BENSHAM MANOR School

Science Year 8 Route 1 (8CL, 8LBu, 8IM) Curriculum Map 2026-27

The curriculum is designed for students to have fun and enjoy science lessons. The aim is for students to appreciate the value of science in their everyday lives. We want to help our young learners understand the world around them and make relevant connections. We encourage students to express their own thoughts and ideas, become curious learners; asking questions and developing independence and communication skills. We motivate students to reach their full potential by building on prior learning and skills, supporting and scaffolding their learning so they can achieve at all levels. Students are encouraged to address misconceptions, develop scientific skills and key scientific concepts that can be built upon across the KS3 curriculum and expanded upon in KS4. The KS3 curriculum topics have been carefully sequenced so students gain a firm foundation in year 7 and will help them to progress into year 8. KS1 and KS2 knowledge is secured as appropriate. The desired outcome is cohort-specific; all students progress their way through the science solar steps which are based on knowledge and skills.

Topic Title	Topic overview	Knowledge and Skills	Assessment	Keywords
Autumn term 1 1) Introduction to Chemical Reactions	In this unit Students learn about what a chemical reaction is and how to identify reversible and irreversible reactions. They learn how to test for common substances and they look at combustion and how it can affect the planet.	• Observation of chemical and physical change. Know the differences between a chemical and physical change. • Be able to describe the tests for oxygen, carbon dioxide, and water. • Be able to describe complete and incomplete combustion, know what is required and produced in both reactions. • Describe how acid rain is formed and the effects of acid rain. • Recall what the greenhouse effect is and how it is affecting the planet. **<u>Working Scientifically</u>** observation, using equipment, recording, research, explaining, data analysis, noticing patterns, drawing conclusions, using scientific vocab	Teacher assessment through a variety of activities - quizzes, word wall, games, questioning, role play, speaking activities, card sorts, photographs of learners carrying out activities, storyboards, presentations/posters, evaluation sheets and testing.	physical change reversible burning reactant word equation carbon dioxide gas limewater complete combustion incomplete combustion alkali global warming chemical change irreversible rusting product hydrogen gas oxygen gas combustion acid acid rain greenhouse effect
Autumn term 2 2) Animals and plants – cells, tissues, organs	In this unit students learn about cells as the building blocks of life. They learn about the main processes of life. Students are taught how to prepare microscope slides and view plant and	• Recall and describe the processes of life. Classifying living and non-living • Define cells, tissues, organs and organ systems. • Identify and locate organs in plants and animals. Describe the functions of organs in plants and animals.	Teacher assessment through a variety of activities - quizzes, word wall, games, questioning, role	movement sensitivity reproduction nutrition tissues organ systems respiratory system respiration growth excretion cells organs circulatory system excretory system

and organ systems.	animal cells under a microscope. Students learn about the processes of respiration and photosynthesis.	● Identify the main parts of animal and plant cells and describe their functions. Identify the main organ systems in humans. ● Know how to use a microscope ● Prepare a microscope slide ● Identify and recall the main organ systems and their functions in animals. ● Know the parts and functions of the respiratory system. ● Understand what respiration is and where it takes place. ● Describe what happens in photosynthesis. **Working Scientifically** classifying, using equipment, asking questions, explaining, using models, using scientific vocabulary	play, speaking activities, card sorts, photographs of learners carrying out activities, storyboards, presentations/posters, evaluation sheets and testing.	nervous system skeletal system nucleus cell membrane chloroplast photosynthesis	digestive system muscular system cytoplasm mitochondria cell wall
Spring Term 1 3) Food and nutrition.	This unit looks at the main components in the human diet and why they are needed. The digestive system is also covered in some detail, and the idea of enzymes is introduced	● Know the different nutrients found in food and their functions in the body. ● Describe the benefits of a balanced diet. ● Recall the parts of the digestive system and know their functions. ● Describe how we break down food. **Working Scientifically** Using equipment, collecting qualitative data, using models, explaining, drawing conclusions, using scientific vocabulary	Teacher assessment through a variety of activities - quizzes, word wall, games, questioning, role play, speaking activities, card sorts, photographs of learners carrying out activities, storyboards, presentations/posters, evaluation sheets and testing.	nutrient carbohydrate fibre minerals teeth mouth stomach large intestine gall bladder digestion enzymes insoluble villus	proteins fat vitamins water oesophagus salivary glands small intestine liver pancreas digestive juice faeces soluble diffusion
Spring Term 2	In this unit students learn about the human reproductive system and sexual reproduction in	● Name and describe the two types of reproduction - sexual and asexual reproduction.	Teacher assessment through a variety of activities - quizzes, word wall,	egg cell fertilisation offspring sexual reproduction ovary	sperm cell fuse sex cell cervix oviduct / fallopian tube

4) Sexual reproduction in animals	humans. They learn about birth, the stages of pregnancy, looking after a newborn baby and changes that occur during puberty.	● To be able to label the male and female reproductive systems and know the functions of each part. ● Be able to scientifically describe what happens during sexual reproduction. ● Describe how egg and sperm cells are adapted to their function. ● Know how a female can become pregnant. ● Describe pregnancy. ● Describe the stages of pregnancy. ● Recall the stages of birth and how a newborn baby is looked after. ● Describe changes during puberty. ● Know what the menstrual cycle is and what happens in the menstrual cycle. **Working Scientifically** using models, explaining, analysing data, drawing conclusions, using scientific vocabulary	games, questioning, role play, speaking activities, card sorts, photographs of learners carrying out activities, storyboards, presentations/posters, evaluation sheets and testing.	vagina penis scrotum urethra glands sexual intercourse pregnant placenta foetus amnion labour afterbirth sex hormones menstruation ovulation	uterus testes sperm duct semen erection ejaculation implantation umbilical cord embryo amniotic fluid contractions puberty adolescence menstrual cycle
Summer Term 1 5) Ecosystems	This unit looks at ecosystems and the factors that affect them including the impact of human activity and the importance of biodiversity.	● What is an ecosystem? ● Know what a species is and give examples. ● Describe how variation occurs within a species. ● Describe adaptations of organisms from different habitats. ● What does a habitat provide for organisms? ● Be able to understand food chains and food webs. ● Describe and understand predator prey relationships. ● Describe and understand how energy is lost along a food chain. ● Understand how humans impact an ecosystem? **Working Scientifically**	Teacher assessment through a variety of activities - quizzes, word wall, games, questioning, role play, speaking activities, card sorts, photographs of learners carrying out activities, storyboards, presentations/posters, evaluation sheets and testing.	ecosystem environment variation reproduce herbivore competition food chain herbivore predator pyramid of numbers.	community adaptation offspring carnivore omnivore consumer food web habitat prey

		Research, presenting information in graphs and charts, explaining, using scientific vocabulary			
Summer Term 2 6) Earth and Space.	This unit looks at how the universe was created and the Earth, including the seasons and the Earth's magnetic field and gravity. It also looks at exploring the Solar System and beyond.	● Be able to describe how the Universe was created. ● Be able to describe the solar system. ● Know the order of the planets. ● Describe the relationship between the planets and the sun. ● Be able to describe how day and night happen. ● Describe the seasons ● Have an understanding of how seasons occur. ● Be able to describe the Milky Way ● What do magnets and the Earth have in common? ● Know about gravity in space. ● Describe stars, galaxies and constellations ● Describe the milky way. **<u>Working Scientifically</u>** Questioning and explaining, modelling, research, presenting information in graphs and charts, explaining, using scientific vocabulary	Teacher assessment through a variety of activities - quizzes, word wall, games, questioning, role play, speaking activities, card sorts, photographs of learners carrying out activities, storyboards, presentations/posters, evaluation sheets and testing.	The Big Bang sun stars orbit Vénus Earth Saturn Neptune asteroid northern hemisphere magnet gravity galaxies Milky Way	solar system moon planet Mercury Mars Jupiter Uranus Pluto seasons southern hemisphere magnetic field satellites constellations