



PUTTING THE FUN BACK  
INTO LEARNING!

Dear Parents and Guardians,

Welcome to the Science January Curriculum Guide.

## Curriculum content

### Key Stage 3: 2014 English National Curriculum Science

#### Grade 6:

This month, students in Grade 6 will study the Biology topic 'Ecosystems'.

| Topic                         | Key words   |
|-------------------------------|---|
| Variation                     | Continuous variation, discontinuous variation, habitat, hybrid, species, variation. Bar chart, dependent/independent variable, normal distribution. |
| Adaptations                   | Adaptation, community, ecosystem, environment, inherited variation, physical environment factors.   |
| Effects of the environment    | Daily changes, deciduous, environmental variation, evergreen, hibernation, migration, nocturnal, seasonal changes, seed.                            |
| Effects on the environment    | Carnivore, competition, consumer, food chain, food web, herbivore, interdependence, omnivore, population, predator, prey, producer, resource.       |
| Transfer of energy and poison | Persistent, pest, pesticide, pyramid of numbers.  |

#### Grade 7:

This month, students in Grade 7 will study the Chemistry topic 'Combustion'.

| Topic          | Key word   |
|----------------|--|
| Oxidation      | Law of conservation of mass, metal, metal oxide, non-metal, oxidation, oxide, oxidizer, phlogistan             |
| Fire safety    | Exothermic, fire extinguisher, fire triangle, hazard symbol  |
| Refraction     | Angle of refraction, converging lens, focal length, focal point, interface, lens, refraction                   |
| Air pollution  | Acid rain, asthma, complete combustion, incomplete combustion, nitrogen oxide, pollutant, soot, sulfur dioxide |
| Global warming | Climate change, global warming, greenhouse effect, greenhouse gas  |

## Edexcel IGCSE

In order to improve outcomes at IGCSE we have formalised the system of an extended three year KS4 in Science and IGCSE courses are now being followed by Grades 8, 9 and 10

For your information we have included hyperlinks to the relevant part of the specification in the details below.

For further details regarding the IGCSE syllabus and keywords for each course please follow the link below each section.

### **Grade 8**

Students in grade 8 are following aspects of the IGCSE Edexcel Physics, Chemistry and Biology courses. In January they will be covering the first Physics unit.

#### **Physics:**

##### **Forces and motion**

- Units
- Movement and position
- Forces, movement, shape and momentum

<http://qualifications.pearson.com/content/dam/pdf/International%20GCSE/Physics/2017/specification-and-sample-assessments/IGCSE-Physics-2017-specification.pdf>

### **Grade 9 Physics (Only):**

#### **Forces and motion.**

- Momentum
- Safety and collisions
- Stopping distance
- Hooke's law
- Moments

### **Grade 9 Physics (Separate science):**

#### **Waves**

- Units
- Properties of waves
- The electromagnetic spectrum
- Light and sound

<https://qualifications.pearson.com/en/qualifications/edexcel-international-gcses-and-edexcel-certificates/international-gcse-physics-2017.html>

### **Grade 10 Biology (Only):**

Students will be finalising the course with the unit: **Use of biological resources:**

- a) Food production
- b) Selective breeding
- c) Genetic modification (genetic engineering)
- d) Cloning

<http://qualifications.pearson.com/en/qualifications/edexcel-international-gcses-and-edexcel-certificates/international-gcse-biology-2011.html>

### **Grade 10 Chemistry (Separate Science)**

Students will have finished the Chemistry course by January and will be continuing with the biology course.

### **Grade 10 Biology (Separate Science)**

#### **Ecology and the environment**

- a) The organism in the environment
- b) Feeding relationships
- c) Cycles within ecosystems
- d) Human influences on the environment

<http://qualifications.pearson.com/en/qualifications/edexcel-international-gcses-and-edexcel-certificates/international-gcse-biology-2011.html>

### **Grade 10 Physics (Separate Science)**

Students will be working through 'Waves' and then move onto 'Energy resources and energy transfer'

#### **Waves**

- a) Units
- b) Properties of waves
- c) The electromagnetic spectrum
- d) Light and sound

#### **Energy resources and energy transfer**

- a) Units
- b) Energy transfer
- c) Work and power
- d) Energy resources and electricity generation

<http://qualifications.pearson.com/en/qualifications/edexcel-international-gcses-and-edexcel-certificates/international-gcse-physics-2011.html>

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Thank you for your continued support,

