**Year 11 Physics: Applications of Waves**

**Due Mon 11th November;** You must provide notes, to be handed in before the validation test .

Ensure you provide provide references 5 marks for notes, 2 marks for references

**Find out about the following topics:**

Ensure that you use terminology such as waves, echoes, refraction, reflection and diffraction where appropriate. For each application describe the frequencies/wavelengths used. Use your textbook as a starting point, but you should use other sources.

Suggest you use diagrams to aid your understanding, where appropriate

1. **Medical applications of waves: Ultrasound imaging**

Describe how waves are used in ultrasound images. Explain why particular frequencies are used and how this affects depth of imaging and resolution.

1. **Geophysics:**
2. Describe (include a diagram) and explain the two main types of waves found in an earthquake.
3. How do geologists use the information from these waves to provide information about the structure of the Earth. Include 2 examples.
4. How are waves used for imaging by geologist in exploration for minerals, natural gas and petroleum?
5. **Acoustic engineering**

Noise pollution comes from a variety of sources and is often amplified by walls, buildings and other built structures. Acoustic engineering, based on an understanding of the behaviour of sound waves, is used to reduce noise pollution. Principles used include absorbing sound waves, reducing reflection and amplification and an understanding of resonant effects. Explain two examples, such as reducing noise pollution from roads, designing a sound proof room or concert hall or an example of choice.