

Science and Experiments (Level 2)
Assessment Questions

Create Your Own Goldberg Machine

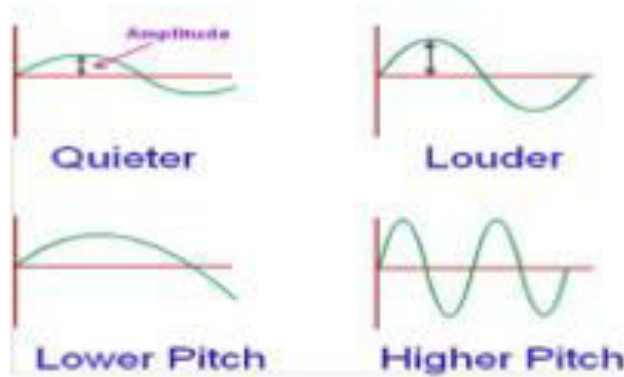
1. Identify whether the following machines are simple machines or compound machines.
 - a. Screw
 - b. Scissors
 - c. Inclined Plane
 - d. Car
 - e. Wheel and Axle
2. Which of the following objects are machines and why?
 - a. Book
 - b. Bicycle
 - c. Clothes
 - d. Stapler
3. Design a rube Goldberg machine of your own that performs any simple task. Draw the design on paper.



4. Observe the picture given above and answer the following questions:
 - a. Is this a Rube Goldberg machine? Why or why not?
 - b. What does this machine do?
 - c. Explain the role that the following items in the machine play:
 - i. Teacup
 - ii. Scissors
 - iii. Shoe

Sounding It Out

1. Define pitch. Give an example of a low pitch sound. Give an example of a high pitch sound.
2. What are CVC words? Give two examples of CVC words.
3. Define rhythm.
4. True or false: pitch, loudness, and density are characteristics of sound. Explain. Choose one of these graphs and explain it.



5. Write a rhyme in an AA-BB scheme for a four line poem (e.g. Lucy is my little yellow cat; She loves to sleep on my mat; All day long we run; And play in the sun)
6. Explain the difference between pitch and timbre.
7. Explain how sound travels to your ears.
8. Draw the process of sound traveling from an instrument to your ears.

Managing our Need for Speed

1. What is a hypothesis?
 - a. A scientific experiment.
 - b. The results of an experiment.
 - c. A guess about the results of an experiment.
2. List two types and uses of each of the following:
 - a. Water vehicles
 - b. Land vehicles

- c. Air vehicles
3. Define gravity.
 4. Define friction.
 5. Which of the following will move faster? Explain why.
 - a. A car on a rocky road
 - b. A bicycle on a smooth paved road
 6. Choose the right option: which traffic signs would you place in the following situations:
 - a. A busy road with cars and trucks passing.
 - b. A road next to a school.
 - c. A dangerous road where accidents always happen because of speeding vehicles.
 - d. A busy road in a residential area next to a shopping center to which people often walk.

Options: zebra/pedestrian crossing; speed limit sign; school zone sign; traffic signals"

How would you design a paper plane so that it defies gravity? (i.e. it flies for a long period of time)

7. Why do some objects sink while others float?

Shadow Play

1. List two things we do at night and two things we do during the day.
2. Which of the following is natural source of light:
 - a. Sun
 - b. Torch
 - c. Stars
 - d. Moon
 - e. Light bulb
 - f. Lightning
3. Complete the color equations below:
 - a. Red + Yellow = _____
 - b. _____ + Blue = Purple
 - c. Yellow + _____ = Green

4. How are rainbows formed?
 - a. When sunlight passes through raindrops.
 - b. When it rains heavily
 - c. When the sun shines brightly
5. Give two examples of opaque, transparent, and translucent objects.
6. List two differences between a translucent and opaque object using an example for each.
7. Fill in the blanks: adjectives that can be used to describe light:

Bright, _____, _____

8. How are shadows formed?
 - a. When someone stands in front of a light source with her back to a wall
 - b. When someone stands behind a light source facing a wall
 - c. Can we see a shadow in the dark? Why or why not? How can we make the size of the shadow of a toy bigger?
 - d. Draw images representing sunrise, noon, and sunset.