WORKSHEET

SOUNDS

1. State the one word that describes the movement of a source of sound. _____
2. State which part of a guitar moves to produce a sound. _____
3. State what moves when a wind instrument such as a flute produces a sound. _____
4. State what we call a reflected sound. _____
5. State the speed of sound in air. _____
6. State the normal hearing range for humans. _____
7. Nava can hear sounds with frequencies up to 20 kHz. Her grandfather cannot hear sounds above 12 kHz. Which two of the following sound frequencies will Nava hear but her grandfather will not?

   8,0 kHz 25,2 kHz 16,5 kHz 14,9 kHz 11,8 kHz

8. Calculate how long a sound will take to travel 1 km in air. Give your answer in seconds, to one decimal place

   _____

   _____

9. Calculate how fare sound will travel in 5 s in air.

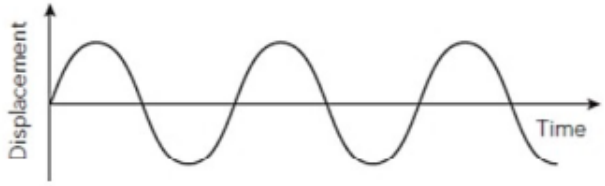
   _____

10. In an experiment to measure the speed of sound in glass, a pulse of sound is sent into a glass rod, 14,0 m in length sound is detected after 5,6 ms (0,0056 s). Calculate the speed of sound in glass.

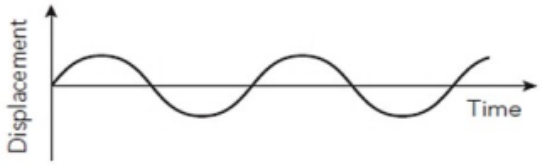
    _____

    _____

11. Figure below shows a trace that represents asound wave. Add labelled arrows to the diagram to show the amplitude *A* of the wave and its period *T*



12. The figure below shows a trace that represents a sound wave. Draw on the diagram to show a second that has the same pitch but is louder.



13. Two sound waves have the frequencies shown:
    - sound A, 440 Hz
    - sound B, 520 Hz

    a. state which sound has the higher pitch _____

    b. Calculate the period of sound A. _____

14. Complete the following sentences, using words from the list below. Each word may be used once, or not at all

    compressions longitudinal high transverse rarefaction low electromagnetic peaks atmosphere troughs

    Sound waves are _____ waves. They consist of _____, which are _____ pressure areas and _____ , which are _____ pressure areas

15. State three uses of ultrasound and for each, give a brief description of how it is useful.