

# YEAR 8 PHYSICS SCHEME OF WORK 2009-2010

## METHODOLOGY

**Textbook for Year 8 is Target Science and all pupils have a copy.** There are spares available in the lab if a girl forgets her textbook.

**Boardworks** is used during a lesson whenever there is appropriate material and each teacher has a copy on her USB stick

**Workbooks for all pupils** containing some of the following for all topics

- Experimental instructions
- Theory
- Formulae
- Brainteasers
- Applications to everyday life
- Homework examples
- Memory aids

with spaces for pupils to complete each topic to a high standard after class discussion, practical experiments and boardworks/ video/ dvd/ cd observation where appropriate.

**These are also available electronically** having been created in-house. They can be projected on to whiteboards during a lesson as and when appropriate and each teacher has a copy on her USB stick

Workbooks have enabled us to

- Cover more topics at KS3
- Increase awareness of Physics in everyday life
- Have more lesson time for practical work
- Have more lesson time for discussion about applications of Physics
- Have more lesson time for use of other resources e.g. videos/ dvds/ cds/ internet etc

**The whole class progresses faster.**

Our more able pupils are continually engaged whereas previously they were constantly waiting for slower members of the group.

Our dyslexic pupils and those who write more slowly have benefited considerably as they have time to think about the topic being studied, rather than worrying about writing everything down in time.

Time is no longer wasted “cutting and sticking” diagrams of applications etc into books.

## Gifted and Talented

- Physics is a challenging subject for most pupils, gifted and talented pupils are therefore constantly challenged along with the rest during the course of most lessons.
  - We have included Brainteasers in the workbooks which are usually set for homework and allow the gifted and talented to excel in that they give much more detailed observations than normal. They usually involve the application of the topics covered during the lesson to everyday life
  - During the next lesson they can then be asked to explain these phenomena to the others.
  - Within the scheme of work there are also extra possibilities highlighted with
- We have a very extensive Physics website which has a separate page for each yeargroup with numerous weblinks for the different topics. All of these have extension activities—puzzles/ animations/ simulations etc. Also included are extra /revision questions, which girls can try for themselves



## SEN

SEN pupils usually find Physics very challenging.

We always offer them extra help during lessons and at other times by arrangement

Seat them next to a girl who is able to help them during practical sessions

Seat them at the front so that the teacher can keep a close eye on them and help them easily as the lesson progresses

They can have further practice by using the website to try the extra questions

## ICT

- Almost every lesson the girls will have the benefit of ICT provision through the use of Boardworks and the projection of the workbooks on to the whiteboard
- Dataloggers are used when appropriate
- Girls are often asked to research either for the answers to the Brainteasers or some other project. They usually use the internet.
- Sometimes the results of their research is presented as a poster again often using ICT or sometimes as presentation using Powerpoint
- ICT is highlighted in the scheme of work using



## **Time Scale**

### **Autumn Term 2009**

- **Types of Energy**
- **Light energy and Properties of light**
- **Reflection**
- **Refraction**
- **Colour**
- **Electromagnetic Spectrum**

### **Spring Term 2010**

- **Lenses & their Uses**
- **Waves**
- **Sound Energy and properties of sound**

### **Summer Term 2010**

- **Ultrasonics**
- **Ripple Tank**
- **Seismic Waves**

## **Literacy**

**Key words displayed round room**

**Highlighted at end of each section in workbooks**

## **Numeracy**

**Calculators are needed in Physics lessons**

**Some girls find the Maths aspects of Physics challenging and extra help is given to these girls during the lesson or at another mutually convenient time. Worked examples are completed so that girls can refer back and calculations are done during the lesson under staff supervision so that those having difficulties can be identified.**