

Checkout Questions

Lab 15. Simple Harmonic Motion and Rubber Bands: Under What Conditions Do Rubber Bands Obey Hooke's Law?

1. What is the mathematical relationship between the force acting on the rubber band and the elongation of the rubber band?

Is the function linear as the force increases?

2. In springs, the spring constant k is a function of both the material the spring is made from and the shape of the spring. What factors do you think might affect the constant of proportionality relating the force on a rubber band to the elongation of the rubber band?

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Explain your answer, based on what you observed during your investigation about Hooke's law and rubber bands.

3. The imagination and creativity of a scientist play an important role in planning and carrying out investigations.
 - a. I agree with this statement.
 - b. I disagree with this statement.

Explain your answer, using an example from your investigation about Hooke's law and rubber bands.

4. The research done by a scientist is often influenced by what is important in society.
 - a. I agree with this statement.
 - b. I disagree with this statement.

Simple Harmonic Motion and Rubber Bands

Under What Conditions Do Rubber Bands Obey Hooke's Law?

Explain your answer, using an example from your investigation about Hooke's law and rubber bands.

5. Models are used to understand complex phenomena across the different scientific disciplines. Explain why models are so important, using an example from your investigation about Hooke's law and rubber bands.

6. Scientists often seek to identify the parameters under which a system is stable and what happens to the system when those parameters are exceeded. Explain why this is such an important research aim, using an example from your investigation about Hooke's law and rubber bands.