

**S8P4. e.** I can analyze and interpret data to predict patterns in the relationship between density of media and wave speed.



**How Do Different Mediums Affect Wave Speed Video Notes**

1. The speed of electromagnetic and mechanical waves are actually the exact \_\_\_\_\_ when they travel through different types of \_\_\_\_\_.

2. What do electromagnetic waves travel fastest through? \_\_\_\_\_ What do electromagnetic waves travel slowest through? \_\_\_\_\_

**Quick Check for Understanding!**

Would electromagnetic waves travel faster through a pitcher of lemonade or through you? Explain your answer. \_\_\_\_\_

3. What is one of the biggest differences between mechanical and electromagnetic waves? \_\_\_\_\_

4. What do mechanical waves travel fastest through? \_\_\_\_\_ What do mechanical waves travel slowest through? \_\_\_\_\_

5. Why do mechanical waves travel fastest in solids? \_\_\_\_\_

6. Why do mechanical waves travel slowest in gases? \_\_\_\_\_

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**Quick Check for Understanding!**

Which organisms communicated the fastest....animals on land or animals in the ocean? Explain your answer. \_\_\_\_\_

In summary, electromagnetic waves travel \_\_\_\_\_ in the \_\_\_\_\_ of space and \_\_\_\_\_ down as they go from gases, liquids, to solids. Mechanical waves on the other hand travel fastest through \_\_\_\_\_ and \_\_\_\_\_ down as they travel through liquids, gases, and the vacuum of \_\_\_\_\_

These differences between electromagnetic and mechanical waves are largely because electromagnetic waves \_\_\_\_\_ need a \_\_\_\_\_ to travel through like the vacuum of space, and mechanical waves \_\_\_\_\_ a \_\_\_\_\_ to travel through like \_\_\_\_\_. These 2 properties are why their wave speed travel is in \_\_\_\_\_.