

CLASS : YEAR 7

SUBJECT: Science (Physics)

TEACHER : Shermila Liyakath

Month	No. of Periods	Unit No.	TOPIC / DETAILS	Intended Learning Objectives	Remarks
September 2016		School Reopens - 1st Term			
Week 1	1	1.1	Introduction to forces	Describes forces as pushes or pulls, arising from the interaction between two objects	
				Describes different types of force.	
				Uses force arrows in diagrams, adding forces in one dimension, balanced and unbalanced forces	
				Describe forces being needed to cause objects to stop or start moving, or to change their speed or direction of motion (qualitative only)	
Week 2	2	1.2	Balanced forces	Describe the changes depending on direction of force and its size.	
				Explains the difference between balanced and unbalanced forces.	
				Identifies opposing forces and equilibrium: weight held by stretched spring or supported on a compressed surface.	
				Describes the effect of balanced forces.	
				Describes the effect of unbalanced forces.	
Week 3	Eid Holidays				
Week 4	1	1.3	Friction	Describe forces: associated with deforming objects; stretching and squashing – springs; with rubbing and friction between surfaces, with pushing things out of the way; resistance to motion of air and water	
				Describes the effect of friction on moving objects.	
				Identifies how to reduce frictions	
				Describes how friction can be useful.	
Week 5	2	1.4	Gravity	Explains the link between gravity, mass, and weight.	
				Monthly Test	
				Calculates gravity force, weight = mass x gravitational field strength (g), on Earth $g=10$ N/kg, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun (qualitative only)	
				Describes how your weight can be different on different planets.	
October 2016					
Week 6	2	1.5	Questions, evidence and explanations	Discusses the importance of questions, evidence, and explanations.	
Week 7	2	1.6	Air resistance	Explains what affects air resistance.	
				Describes what is meant by terminal velocity.	
				Explains how and why the speed of a skydiver changes.	
Week 8	2	1.7	Planning investigations	Learns how to plan an investigation to test an idea in science.	
Week 9	2	1.8	Tension and Up thrust	Describes what happens when you stretch a spring.	
				Explains what is meant by tension.	
				Monthly Test	

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				Explains the elastic limit.	
				Explains why things float or sink.	

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November 2016					
Week 10	1	1.9	Presenting results- tables and graphs	Describes how to present results in tables.	
Week 11	2			Describes how to draw line graphs.	
				Explains what is meant by continuous variables.	
Week 12	2	1.10	Round in circles	Explains why some objects move in circles.	
Week 13	2	2.1	What is energy?	Describes where we get our energy from Identifies the units of energy.	
Week 14	2	2.2	Energy from the sun	Explains why the energy in food comes from the sun. Describes some methods of generating electricity using the Sun's energy.	
December 2016					
Week 15	2		Revision and 1st Term test		
Week 16				1st Term End Exams	
Week 17				Paper Correction	
Week 18				December Vacation	
Week 19				December Vacation	
January 2017 School Reopens - 2nd Term					
Week 20	2	2.3	Energy types	Identifies different types of energy. Explains Examples of situations that involve different types of energy.	
Week 21	2	2.4	Energy transfer	Identifies how energy transfers are shown in diagrams. Learns to construct energy transfer diagrams.	
Week 22	2	2.5	Conservation of energy	Learns the law of conservation of energy Explain how the law applies to different situations.	
Week 23	2	2.6	Gravitational potential energy and kinetic energy	Explain what is meant by gravitational potential energy. Explains what is meant by kinetic energy. Describes situations that involve energy changes between kinetic energy and gravitational potential energy. Monthly Test	
February 2017					
Week 24	2	2.7	Elastic potential energy	Explains how the store of elastic potential energy can change. Describes situations where the store of elastic potential energy increases or decreases.	
Week 25	2	2.8	Suggesting ideas-investigations	Recognize that there are many ways to find answers to questions in science. Monthly Test Identifies how to decide on a question to investigate.	
		2.9	Suggesting ideas-observations and models	Learns how to decide on a question to investigate.	
Week 26	2	2.10	Energy calculation and Sankey diagrams	Learn to do calculations that involve energy. Use Sankey diagrams to show processes that involve energy.	

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March 2017					
Week 27	2	3.1	The night sky	Identifies the types of objects we can see in the night sky. Explains how we see different types of object.	
Week 28	2	3.2	Day and night	Explains why the Sun appears to move across the sky. Explains why we have day and night.	
Week 29			Revision		
Week 30			Revision and 2nd term test		
April 2017					
Week 31				2nd Term End Exams	
Week 32				Assessment and Report work	
Week 33				April Vacation	
School Reopens - 3rd Term					
Week 34	2	3.3	The seasons	Describes the height of the Sun in the sky changes over the year. Explains what causes seasons.	
Week 35	2	3.4	Stars	Identifies Sun as a star, other stars in our galaxy, other galaxies Explains why the stars appear to move during the night. Describes how the night sky changes over the year.	
May 2017					
Week 36	2	3.5	Our Solar System	Describes the planets in our Solar System Learns the order of the planets, and where the asteroid belt is	
Week 37	2	3.6	The moon	Describe the phases of the Moon. Describe the phases of the Moon and eclipses.	
Week 38	2	3.7	Explanations-geocentric model	Describes how scientific explanations are developed.	
		3.8	Explanations-heliocentric model	Learns the importance of evidence. Monthly Test	
				Describes how new evidence can be used to develop different explanations. Identifies the seasons and the Earth's tilt, day length at different times of year, in different hemispheres	
Week 39	2	3.9	Communicating ideas	Describes how ideas about the motion of the stars and the planets developed in India, Africa, and Islamic countries.	
Week 40	2	3.10	Beyond our solar system	Describes the light year as a unit of astronomical distance. Describes what is outside our Solar System.	
June 2017					
Week 41	2	3.11	Using secondary sources	Identifies the difference between primary and secondary sources of data. Identifies some secondary sources. Uses information from secondary sources to answer questions.	
		3.12	The origin of the Universe	Describes how scientists think the Universe started.	

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Week 42	2		Revision		
Week 43	3rd Term end exams				
Week 44	Report work				
	Summer Vacation				