

Sets (s): All

YEAR 8

SUBJECT Physics

Knowledge Focus: Energy, elements, compounds and Mixtures.



Ysgol Uwchradd
Prestatyn
High School

This half term : Skills, Knowledge and Understanding to be developed:

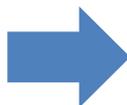
Students will carry out experiments to find out how energy is stored in food and which fuels are the best for heating water. Pupils will understand the difference between renewable and non-renewable fuels. They will understand the periodic table, how elements within group 1 are similar. Learn the differences between elements, mixtures and compounds and carry out different methods for separating mixtures.

Key Terms to be learned this half term:

Renewable, non-renewable, fossil fuels, energy, Joules, Kilo Joules, coal, oil, natural gas, geothermal, nuclear, hydroelectric, wind, wave, tidal, solar, acid rain, global warming and biomass, elements, mixtures, compounds, metals, non metals, chromatography, distillation, soluble, insoluble

Week 1 and 2 Learning Objectives etc:

APP draw distance-time graph and use data to calculate speed



Describe what fossil fuels are and how they are made. Explain why fossil fuels are described as non-renewable.

Carry out an experiment to find out which fuel heats water best.

Recall that burning fossil fuels contributes to global warming and acid rain. Explain how we can reduce the effects of global warming.

Explore the renewable energy resources. Consider advantages and disadvantages of renewable resources.

Objective assessments:

Recording data in a graph and using a formula to carry out calculations

Planning an experiment.
Collecting and displaying data. Drawing conclusions based on data.

Homework:

Completing worksheet 7la (1)

Week 3 and 4 Learning Objectives etc:

Learn about how much energy our bodies need.

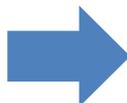
Investigate how much energy is stored in a food.

Study how the sun is the original source of energy for most of our energy sources (7le).

Start elements, compounds and mixtures by studying the Periodic table – group elements based on properties

Reactivity of group 1 elements. Including word and symbol equations

How are elements classified – properties and uses of metals/non-metals



Objective assessments:

Numeracy task measuring temperature and calculating temperature rise.

Classify elements
8Fc table properties
metals/non metals

Homework:

7ld (5) energy and you worksheet.

Spotlight 27a
Lower sets
8Fc (exploring)
Metals/ non metals
Top sets 9Fa(7)

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Know why symbols are used and use them in formulae

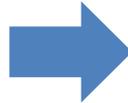
Week 5 and 6 Learning Objectives etc:
What happens when elements combine

Modelling compounds

Separating mixtures – make copper sulfate

Carry out chromatography

Understand process of distillation



Objective assessments:

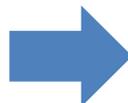
Elementary dear Watson or cartoon elements
Practical 27C
Midget gem sheet
15b classifying substances

Homework:

8Fb(1) Elementary

Week 7 Learning Objectives etc:

Oil leak assessment - Demonstrate equipment oil leak.
Write plan, draw graph and analyse



Objective assessments:

Oil leak assessment

Homework:

8Ed(4)