Sequence n° 4: sound waves

1. Describing sound waves

### Acquiring vocabulary:

Here are twelve words used when we talk about sound waves.

**Pitch – Vibration – Frequency – Medium - Hertz – Period – Wavelength – Speed – Ultrasound – Loudness – Speaker – Infrasound**

The table below contains definitions. Insert the correct word next to each definition.

|  |  |
| --- | --- |
| **Word** | **Definition** |
|  | The unit of frequency of a sound |
|  | Sound which is too low-pitched to be heard |
|  | A backward and forward movement |
|  | The number of vibrations of a sound each second |
|  | How fast a sound travels |
|  | The solid, liquid or gas through which a sound travels |
|  | Distance between two identical parts – from a compression to the next compression, or from a rarefaction to the next rarefaction. |
|  | How loud a sound is |
|  | Sound which is too high-pitched to be heard |
|  | A device that converts electrical impulses into sound |
|  | The time for one complete vibration of a sound |
|  | How high or low a sound is |

Complete the following sentences by writing one of the words from the table above in each of the empty spaces:

1. In the vacuum of space, there are no (or very, very few) particles to vibrate, so sound cannot travel through this ……………………..
2. At sea level, at a temperature of 21 degrees Celsius and under normal atmospheric conditions, the ……………………… of sound is 344 m/s.
3. **…………………**. can be produced by dolphins to help navigate their way in the water.
4. A note vibrating at 256 ……………. will be caused by sound waves vibrating at 256 times a second.
5. Hitting a drum harder will increase the ……………………….. of the sound it produces.
6. One way that sounds are organized into music is by their highness or lowness, which is known as ……………………….
7. To hear sound from smartphones, stereos, home theater systems, and TVs, you need a ………………………

Activity summary

What you must remember:

* vocabulary used to describe a sound wave
* the properties and characteristics of sound waves

Skills linked to the curriculum:

|  |  |
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| **Compétences** | **Capacités à maitriser** |
| * ANA | * Analyser la propagation d’une perturbation dans un milieu * Modéliser une onde acoustique par la propagation d’une vibration mécanique et d’une surpression. * Comparer la célérité du son dans différents milieux, citer des ordres de grandeur des valeurs de célérité dans un gaz, un liquide ou un solide. * Savoir expliciter les différentes grandeurs physiques intervenant dans le modèle d’une onde progressive sinusoïdale |
| * COM | * Restituer ses connaissances à l’oral |