SCIENCE 2021/2022 HOMEWORK #15

PLEASE SUBMIT YOUR WORK THROUGH GOOGLE CLASSROOM

For each question please show your work!

Speed of light 300,000,000 m/sec Speed of sound 340 m/sec

1. Using approximate values for speed of light and sound in the air that are given above, <u>calculate the time</u> it takes <u>light</u> and <u>sound</u> to travel one mile in the *air*, 1 mile = 1,609 m.

- 2. Did you get the *huge difference between the two resulting times* in (1)? What commonly observed <u>natural phenomenon</u> is due to this difference?
- 3. Now calculate how long would it take <u>light</u> to travel from the Earth to the Moon *in space*, distance = 384,400 km, use the same value for the speed of light.

4. Why am I not asking you to calculate how long sound will travel from the Earth to the Moon?