

SCIENCE

Aims

- To use experimentation and modeling to develop and evaluate explanations, whilst encouraging critical and creative thought.
- To develop the pupils' scientific literacy, allowing them to take decisions based on scientific understanding and questioning the reliability and validity of evidence presented to them.
- To encourage pupils to apply their scientific understanding throughout the school especially in other STEM (Science Technology Engineering and Maths) subjects.

Subject Content

Year 7 and 8 pupils follow the UPD8 WIKID science course developed with the Association for Science Education. The course is written to specifically link the science content to its application in order to engage the girls attention and natural curiosity.

There are 6 topics per year; each section within a topic is based around 7 stages:

- Engage; students raise the essential question
- Elicit; we find out what pupils already know and reveal any preconceptions
- Explore; pupils do activities to develop their ideas and concepts
- Explain; the teacher has input to formalize the concept, pupils practice using the concept
- Elaborate; the pupils understanding is deepened and applied to similar contexts
- Extend; the concept is applied to unfamiliar concepts
- Evaluate; this happens throughout the other 6 stages and encompasses formative assessment to guide further learning

The year 7 topics studied are:	The year 8 topics are:
Forensics	NVIZ
Cook!	Species at war
Extinction	Studio magic
Electricity	Pyrotechnics
A & E	Catastrophe
Alien	Live & kicking

In year 7 pupils are taught 3 times a week as a form by one teacher, this reduces the number of different teachers the pupil has.

In year 8 the pupils are again taught in forms but usually by 2 teachers to allow some subject specialist teaching to occur.

Year 9 science groups are smaller than in years 7 and 8, each pair of forms is split into 3 teaching groups and taught by 3 subject specialist teachers. In year 9 the girls cover a range of topics designed to enhanced their skills in preparation for starting their GCSE course at the start of the spring term.

Use of ICT

All 3 areas of the science department are very well equipped; all rooms have projectors and interactive whiteboards. There is a mobile suite of 33 netbooks used throughout the science block. The use of ICT to gather raw data is used throughout the three science subjects.

The department uses the school VLE (Virtual Learning Environment) to encourage innovative learning and allow girls to access information if they were absent.

Assessments

Your daughters work will be continually assessed to allow her to develop her learning; formal assessments consist of end-of-topic tests and end of year tests. Good work is rewarded by merit marks.

Homework

We consider homework to be very important. It consists of written exercises, research or background reading and following up class work.

Year 7 have 40 minutes made up of 2 x 20 minute homeworks.

Year 8 have 60 minutes made up of 2 x 30 minute homeworks.

Year 9 have 90 minutes made up of 3 x 30 minute homeworks.

Late or missing homework is considered unacceptable.

How parents can help

The best way in which you can help with homework is by checking your daughter's Record of Achievement diary on a regular basis so that any problems can be dealt with rapidly. Homework should not be a burden, nor should it be done too casually. If problems arise, please contact your daughter's Pupil achievement leader (PAL) at school in the first instance.

There are other ways in which you can help. Generally take an active interest in Science, encouraging your daughter to do the same. Read their exercise books occasionally so you know what topic areas are being covered and discuss these with your daughter. Point out relevant newspaper articles and encourage her to read topical science magazines such as *Focus*. Science programmes seem to be very popular, for example Richard Hammonds Blast Lab, Brainiac, Mythbusters as well as old favourites like Horizon. There are also some very useful general websites; the VLE has a page of suitable links that your daughter will be able to access. Allotment Club with its new raised beds provides opportunities for aspiring young botanists and gardeners. The West Midlands also has a wealth of museums that the whole family might well enjoy visiting.