# **Physics at DBS**

## Introducing the 'big ideas'

Our curriculum is built around evidence based progression through the key concepts of science. We focus not just on the core knowledge pupils need, but embedding key skills throughout the course.

The Journey Starts - Transition
Pupils try a taster lesson in year 6 to see what
secondary science lessons are like and meet the
teachers.

**START** 

In year 7, pupils will study the transfer of energy, why objects float or sink, the solar system and will be introduced to the idea of waves.

Start of IGCSE

differing levels.

depth at IGCSE.

Sound and light

What waves can do, how we detect them and how we draw them.

\_\_\_\_\_ Year 8

In year 9 after the winter break, pupils start to

separate sciences worth 3 IGCSEs, or combined

science worth 2. Both courses study physics but at

Key

Stage

4

learn IGCSE content. Pupils will either study

Building on solid foundations
The foundations of KS3 support our pupils as
they study some of the same topics in more

### Circuits

Practical skills will develop as well as an understanding of what is going on inside the circuit.

Forces and movement
Recapping year 7 forces as well

as learning how those forces cause objects to move.

Electromagnetism

How can electricity cause magnetism? How are electromagnets made and used in the real world?

## **Problem solving**

Is a skill focus all the way through our secondary science courses.

Key

Stage

3

Year

11

Forces and motion

**Electricity** 

**Light and sound waves** 

Solids, liquids and gases

The electromagnetic spectrum

**Energy resources and transfers** 

Magnetism and electromagnetism

Radioactivity and particles

**Astrophysics** 

Revision, revision, revision

During year 11, all of our specialist teachers offer revision after school for year 11 to support them in their upcoming IGCSE exams. This is split in to combined science or separate science so that everybody gets the optimum outcome.

Year

Year

10

What now?

Year

At KS5 we offer IB physics, AS level physics and A level physics. This helps our pupils secure university places all over the world. We have fantastic results across all three courses and offer transition sessions to support you as you move in to the sixth form.

This is separate science only

# **Biology at DBS**

## The Journey Starts - Transition

Pupils try a taster lesson in year 6 to see what secondary science lessons are like and meet the teachers.

**START** 

In year 7, pupils will study cells and how they make up different organ systems, as well as inheritance and the genome.

## **Biochemistry**

Introducing the 'big ideas'
Our curriculum is built around evidence based progression through the key concepts of science. We focus not just on the core knowledge pupils need, but embedding key skills throughout the course.

Year

8

Key

Stage

4

How do cells and organisms get what they need?

## **Ecosystems**

How does energy pass between organisms? Food webs and interactions of plants and animals with their surroundings.

# Variation, classification and evolution

The differences between species and scientific theories of how they have changed over time.

#### **Health and Disease**

What health really means and what can positively and negatively affect it.

## **Growth and change**

The life cycles of humans and flowering plants.

## Problem solving

Is a skill focus all the way through our secondary science courses.

Key

**Stage** 

3

## Start of IGCSE

In year 9 after the winter break, pupils start to learn IGCSE content. Pupils will either study separate sciences worth 3 IGCSEs, or combined science worth 2. Both courses study biology but at differing levels.

The nature and variety of living organisms

Organ systems
Biological molecules

Nutrition

Photosynthesis and respiration

The heart and the blood

Response to the environment

Reproduction and inheritance

Ecology

Year

11

**Cloning and genetic modification** 

## **Building on solid foundations**

The foundations of KS3 support our pupils as they study some of the same topics in more depth at IGCSE.

### Revision, revision, revision

During year 11, all of our specialist teachers offer revision after school for year 11 to support them in their upcoming IGCSE exams. This is split in to combined science or separate science so that everybody gets the optimum outcome.

Year

Year

10

## What now?

Year

At KS5 we offer IB Biology and IB Environmental Systems and Societies, AS level biology and A level biology. This helps our pupils secure university places all over the world. We have fantastic results across all three courses and offer transition sessions to support you as you move in to the sixth form.

# **Chemistry at DBS**

**START** 

## Introducing the 'big ideas'

Our curriculum is built around evidence based progression through the key concepts of science. We focus not just on the core knowledge pupils need, but embedding key skills throughout the course.

Year

8

Kev

4

## The Journey Starts - Transition

Pupils try a taster lesson in year 6 to see what secondary science lessons are like and meet the teachers.

In year 7, pupils will study elements, compounds and mixtures, solubility and resources from the Earth.

## **Chemical reactions**

What happens in chemical reactions and how we can tell they've happened.

## **Pollution and material cycling**

How is pollution caused, how we can stop it and how different substances are used over and over again.

## **Chemical properties**

and changes How can we describe chemicals and what happens to them in reactions?

### The atomic model

How have our ideas about the atom changed over time?

## **Problem solving**

Is a skill focus all the way through our secondary science courses.

Key

Stage

3

Year

11

## Start of IGCSE

In year 9 after the winter break, pupils start to learn IGCSE content. Pupils will either study separate sciences worth 3 IGCSEs, or combined science worth 2. Both courses study chemistry but at differing levels.

The atom

The periodic table

**Extracting metals and their uses** 

**Chemical tests** 

Acids and alkalis

**Energy changes in reactions** 

**Chemical calculations** 

Crude oil, its products and their uses

**Stage** 

## **Building on solid foundations**

The foundations of KS3 support our pupils as they study some of the same topics in more depth at IGCSE.

Alcohols, carboxylic acids and esters

### Revision, revision, revision

During year 11, all of our specialist teachers offer revision after school for year 11 to support them in their upcoming IGCSE exams. This is split in to combined science or separate science so that everybody gets the optimum outcome.

Year

Year

10

#### What now?

Year

9

At KS5 we offer IB chemistry, AS level chemistry and A level chemistry. This helps our pupils secure university places all over the world. We have fantastic results across all three courses and offer transition sessions to support you as you move in to the sixth form.

# This is separate science only