

Sound and Science Coded Messages

Name _____

**Directions: Decipher the Code message listed below to uncover the sentences.
Place the answers directly below the Code.**

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

1. Ears convert _____ into nerve impulses that are sent to the brain
19 15 21 14 4 – 23 1 22 5 19

2. The middle part of the inner ear (behind the ear drum) _____ sound pressure.
1 13 16 12 9 6 9 5 19

3. _____ means to make louder 1 13 16 12 9 6 25

4. Sound waves can travel through any _____. 13 1 20 5 18 9 1 12

5. When traveling through water, _____ moves around 4 times faster than when it moves through air. 19 15 21 14 4

6. A _____ is a graphic representation or picture that describes sound.
23 1 22 5 6 15 18 13

7. _____ is related to the *pitch* of the sound (440Hz is the frequency of “A440”). 6 18 5 17 21 5 14 3 25

8. _____ = *frequency*, _____ = *pitch*
19 3 9 5 14 3 5 ----- 13 21 19 9 3

9. An audio frequency is characterized as a periodic _____ whose frequency is audible to the average human. It is the property of sound that most determines pitch. 22 9 2 18 1 20 9 17 14

10. Extremely high frequencies are called _____
21 12 20 18 1 19 15 21 14 4

11. Extreme low frequencies are called _____
9 14 6 18 1 19 15 21 14 4
12. Humans can only hear the frequencies between the 20Hz – 20,000Hz. Hz =
_____ 8 4 18 20 26
13. if a tuning fork vibrates at 1000Hz, at what rate would another fork need to vibrate so as to sound a tone an octave lower? _____ 6 9 22 5 – 8 21 14 4 18 5 4 – 8 26
14. _____ are the study of the way sound travels.
1 3 15 21 19 20 9 3 19
15. In digital technology, the analog wave is _____ at some interval, and then turned into numbers that are stored in the digital device. 19 1 13 16 12 5 4
16. The speed of _____ changes depending upon what material it travels through. 19 15 21 14 4
17. An _____ is any frequency higher than the fundamental frequency of a sound. 15 22 5 18 20 15 14 5 19
18. The _____ frequency has the strongest vibration, it is the pitch with which we identify the sound. 6 21 14 4 1 13 5 14 20 1 12
19. The rest of the overtones (frequencies also present when making sound) color the sound – or contribute to its _____ **20 9 13 2 18 5**
20. Radio uses different _____, like AM, FM, High Definition and Satellite. 20 18 1 14 19 13 9 19 19 9 15 14 19