

Science – Year 8

Key Contact: Mrs Sinclair- j.sinclair@applemore.hants.sch.uk

Subject Content

Autumn	Spring	Summer
Energy – heat transfer	Respiration and photosynthesis	Earth's resources and climate change
Periodic table	Types of reactions	Evolution and inheritance
Forces and pressure	Breathing	Space
Nutrition and digestion	Electricity - circuits	Skills

Assessment

Homework: To be completed in each termly workbook. Approximately 30 mins per fortnight

Assessment: small class graded assessments at the end of each topic in the Autumn term and then 1 topic test to cover two topics of learning thereafter. An end of year exam to focus on the fundamental learning of cells, forces and matter in the Summer term.

Useful Study Support Resources

- BBC KS3 Science Bitesize has many useful activities: best use by searching the appropriate topic in the search bar under KS3 Science Bitesize
- KS3 Science knowledge organisers can be found on the student hub
- All homework tasks can be found on the student hub

Anything else relevant / subject specific

Science is an exciting practical subject that students enjoy studying. Students are encouraged to take an interest in Science outside of school and appreciate that Science is all around us at all times. Many students visit zoos, wildlife sanctuaries and museums in their spare time, others choose to watch programmes such as 'Bang Goes the Theory' and science documentaries that interest them or take an interest in new scientific discoveries that are reported in the media. Science club and ecoschools are available to students – more information to be given in tutor times.

Year 8 expectations:

Application

- 30mins of homework a week, plus revision for assessments
- Respond to all feedback given by teacher

Organisation

- Bring all equipment to Science lessons, including pen, pencil, ruler, rubber and calculator
- Ask your teacher if you need additional help or have missed a lesson and need to catch up

Independence

- Students should complete homework independently where possible, but feel free to support when help is required
- Students are encouraged to develop the skills required to work independently and to seek help in working out answers using the '4B's': *'brain* (can they work out an answer their selves?) *book* (could they look up the answer in their exercise/ textbook/ internet?), *buddy* (could they work out the answer by talking to a friend?), *boss* (ask a teacher).

Improving grades

Students will be able to regularly access feedback to work that will tell them how to improve their grade. As a general overview, to achieve each grade, students are required to be able to do the following:

Emerging

- Label diagrams and use some scientific key terms. Recall basic scientific facts. Supported in their practical work

Aspiring

- Label diagrams and use more scientific key terms. Describe some basic scientific concepts and plan practical activities.

Developing

- Give the meanings of scientific key terms and correctly use these in sentences. Describe scientific concepts and patterns in data. Complete practical work referencing variables.

Securing

- Explain scientific concepts and the patterns in data using scientific knowledge and evidence. Plan and complete valid and fair experimental investigations

Mastering

- Evaluate scientific theories and evidence and understands its limitations. Link scientific concepts to real world examples. Plan and complete valid and fair experimental investigations with presentation of results and supported scientific conclusions.

Extended resource List

Autumn	Spring	Summer
Energy – heat transfer	Respiration and photosynthesis	Earth's resources and climate change
Periodic table	Types of reactions	Evolution and inheritance
Forces and pressure	Breathing	Space
Nutrition and digestion	Electricity - circuits	Skills

Matter – Periodic table

[Elements, compounds and mixtures - BBC Bitesize](#)

[Periodic table - KS3 Chemistry - BBC Bitesize](#)

Forces – Forces, speed and pressure

[Motion and speed - Forces and movement - KS3 Physics - BBC Bitesize - BBC Bitesize](#)

[Representing journeys - Forces and movement - KS3 Physics - BBC Bitesize - BBC Bitesize](#)

[Pressure guide for KS3 physics students - BBC Bitesize](#)

Organisation – digestion

[Nutrition, digestion and excretion - KS3 Biology - BBC Bitesize](#)

Energy – energy and heat

[Heating and cooling - Energy - KS3 Physics - BBC Bitesize - BBC Bitesize](#)

Electricity – resistance

[Electricity - KS3 Physics - BBC Bitesize](#)

Reactions – types of reaction

[Chemical reactions - KS3 Chemistry - BBC Bitesize](#)

Ecosystems – respiration and photosynthesis

[What is the difference between aerobic and anaerobic respiration? - BBC Bitesize](#)

[Anaerobic and aerobic respiration - BBC Bitesize](#)

[What is lactic acid? Respiration and gas exchange - KS3 Biology - BBC Bitesize - BBC Bitesize](#)

[Leaf structures, ecosystems and habitats - BBC Bitesize](#)

[What is photosynthesis? - Respiration and gas exchange - KS3 Biology - BBC Bitesize](#)

[Measuring photosynthesis experiment - Respiration and gas exchange - KS3 Biology - BBC Bitesize - BBC Bitesize](#)

[What are limiting factors in photosynthesis? Respiration and gas exchange - Biology - BBC Bitesize - BBC Bitesize](#)

Organisation – breathing and drugs

[Structure and function of the gas exchange system - Respiration and gas exchange - KS3 Biology - BBC Bitesize - BBC Bitesize](#)

[What is respiration and gas exchange? - BBC Bitesize](#)

[The effect of asthma, smoking and exercise on the gas exchange system - Respiration and gas exchange - Biology - BBC Bitesize - BBC Bitesize](#)

[The effects of recreational drugs on health and behaviour - Health and disease - KS3 Biology - BBC Bitesize - BBC Bitesize](#)

Earth – climate change

[The Earth and atmosphere - KS3 Chemistry - BBC Bitesize](#)

Earth – space

[Space - KS3 Physics - BBC Bitesize](#)

Genes – Evolution and inheritance

[Inheritance and genetics - KS3 Biology - BBC Bitesize](#)

[Biodiversity, extinction and gene pools - Ecosystems and habitats - KS3 Biology - BBC Bitesize - BBC Bitesize](#)