

Year: 7

Subject: Science

Term	Week	Focus	Summary	Learning Outcomes	Parental Support	Independent Learning
1A	1	Baseline assessments				
	2	Introduction to science	Being a scientist is great fun. As you work through KS3 science, you'll learn how to work like a scientist and get answers to questions that science can answer.	Become familiar with the laboratory environment, equipment, and key scientific skills required for the study of science at KS3 and beyond.	BBC Bitesize - whole topic https://www.bbc.co.uk/bitesize/topics/zsg6m39	General extra reading/resources for KS3 science: Scientific journals for young people. The abstract is kind of like the blurb of a book - read it first to see if you are interested and then read the whole article. https://kids.frontiersin.org/ https://www.sciencejournalforkids.org/ Other interesting science news/websites: https://spaceplace.nasa.gov/ https://www.snexplores.org/all-stories https://www.nationalgeographic.com/science/ https://www.natgeokids.com/uk/category/discover/science/
	3	Introduction to science			Seneca- covers whole topic - Course - KS3 Science Topic - 4 - Thinking scientifically	

				https://senecalearning.com/	
4	Introduction to science				
5	Cells	In this unit you will discover what plants and animals are made of. You will also meet some tiny organisms that can only be seen under a microscope.	How we observe cells Structure of plant and animal cells Specialised cells	Games, information and videos - https://www.bbc.co.uk/bitesize/articles/zkm7wnb#zc7j8hy	Reading: Discovering the cell - https://education.nationalgeographic.org/resource/history-cell-discovering-cell/ Careers - microbiology https://microbiologysociety.org/careers/what-microbiologists-do.html?_gl=1*1pi16wt*_up*MQ..*_ga*MTQyMjM2Mj1MC4xNzE1MDc4MjY3*_ga_KJR7LS80P1*MTcxNTA3ODI2Ni4wLjAuMA..
6	Cells		Movement of substances Unicellular organisms Practical/scientific skills	Seneca- covers whole topic https://senecalearning.com/ Course - KS3 science Topic 1 - Biology Sections 1.1.1-1.1.6	TED talk video - https://ed.ted.com/lessons/the-wacky-history-of-cell-theory
7	Cells Particles and their behaviours	In this unit you will find out about the particles that make up everything and why the chemicals inside the food you eat, the materials in your phone, and inside you, behave the way they do.	Assessment/Feedback The particle model	You Tube - https://www.youtube.com/watch?v=OOI5yVVxMQE https://www.youtube.com/watch?v=0lUDh6rrb6E	Non-Newtonian fluids https://www.sciencelearn.org.nz/resources/1502-non-newtonian-fluids Careers in chemistry - chemistry in health

						https://edu.rsc.org/job-profiles/medicinal-chemist/4013025.article
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1B	1	Particles and their behaviours		States of matter Melting and freezing Boiling	Seneca- covers whole topic https://senecalearning.com/ Course: KS3 science Topic - 2 - Chemistry Section - 2.1.1-2.1.6	Research what sublimation is and which substances sublime
	2	Particles and their behaviours		Changes of state Diffusion Practical/scientific skills	BBC Bitesize - whole topic https://www.bbc.co.uk/bitesize/topics/z9r4jxs https://www.bbc.co.uk/bitesize/articles/zvh44xs	
	3	Particles and their behaviours		Practical/scientific skills Practical/scientific skills Practical/scientific skills		
	4	Particles and their behaviours Forces	In this unit you will learn about the forces that keep you from falling through the floor and allow astronauts to stand on the Moon.	Assessment/feedback Introduction to forces	BBC Bitesize - whole topic https://www.bbc.co.uk/bitesize/topics/z4brd2p/articles/zs3896f	Forces and motion in games programming: https://www.youtube.com/watch?v=Kt9OIlEzwnk
	5	Forces		Squashing and stretching Drag forces and friction	Seneca- covers whole topic https://senecalearning.com/	Careers with physics - robotics:

				Forces at a distance	Course: KS3 science Topic - 3 - Physics Section: 3.2.1-3.2.6	https://www.iop.org/careers-physics/your-future-with-physics/career-paths/chief-executive-officer
	6	Forces		Balanced and unbalanced Practical/scientific skills Practical/scientific skills		
	7	Forces Structure and function of body system	In this unit you will explore how different structures work together to keep an organism alive.	Assessment/feedback Levels of organisation	YouTube - https://www.youtube.com/watch?v=7v-tU8l7dK0	Real world applications - enzymes in washing powder https://www.persil.com/uk/laundry/laundry-tips/washing-tips/enzymes-in-biological-detergents-the-facts-about-laundry-detergents-and-how-they-work.html

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2A	1	Structure and function of body system		Gas exchange Breathing Skeleton	BBC Bitesize - whole topic: https://www.bbc.co.uk/bitesize/articles/zgbddp3	Interesting facts about the circulatory system - https://www.livescience.com/39925-circulatory-system-facts-surprising.html
	2	Structure and function of body system		Movement - joints Movement - muscles Practical/scientific skills	Seneca- covers whole topic: Course - KS3 science Topic - 1 Biology Sections - 1.6.1-1.6.10	Careers - physiotherapy https://www.csp.org.uk/career-jobs/career-physiotherapy
	3	Structure and function of body system		Practical/scientific skills Assessment/feedback		

	4	Elements, atoms and compounds	In this unit you will delve deeper into the chemicals that make up everything in the world around us.	Elements Atoms Compounds	You Tube: https://www.youtube.com/watch?v=DZ6Ap8Zyb9w	Build an atom https://phet.colorado.edu/en/simulations/build-an-atom
	5	Elements, atoms and compounds		Chemical formulae Practical/scientific skills Practical/scientific skills	Seneca- covers whole topic https://senecalearning.com/ Course - KS3 science Topic - 2 Chemistry Sections 2.3.1-2.3.7	Careers in chemistry - marine biogeochemist https://edu.rsc.org/job-profiles/marine-biogeochemist/4012870.article
	6	Elements, atoms and compounds Sound	In this unit you will learn about how you hear and how sound waves behave.	Assessment/feedback Waves	BBC Bitesize - whole topic: https://www.bbc.co.uk/bitesize/topics/zw982hv/articles/zpm3r2p	Echoes in nature: https://www.nationalgeographic.com/animals/article/echolocation-is-nature-built-in-sonar-here-is-how-it-works#:~:text=Nature's%20own%20sonar%20system%2C%20echolocation,toothed%20whales%2C%20and%20small%20mammals.
	7	Sound		Sound and energy transfer Loudness and pitch Detecting sound	Seneca- covers whole topic https://senecalearning.com/ Course - KS3 science Topic - 3 Physics Sections 3.3.1-3.3.13	Careers for physics - physics for medicine: https://www.iop.org/careers-physics/your-future-with-physics/career-paths/medical-physicist

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2B	1	Sound		Echoes and ultrasound Practical/scientific skills Practical/scientific skills	BBC Bitesize - whole topic: https://www.bbc.co.uk/bitesize/topics/zw982hv/articles/zpm3r2p	Video about a boy who lost his vision and learned to use echolocation: https://www.youtube.com/watch?v=TeFRkAYb1uk
	2	Sound Reproduction	In this unit you will discover how new plants and animals are created through the process of reproduction.	Assessment/feedback Adolescence	BBC Bitesize - whole topic https://www.bbc.co.uk/bitesize/topics/zybbkqt	Reading - case studies/different types of reproduction - https://education.nationalgeographic.org/resource/resource-e-library-reproduction/
	3	Reproduction		Reproductive systems Fertilisation and implantation Development of a fetus	Seneca- covers whole topic https://senecalearning.com/ Course - KS3 science Topic - 1 Biology Sections 1.2.1-1.2.10	The Ocean's most dedicated mothers https://www.bbcearth.com/news/the-oceans-most-dedicated-mothers
	4	Reproduction		The menstrual cycle Flowers and pollination Fertilisation and germination		
	5	Reproduction		Seed dispersal Practical/scientific skills Practical/scientific skills		Careers - agricultural biotechnology https://biotech-careers.org/job-areas/agricultural-biotechnology
	6	Reproduction		Assessment/feedback		

		Reactions	In this unit you will explore how chemical reactions make vital materials and transfer energy for almost everything we do.	Chemical reactions	BBC Bitesize: https://www.bbc.co.uk/bitesize/topics/zypsgk7/articles/zb7wwnb https://www.bbc.co.uk/bitesize/topics/zypsgk7	Thermal runaway https://dragonflyenergy.com/thermal-runaway/ Careers in chemistry - science communicator https://edu.rsc.org/job-profiles/science-communicator/4010947.article
	7	Reactions		Word equations Burning fuels Thermal decomposition	Reactivity series song: https://www.youtube.com/watch?v=DLlykUHHAcQ BBC Bitesize: https://www.bbc.co.uk/bitesize/topics/z3ksp4j	Mining for metals and the environment https://www.bbc.com/news/science-environment-66880697 https://earth.org/environmental-impact-of-battery-production/

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3A	1	Reactions		Conservation of mass Exothermic and endothermic Practical/scientific skills	Seneca- covers whole topic https://senecalearning.com/ Course: KS3 science Topic - 2 Chemistry Sections 2.3.1-2.3.7	Careers in chemistry: Laboratory technician/degree apprenticeship https://edu.rsc.org/job-profiles/laboratory-analyst-and-higher-degree-apprentice-water/4010930.article
	2	Reactions		Practical/scientific skills Assessment/feedback		

3	Light	In this unit you will learn about how you see and how light waves behave.	Light Reflection Refraction	BBC Bitesize - whole topic: https://www.bbc.co.uk/bitesize/topics/zw982hv/articles/zh28jsg	Light and colour in the ocean: https://oceanexplorer.noaa.gov/edu/materials/light-and-color-fact-sheet.pdf and https://science.howstuffworks.com/environmental/earth/oceanography/why-is-ocean-different-colors-different-places.htm
4	Light		The eye and the camera Colour Practical/scientific skills	Seneca- covers whole topic https://senecalearning.com/ Course: KS3 science Topic - 3 Physics Sections 3.3.14-3.3.26	Careers with physics - uses of light technology: https://www.iop.org/careers-physics/your-future-with-physics/career-paths/senior-programme-manager
5	Light		Practical/scientific skills Assessment/feedback		
6	Acids and alkalis	In this unit you will learn about the special properties of some everyday chemicals as well as laboratory chemicals.	Acids and alkalis Indicators and pH Neutralisation	BBC Bitesize - whole topic: https://www.bbc.co.uk/bitesize/guides/zy3b9q/revision/1	Make your own indicator: https://www.stem.org.uk/system/files/elibrary-resources/legacy_files_migrated/8458-catalyst_20_1_433.pdf The history of the pH scale https://www.compoundchem.com/2023/01/09/sorensen-ph-scale/ Ocean acidification https://www.nationalgeographic.com/environment/article/cr

						tical-issues-ocean-acidification

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3B	1	Acids and alkalis		Making salts Practical/scientific skills Practical/scientific skills	Seneca- covers whole topic https://senecalearning.com/ Course: Ks3 science Topic - 2 Chemistry Sections 2.2.1-2.2.6	Careers in chemistry - sustainability manager https://edu.rsc.org/job-profiles/sustainability-manager/4010821.article
	2	Acids and alkalis Space	In this unit you will learn about the place of the Earth in the Universe.	Assessment/feedback The night sky	BBC Bitesize - whole topic: https://www.bbc.co.uk/bitesize/topics/z8c9q6f/articles/zyw7yc	NASA resources: https://www.nasa.gov/learning-resources/for-students-grades-9-12/ Careers in physics - space systems engineer: https://www.iop.org/careers-physics/your-future-with-physics/career-paths/space-system-engineer
	3	Space		The Solar system The Earth The Moon	Seneca- covers whole topic https://senecalearning.com/ Course: KS3 science Topic - 3 Physics Sections: All of 3.6	
	4	Space		Practical/scientific skills		

				Practical/scientific skills Assessment		
5	Space			Feedback		
	End of year assessments			Covering all of year 7 content		
6	Working scientifically					