

Year 11 Revision Conference 1
15th November
How to revise in Science

How to revise in Science?

- Science exams combine three areas of assessment:
 - **Knowledge and understanding** of scientific ideas
(recalling facts and theories) 40%
 - **Applying** scientific ideas
(core practicals – describing and explaining in new contexts) 40%
 - **Analysing** information and ideas
(graphs and tables, drawing conclusions, improving procedures) 20%
- 60% of the marks are for applying/interpreting information. This requires lots of **practice**, not just memorising facts.

Exam Technique

- **Check the number of marks**
- **Read the question carefully**
 - Underline key information
 - Look carefully at tables/graphs
 - Use the formula sheet provided
- **Don't leave blanks**
 - Always complete multiple choice questions
 - Write in key words/bullet points for longer questions if you are stuck
- **Last 5 minutes: check the paper for gaps/mistakes**

Confident: answer the question

Not confident: star ★ and come back to it later

Effective Revision Techniques

- Effective revision requires you to **think** about and **process** information, not just read or copy it.
- Summarising information from your revision guide, then answering questions, or teaching someone else, will help you to remember it for longer.

Revision Resources

(Pearson Edexcel 2016)

- **Tassomai:** regular retrieval practice questions
- **BBC Bitesize:** Revision notes with some practice questions
- **Seneca Learning:** Online questions linked to revision notes
app.senecalearning.com/login
- **Youtube** videos (e.g. freesciencelessons, cognito, primrose kitten)
- **Past paper questions** (online or from your teacher)
- **Revision Guides**

How to use a revision guide

1. Read and create notes summarising the main information (written summary, mind map, flash cards, poster, presentation)
2. Label a blank copy of any diagrams/graphs/tables
3. Complete the practice questions at the bottom of each page
4. Write your own questions based on the topic (and test with a partner)
5. Apply the knowledge to a past exam question

Example: Waves (p.188 H)

- Revision booklet: How to revise in Science
- Use the revision guide extract to complete the gaps in the notes on waves (and add labels to the diagram)
- Answer the 'Now try this' questions:
 - What does a transverse wave look like? (check the top of the sheet)
 - Use arrows to show the direction of the wave and particle: \Rightarrow and \Updownarrow
- Write your own question based on the notes
- Try the past paper questions (next page) using the notes to help you

Waves transfer _____ and information, but not _____. Evidence – a ball on a pond bobs *up and down* while _____ spread out.

Waves can be described by:

Frequency: The number of waves that pass a point each _____. Measured in _____ (Hz).

Speed: measured in metres per second (/)

W_____: The distance from a point on one wave to the same point on the next.

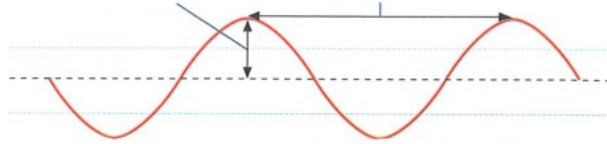
Amplitude: _____ of the distance from the top to the bottom of a wave.

Period: The time taken for one _____ to pass a point. Period = $1 / \text{frequency}$.

Longitudinal waves: Waves in which particles move back and forth in the _____ direction the wave is travelling.

Examples: _____ waves, seismic _____ waves

LONGitudinal – particles move...



Transverse waves: Waves in which particles move at _____ angles to the direction the _____ is travelling.

E.g. water surface waves, _____ waves, seismic _____ waves

TranSverSe – particles move...

Waves transfer **energy** and information, but not **matter**. Evidence – a ball on a pond bobs *up and down* while **ripples** spread out.

Waves can be described by:

Frequency: The number of waves that pass a point each **second**. Measured in **hertz** (Hz).

Speed: measured in metres per second (**m / s**)

Wavelength: The distance from a point on one wave to the same point on the next.

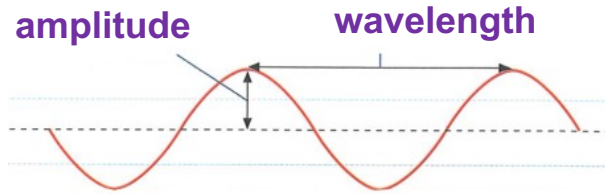
Amplitude: **half** of the distance from the top to the bottom of a wave.

Period: The time taken for one **wavelength** to pass a point. $\text{Period} = 1 / \text{frequency}$.

Longitudinal waves: Waves in which particles move back and forth in the **same** direction the wave is travelling.

Examples: **sound** waves, seismic **P** waves

LONGitudinal – particles move **along** the same direction as the wave.



Transverse waves: Waves in which particles move at **right** angles to the direction the **wave** is travelling.

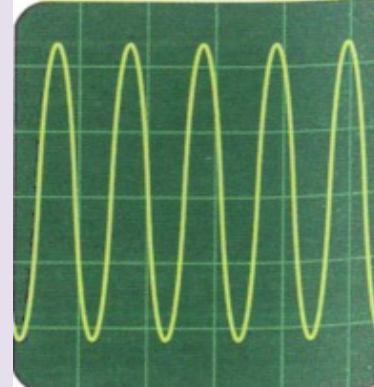
E.g. water surface waves, **electromagnetic** waves, seismic **S** waves

Tran**S**ver**S**e – particles move **across** the direction the wave is travelling

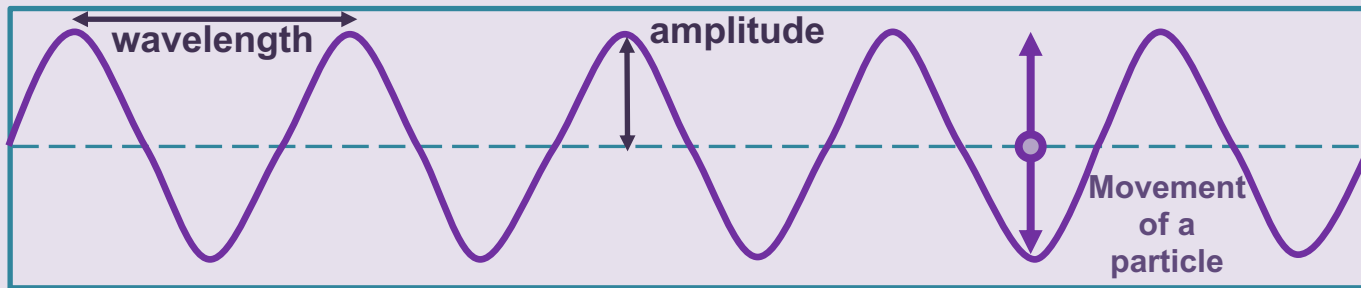
- 1 (a) Sketch a transverse wave and mark the amplitude and wavelength on it
(b) Draw an arrow to show which way the wave moves
(c) Draw a small particle on the wave, with arrows to show which way it moves.



2. The graph shows a wave. Each vertical square represents 1mm.
Work out the amplitude of the wave.



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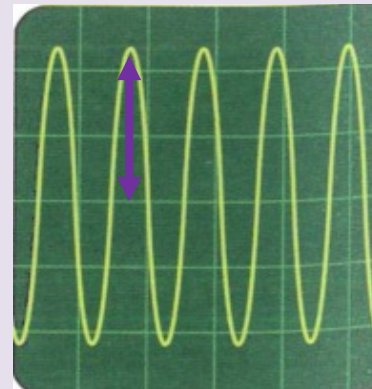


Direction of wave travel and energy transfer



2. The graph shows a wave. Each vertical square represents 1mm.
Work out the amplitude of the wave.

Half the wave is around 2.2 squares, so the amplitude is **2.2mm**



In Summary...

1. Revision should be an *active* process
 - Summarising / Processing information
 - Answering questions
 - Not just reading/copying
2. Using a revision guide
 - Make notes
 - Answer questions
 - Write questions and test with a friend/family member