Year Group: 11 Term: 2 (Waves)

We are learning:

1. **Types of Waves – Waves can be transverse (e.g. light, water) or longitudinal (e.g. sound); transverse waves vibrate at right angles to the direction of travel, longitudinal waves vibrate parallel.**
2. **Wave Properties – Key terms include amplitude, wavelength, frequency, and period.**
3. **Wave Speed Equation –**
   Wave speed=frequency × wavelength
   (Measured in metres per second)
4. **Reflection of Waves – Waves bounce off surfaces; angle of incidence = angle of reflection.**
5. **Refraction of Waves – Waves change direction when they enter a different medium due to a change in speed.**
6. **Diffraction – Waves spread out when they pass through a gap or around an obstacle.**

How can you support your child:

- Encourage them to make revision posters on each of the sub-topics within the topic.
- Encourage them to make cue cards with questions and answers on all the sub-topics.
- Encourage them to use the notes, videos, and quizzes, on BBC Bitesize.
- Encourage them to use Seneca Learning to supplement and secure their knowledge on the topic.

Try asking them:

1. **"Can you explain the difference between transverse and longitudinal waves?"**
   Answer: Transverse waves vibrate at right angles to the direction of travel (e.g. light), while longitudinal waves vibrate parallel to the direction of travel (e.g. sound).
2. **"What does amplitude tell us about a wave?"**
   Answer: Amplitude is the height of the wave from the middle to the peak — it shows how much energy the wave carries.
3. **"What is wavelength?"**
   Answer: Wavelength is the distance between two matching points on a wave — like crest to crest or compression to compression.
4. **"How do we calculate wave speed?"**
   Answer:
   Wave speed=frequency × wavelength
5. **"What happens when a wave hits a surface?"**
   Answer: It reflects — the angle it hits the surface (angle of incidence) equals the angle it bounces off (angle of reflection).
6. **"Why do waves bend when they enter a different material?"**
   Answer: That's called refraction — the wave changes speed, which causes it to change direction.
7. **"Can waves spread out when they pass through a gap?"**
   Answer: Yes — that's called diffraction, and it happens more when the gap is similar in size to the wavelength.

Useful Links:

Senecal Learning = https://senecalearning.com/en-GB/

BBC Bitesize = GCSE Physics (Single Science) - AQA - BBC Bitesize

Kerboodle = www.kerboodle.com