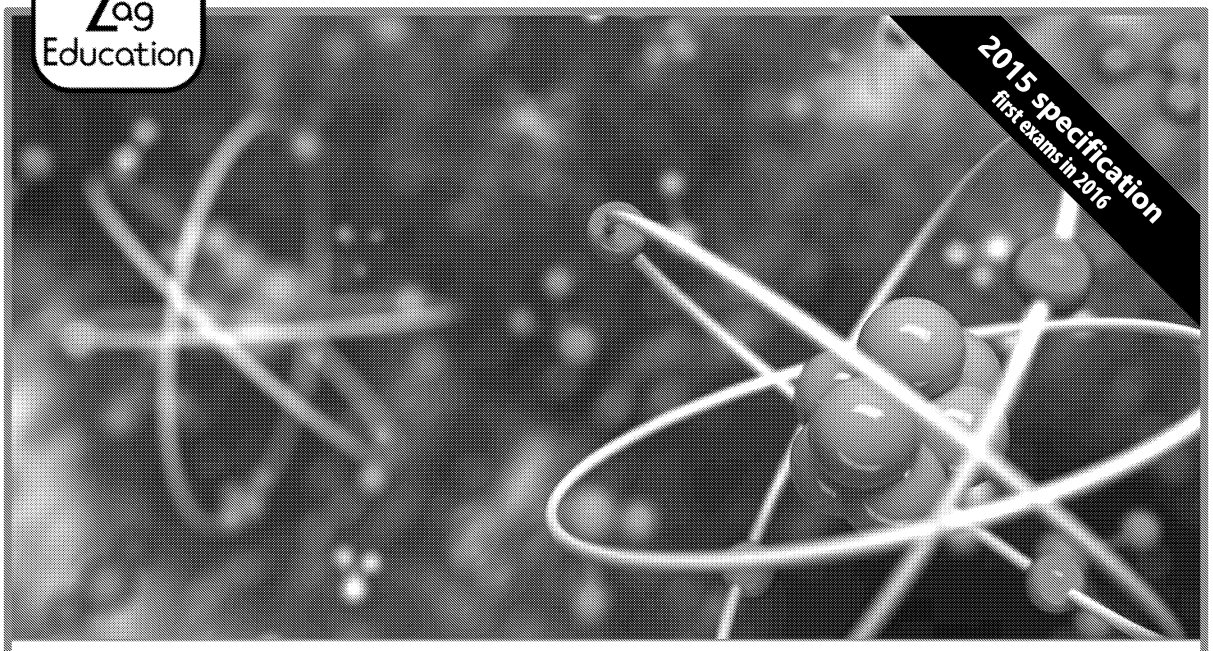
Zig Zag Education

Physics

AS & A Level | AQA | 7407 & 7408



Crosswords & Keyword Activities

For AS and A Level Year 1 AQA Physics

BC10/ 6688

POD 6688

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Contents

Teacher's Introduction

Overview

This resource has been produced to support teaching and learning of the AS and A Level Year 1 AQA Physics specification 7407. The learning content is covered by the following sets of keywords with matching descriptions, which cover all of the Learning Aims for the topic:

- *Use of SI Units and their Prefixes*
- *Limitation of Physical Measurements*
- *Particles*
- *Classification of Particles*
- *Electromagnetic Radiation and Quantum Phenomena*
- *Progressive and Stationary Waves*
- *Refraction, Diffraction and Interference*
- *Force, Energy and Momentum*
- *Freefall and Collisions*
- *Materials*
- *Electricity*

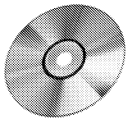
For each set, there are a number of different keyword activities on CD designed to give you a range of different options for classroom, homework and revision. This variety enables you to take a different approach to different topics – such as using the Crosswords as homework for one topic, and the Match Up as a starter for another.

Alternatively, differentiate the activity for a given topic; for example, you might want to give your stronger students the **Crosswords** early on while you start weaker learners on the **Match Up** (where terms and definitions are both available). **Domino** and **Bingo** activities add an element of fun and reinforcement, as well as potential for pair and group work. Finally, the **Flash Cards** come into their own for revision and the **Table Fill** and **Write Your Own Glossary** allow students to test their understanding by correctly filling in keywords or definitions.

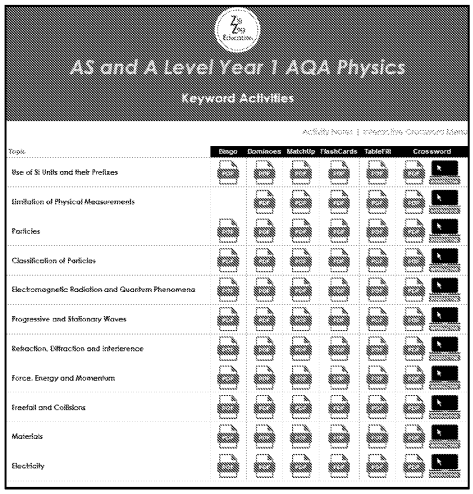
For more information about the different activities included, see overleaf →

Digital Format!

All of the activities are provided electronically on the accompanying CD. To use on a school network, the entire contents of the CD needs to be copied and pasted into an accessible location.



Providing easy access to the activities are two HTML menus:



1. ***Access All* Menu** →

   Location: index.html

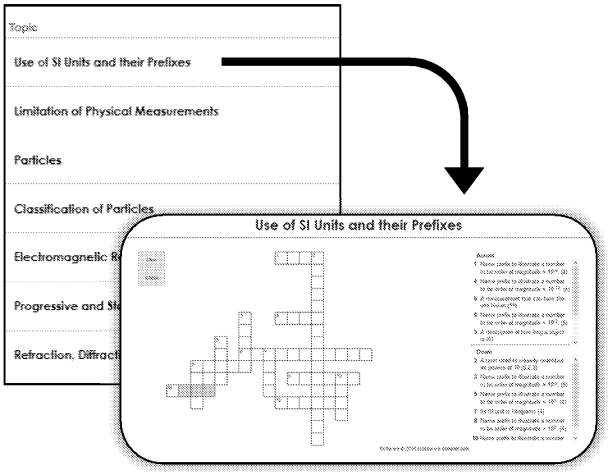
   This menu, designed primarily for teacher use, includes links to everything on provided on the CD – allowing you to easily select what you need when preparing your lessons.

   If you intend to give learners access to this menu, then be aware that it does include links to the solutions.

2. ***Interactive Crossword* Menu** →

   Location: interactive-crosswords/index.html

   This menu, which can be accessed via the *Access All* Menu is included to allow learner access to just the interactive crosswords (without the answers).



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** resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers*

Go to **zzed.uk/freeupdates**

Activity Types

All activities are provided as PDF files, allowing for easy printing and sharing on your school's internal network or VLE. In addition, each of the single-page activities (*crosswords*, *match up* and *table fill*), as well as the solutions, are provided on paper too.

The activities included in this resource are as follows:

Bingo

Each student is given a different bingo card containing a selection of words from the set. The teacher reads the definitions using the Keyword Answers and the student must match the definition to the words on their card to complete rows, columns, and the full bingo card.

✓ PDF

Crosswords

These traditional keyword activities are equally effective as lesson or homework activities – and are also an excellent way to ease students into their revision programme.

✓ PDF ✓ PAPER

In addition to the photocopiable worksheets and pdf, the crosswords are provided in interactive format on the accompanying CD-ROM. These are web-based (HTML5) and will run straight from your Internet browser.

Dominoes

This is essentially another match-up activity, but this one is designed to be used in a more active way to engage students. It is recommended that students work in pairs or small groups.

✓ PDF

Half of each card contains a keyword, and the other contains a description. To complete the activity, students must align all the cards in the correct order. There is a 'Start' and a 'Finish', meaning that if any cards are left outside of the chain, then students have gone wrong somewhere.

Match Up

Students match descriptions to their keyword by drawing lines between them. Because there are similar descriptions and keywords, students are likely to make the odd mistake while completing the activity, so it is recommended that they use a pencil to start with! By eliminating the keywords that they are familiar with, students can then think about and learn the ones that they are less confident with.

✓ PDF ✓ PAPER

Flash Cards

These are a helpful revision tool. To make the cards, fold the page in half, then cut each card and stick together so the keyword is on one side and the definition the other. In addition, students could use these to play a game of pairs. Cut each card in two and place face down on the table.
Students will then take it in turns to turn over two cards with the aim of matching up a keyword to its definition. Matched up cards are removed and the game is finished when all the cards have been matched.

✓ PDF

Table Fill

Nothing fancy – students simply write the keyword which is being described, without any other help. Because this activity tests the students' own knowledge, it is best used as a homework activity at the end of each topic or during revision. This then acts as a check that they have grasped the key terminology for each topic. Alternatively, they could be given to students at the beginning of the topic, to see what they already know.

✓ PDF ✓ PAPER

Write Your Own Glossary

Like the Table Fill, this activity can be used to test pupils before learning a topic, or as a revision tool after learning a topic. Students are given a list of the keywords and need to produce their own definitions. Using Table Fill and Write Your Own Glossary, lessons can be differentiated for all levels of learner.

✓ PDF

Selected Activities and Completed Glossary Page

This sample shows one example of several activities.
The whole resource contains approximately 80 activities –
6 or 7 activities for each of the 11 topics.

The resource covers 191 key terms.

Use of SI Units and their Prefixes *(Table Fill)*

$\times 10^{12}$	
$\times 10^{-12}$	
$\times 10^{-2}$	
$\times 10^{3}$	
$\times 10^{-3}$	
$\times 10^{6}$	
$\times 10^{9}$	
$\times 10^{-9}$	
A property that defines the size or quantity of an object in powers of 10	
Measure of how hot or cold an environment or body is	
The amount of matter in an object	
The measurement of how long an object is	
The substance that comprises any physical object	

Use of SI Units and their Prefixes *(Match Up)*

$\times 10^{12}$	***mass***
$\times 10^{-12}$	***length***
$\times 10^{-2}$	***matter***
$\times 10^{3}$	***temperature***
$\times 10^{-3}$	***tera***
$\times 10^{6}$	***mega***
$\times 10^{9}$	***giga***
$\times 10^{-9}$	***kilo***
A property that defines the size or quantity of an object in powers of 10	***centi***
Measure of how hot or cold an environment or body is	***milli***
The amount of matter in an object	***nano***
The measurement of how long an object is	***pico***
The substance that comprises any physical object	***order of magnitude***

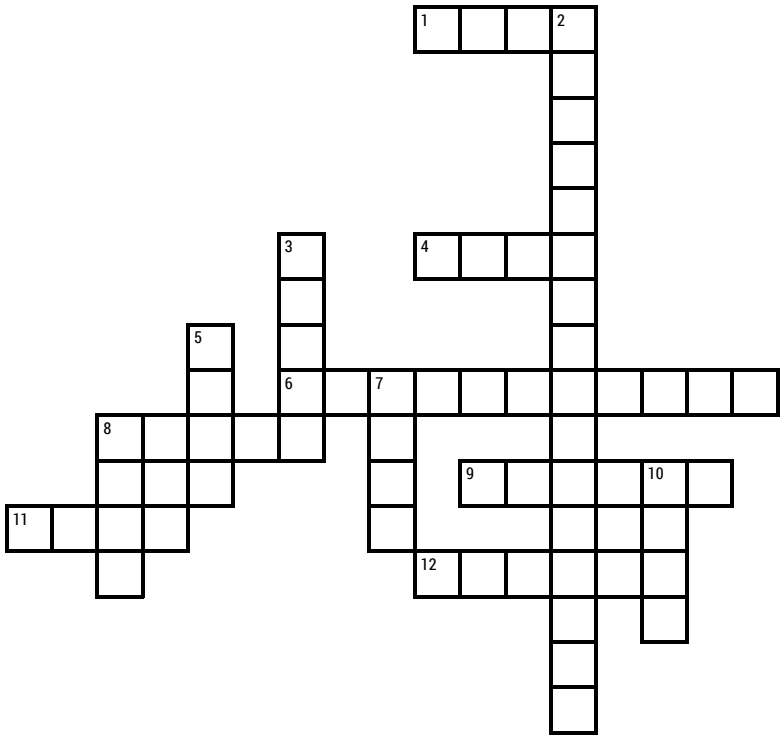
Use of SI Units and their Prefixes *(Flash Cards)*

The amount of matter in an object	***mass***
The measurement of how long an object is	***length***
The substance that comprises any physical object	***matter***
Measure of how hot or cold an environment or body is	***temperature***
$\times 10^{12}$	***tera***
$\times 10^{6}$	***mega***
$\times 10^{9}$	***giga***
$\times 10^{3}$	***kilo***
$\times 10^{-2}$	***centi***
$\times 10^{-3}$	***milli***

Use of SI Units and their Prefixes *(Dominoes)*

– START –	The amount of matter in an object
mass	The measurement of how long an object is
length	The substance that comprises any physical object
matter	Measure of how hot or cold an environment or body is
temperature	$\times 10^{12}$
tera	$\times 10^{6}$
mega	$\times 10^{9}$
giga	$\times 10^{3}$
kilo	$\times 10^{-2}$
centi	$\times 10^{-3}$

Use of SI Units and their Prefixes



Across

1 Name prefix to illustrate a number to be order of magnitude × 10^{-9}. (4)

4 Name prefix to illustrate a number to be order of magnitude × 10^{-12}. (4)

6 A measurement that can have the unit Kelvin (11)

8 Name prefix to illustrate a number to be order of magnitude × 10^{-3}. (5)

9 A description of how long a object is (6)

11 Name prefix to illustrate a number to be order of magnitude × 10^{9}. (4)

12 The term used to describe physical substance (6)

Down

2 A term used to classify quantities as powers of 10 (5,2,9)

3 Name prefix to illustrate a number to be order of magnitude × 10^{-2}. (5)

5 Name prefix to illustrate a number to be order of magnitude × 10^{3}. (4)

7 Its SI unit is kilograms (4)

8 Name prefix to illustrate a number to be order of magnitude × 10^{6}. (4)

10 Name prefix to illustrate a number to be order of magnitude × 10^{12}. (4)

Use of SI Units and their Prefixes (Bingo)

milli	***tera***	***centi***
order of magnitude	***length***	***temperature***
mega	***giga***	***nano***

Additional Terms:

1. .....
2. .....
3. .....
4. .....

Use of SI Units and their Prefixes (Bingo)

milli	***nano***	***kilo***
matter	***length***	***tera***
giga	***mega***	***mass***

Additional Terms:

1. .....
2. .....
3. .....
4. .....

Use of SI Units and their Prefixes

mass	The amount of matter in an object
length	The measurement of how long an object is
matter	The substance that comprises any physical object
temperature	Measure of how hot or cold an environment or body is
tera	$\times 10^{12}$
mega	$\times 10^{6}$
giga	$\times 10^{9}$
kilo	$\times 10^{3}$
centi	$\times 10^{-2}$
milli	$\times 10^{-3}$
nano	$\times 10^{-9}$
pico	$\times 10^{-12}$
order of magnitude	A property that defines the size or quantity of an object in powers of 10