

Speed of Sound – Research Assignment

Name: _____ Date: _____

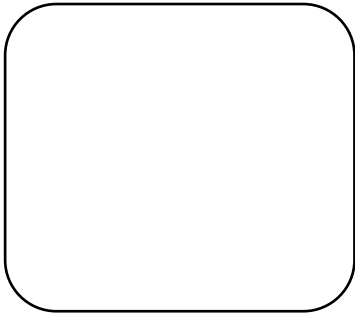
Using a textbook, the internet or any other reliable resource, research and answer the following.

1. Can sound travel through a vacuum? Clearly explain why. What is a common error related to sound in outer-space sci-fi movies?

2. Research and write down the equation for the speed of sound (only as it depends on temperature).

3. Explain how the speed of sound is affected by temperature. (i.e. is it faster or slower in cold or hot temperatures – use the equation to help show why)

4. Define the term Mach # and write the equation for it.



5. What is the sound barrier?

6. Write the definition for speeds that are Supersonic, subsonic and hypersonic.

Supersonic:

Subsonic:

Hypersonic:

7. Complete the "Speed of Sound" Problems (separate sheet)