

Sets (s): all

YEAR 8

SUBJECT Science

Knowledge Focus: Light, sound and water



Ysgol Uwchradd
Prestatyn
High School

This half term : Skills, Knowledge and

Understanding to be developed: Students will learn the properties light and sound and how they can be used in everyday objects like cameras and telephones. Know how light is reflected on a mirror Draw ray diagrams with angle of incidence and reflection labelled. Water topic you will learn about changes of state and the three states of matter. Also investigate the purity of water and study the water cycle.

Key Terms to be learned this half term: Reflection, refraction, lens, prism, spectrum, wavelength, pitch, frequency, three states of matter, freezing, melting, boiling condensing, evaporating
Melting point, freezing point, boiling point.
Water cycle, humidity.

Week 1 and 2 Learning Objectives etc:

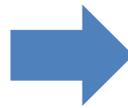
Pupils will learn how we can see luminous and non-luminous objects, the speed of light and investigate how shadows are formed (8Ka1,3,7).

Compare how a camera and the eye works (8Kb1,7,8).

Learn about how different surfaces reflect light. Investigate and draw ray diagrams with angle of incidence and reflection labelled 8Kc.

Pupils will also investigate how different lenses work and how light refracts 8Kd.

Also they will learn about the spectrum and how we see colours 8ke.



Objective assessments:

Carry out practical activity on reflection (helpsheet 8Kc(2) and (3))

Numeracy: measure angles of reflection.

Carry out practical activity 8K(d)2

Carry out practical activity 8K(e)2,4

Homework:

Homework question sheet on reflection

Week 3 and 4 Learning Objectives etc:

Pupils will learn how sound waves are made and travel 8la.

Pupils will complete the literacy task 'animal communication'.

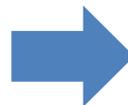
Pupils will also investigate amplitude and frequency of sound. They will explore the relationship between wave amplitude and intensity, and wave frequency and pitch 8lb.

What are the similarities and differences between light and sound 8lc.

How do we hear sounds, how vibrations travel through the ear 8ld.

Pupils will also look at the differences of hearing of different animals 8ld.

Pupils will complete the summative assessment 'sound levels'



Objective assessments:

Carry out practical activity 8L(a)4

Assessment: practical assessment on sound levels.

Homework:

Crossword 8L(a)6

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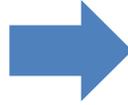
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Week 5 and 6 Learning Objectives etc:

Water topic. The three states of matter.Be able to draw and label models of particles in a solid, liquid and gas.Understand that changes of state take place at a constant temperature and that this temperature is different for different materials.

Recognise whether something is a solid liquid or gas by its boiling or melting point.

Investigation. Begin to plan an investigation to find the purity of water. How pure is water?
Finish planning and carry out an investigation to find the purity of water.



Objective assessments:

Complete properties summary sheet ES7Ga(5)
Experiment cooling a liquid. (salol). Gather data and plot a graph to show temperature changes.

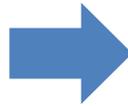
Plan your investigation and gather data. Review your results, plot a correctly labelled graph and suggest how you could improve your experiment.

Homework:

Using water worksheet

Week 7 Learning Objectives etc:

The water cycle revision from keystone 2 emphasising changes of state.Explain how temperature, wind and humidity can affect the water cycle.



Objective assessments:

Literacy task

Explain the water cycle and how temperature and wind conditions can affect evaporation.

Homework:

The amazing adventures of H₂O writing for a purpose.
Literacy task