	Define pollination compare self and cross pollination.	

			Fertilization	Describe fertilization.	
			Seed and seed dispersal	Describe seed and fruit formation	
			Germination	Define germination and conditions necessary for germination	
			Asexual reproduction	Differentiate between sexual and asexual reproduction and explain different types of asexual reproduction	
			Lab Activity	Dissection of flower	
9.	**Nov**	**15-11-18**	**Unit No –3. Human transport system(Understanding Ourselves)**	**Life science**	**7 periods**
			The heart **The blood circulation** **Arteries, veins and capillaries**	Describe the structure and function of heart and blood vessels. Explain the working of the circulatory system. Describe the structure and functions of blood vessels..	
			What is blood **Diseases of the transport system.** **Heart transplant**	Identify the different blood cells with function. Find out some disorders in human transport system can be affected by diet. Identify scientific developments that provide alternatives for dis functional body part and their transplantation.	
			Lab Activity	Demonstration of model of human heart. Microscopic view of blood cells.	
10.	**Dec**	**30-12-18**	**Unit No –12. Sound waves (Understanding Ourselves)**	**Physical Science**	**11 periods**
			Sounds all around **Sound and vacuum**	To examine examples of everyday objects that produce different sound. Describe an experiment to show that sound cannot travel through vacuum.	
			Vibrations and sound waves **Waves of energy** **Speed of sound**	Differentiate compression and rarefaction. Differentiate transverse and longitudinal wave and explains	

			Frequency and pitch, volume and amplitude.	speed of light through different objects. Explain wavelength frequency and amplitude of sound and give their units.	
			Music **Musical instruments** **Using ultra sound using echoes** **Noise** **Absorbing sound**	**Design a musical instrument to explain the relation between its sound and its shape**. Explain ultra sound ,echoes and uses. Identify the application of different sound in daily life	
			Lab Activity	Conduct an experiment to show that sound cannot travel through vacuum.	
11.	**Jan**	**13-1-19**	**Unit No 13. Circuits and electric current (Understanding Ourselves)**	**physical Science**	**12periods**
			Static electricity . **Conductors and insulators** **Simple circuit** **Series and parallel circuit**	Define current static electricity ,conductors, insulators ,and semiconductors .Investigate about types of circuits used for different purposes	
			Circuit diagrams **Resistance** **Resistors** **Fuses, circuit breakers** **Earth wires**	Explain the relationship between voltage and resistance. Differentiate circuit breakers and fuses.	
			The effects of electric current (Heating, chemical and magnetic effect) **Paying for electricity using electricity safely**	Explains the effects of electric current in daily uses appliances .Examine the safe use of electricity in the home, school as well as the wider environment.	
			Lab Activity	Design parallel and series circuit.	
12.	**Jan**	**29-01-19**	**Unit No -6. Environment and feeding relationship((Understanding Ourselves)**	**Life science**	**7 periods**

			Habitats **Adaptations to habitat**	Define the term habitat and investigate the various features that allow animals and plants to live in a particular habitat.	
			Changing habitats	Identify the factors that cause daily and yearly changes in their habitat.	
			Ecosystems	Explain ecosystem with examples.	
			Food chains and food web	Explain why food chains always begin with a producer.	
			Energy transfers in a food chain or food web .Upsetting balance	Describe the process of role of producers and consumers in an ecosystem.	
			Lab Activity	Microscopic view of Bacteria and fungi	
13.	**Feb**	**07-02-19**	**Unit No -9 Physical and chemical changes((Understanding Ourselves)**	**Physical Science**	**9 periods**
			Solids, liquids and gases	Recognize solids, liquids and gases by their different properties	
			Physical changes **Chemical changes** **Iron and Sulphur**	Differentiate between physical and chemical changes . Describe the chemical reaction between iron and Sulphur.	
			Exothermic and endothermic reactions. **Burning fuels**	Describe exothermic and endothermic reactions with examples. Explain the importance of hydrocarbons as fuels.	
			Ammonia & other fertilizers. **Dangers of fertilizers.** **Margarine. Plastics**	Explain the properties of fertilizers and also the harmful effects of the use of fertilizers. Describe the chemical process in which vegetable oils changes into fats. Describe the simple process for the manufacture of plastic and its uses .	

			Lab Activity	Experiments to show the chemical and physical change	
14.	**Feb**	**20-02-19**	**Unit No -14. Investigating space plants**	**Earth and space Science**	**6 periods**
			Our place in the universe.	Compare and contrast stars and other bodies in space that emit and reflect light.	
			The milkeyway galaxy. **Other galaxies** **The sun**	Explain the types of galaxies .Explain the birth and death of sun.	
			Telescope	Explain the working of different types of telescopes	
			How the universe began.	Explain the Big Bang theory of the origin of the universe	
			Lab Activity	Make the working model of solar system	

