Boardworks KS3 Science

Biology

	Programme of Study	Boardworks presentation
1. Key concepts	**1.1 Scientific thinking**	
	a. Using scientific ideas and models to explain phenomena and developing them creatively to generate and test theories.	• *Animal Behaviour (worksheet 1)* • *Cells (slides 9, 27)* • *Feeding Relationships (slides 11-13, 24-25, worksheet 2)* • *Human Behaviour (slides 20-21)* • *Variation (slides 38-41, worksheet 2)* • *Plants and Photosynthesis (worksheet 1, worksheet 2)*
	b. Critically analysing and evaluating evidence from observations and experiments.	• *Animal Behaviour (slides 22-24, worksheet 1, worksheet 3)* • *Drugs (slide 11)* • *Ecosystems (slide 29)* • *Feeding Relationships (slides 7-9)* • *Human Reproduction (slide 23)* • *Plants and Photosynthesis (slides 17-18, worksheet 1, worksheet 2)* • *Respiration (slide 28, worksheet 2, worksheet 3)* • *Variation (slides 30-36, worksheet 1)* • *Human Behaviour (worksheet 1)* • *Microbes and Disease (worksheet 1, worksheet 2)*
	1.2 Applications and implications of science	
	a. Exploring how the creative application of scientific ideas can bring about technological developments and consequent changes in the way people think and behave.	• *Human Reproduction (slides 15-20, worksheet 1)* • *Microbes and Disease (slides 13-16, 28-31)* • *Variation (slides 42-45, worksheet 3)* • *Cells (slide 23)* • *Drugs (slides 16-17)*

	b. Examining the ethical and moral implications of using and applying science.	• *Drugs (slides 16-17, worksheet 1)* • *Ecosystems (slides 20-29, worksheet 2)* • *Human Reproduction (worksheet 1, worksheet 2)* • *Variation (slides 42-45, worksheet 3)* • *Biology Around Us (slides 1-15)* • *Human Behaviour (slide 14)* • *Plants and Photosynthesis (slides 37-42)*
	1.3 Cultural understanding	
	a. Recognising that modern science has its roots in many different societies and cultures, and draws on a variety of valid approaches to scientific practice.	• *Animal Behaviour (slide 23)* • *Respiration (slide 14)*
	1.4 Collaboration	
	a. Sharing developments and common understanding across disciplines and boundaries.	

2. Key processes

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2.1 Practical and enquiry skills	
a. Use a range of scientific methods and techniques to develop and test ideas and explanations.	• *Animal Behaviour (slides 22, 25-26, worksheet 3)* • *Human Behaviour (worksheet 1)* • *Plants and Photosynthesis (slide 17, worksheet 1)* • *Ecosystems (slide 9)* • *Respiration (slide 15)*
b. Assess risk and work safely in the laboratory, field and workplace.	• *Cells (worksheet 2)*
c. Plan and carry out practical and investigative activities, both individually and in groups.	• *Animal Behaviour (worksheet 1)* • *Plants and Photosynthesis (worksheet 1)* • *Respiration (worksheet 2)* • *Variation (worksheet 1)*
2.2 Critical understanding of evidence	
a. Obtain, record and analyse data from a wide range of primary and secondary sources, including ICT sources, and use their findings to provide evidence for scientific explanations.	• *Animal Behaviour (worksheet 1)* • *Cells (slides 18-24, worksheet 1)* • *Diet and Fitness (worksheet 1)* • *Feeding Relationships (slides 8-9, worksheet 1)* • *Microbes and Disease (worksheet 1)* • *Respiration (worksheet 2)* • *Variation (slides 30-36, worksheet 1)* • *Ecosystems (slides 9, 24, 29)* • *Human Reproduction (slide 23)*
b. Evaluate scientific evidence and working methods.	• *Biology Around Us (slides 1-15)* • *Microbes and Disease (worksheet 2)* • *Plants and Photosynthesis (worksheet 1)* • *Variation (slides 42-45)*
2.3 Communication	
a. Use appropriate methods, including ICT, to communicate scientific information and contribute to presentations and discussions about scientific issues.	• *Animal Behaviour (worksheet 1)* • *Human Reproduction (worksheet 1, worksheet 2)* • *Microbes and Disease (worksheet 1)* • *Variation (worksheet 3)*

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3. Range and content	**3.1 Energy, electricity and forces – *NA***	
	3.2 Chemical and material behaviour – *NA*	
	3.3 Organisms, behaviour and health	
	a. Life processes are supported by the organisation of cells into tissues, organs and body systems.	• *Cells* • *Diet and Fitness* • *Respiration* • *Human Reproduction* • *Plants and Photosynthesis*
	b. The human reproductive cycle includes adolescence, fertilisation and foetal development.	• *Human Reproduction*
	c. Conception, growth, development, behaviour and health can be affected by diet, drugs and disease.	• *Diet and Fitness* • *Drugs* • *Microbes and Disease*
	d. All living things show variation, can be classified and are interdependent, interacting with each other and their environment.	• *Variation* • *Ecosystems* • *Feeding Relationships*
	e. Behaviour is influenced by internal and external factors and can be investigated and measured.	• *Human Behaviour* • *Animal Behaviour*
	3.4 The environment, Earth and universe	
	a.	***NA***
	b.	***NA***
	c. human activity and natural processes can lead to changes in the environment.	• *Ecosystems* • *Plants and Photosynthesis*

4. Curriculum opportunities	Programme of Study	Boardworks presentation
	a. Research, experiment, discuss and develop arguments.	*Embedded throughout product*
	b. Pursue an independent enquiry into an aspect of science of personal interest.	
	c. Use real-life examples as a basis for finding out about science.	*Embedded throughout product*
	d. Study science in local, national and global contexts, and appreciate the connections between these.	• *Ecosystems*
	e. Experience science outside the school environment, including in the workplace, where possible.	• *Biology Around Us*
	f. Use creativity and innovation in science, and appreciate their importance in enterprise.	
	g. Recognise the importance of sustainability in scientific and technological developments.	• *Ecosystems*
	h. Explore contemporary and historical scientific developments and how they have been communicated.	• *Animal Behaviour (slide 23)* • *Cells (slide 23)* • *Microbes and Disease (slide 31)* • *Respiration (slide 14)*