

Name _____ Date: _____ Pd: _____

Simple Machines Web Quest

Site: EdHeads Simple Machines

Click the “Start” button to start. Select an room and follow the directions for each area to find the simple machines and answer the related questions. When you are finished with each section, write your score in the chart below. Put on some headphones before you begin!

Garage: _____ out of _____. *Bedroom:* _____ out of _____. *Tool Shed:* _____ out of _____.

Site: NetLinks – Power Play

Click “Start” to begin the activity. Drag the parts from the bottom to complete the machine. Answer the questions below as you work your way through the activity.

1. What provides the power for the dog walking machine? _____
2. What type of simple machine do you add after the popcorn pot? _____
3. What type of simple machine cuts the log? _____
4. What two simple machines are found in the first part you add for inflating a balloon?
_____ & _____

Site: Interactive Simple Machines

Explore the “Wedge & Lever” activity to answer these questions.

5. Which length of wedge performs the task with the least amount of force (weight)? _____
6. Complete this statement: The _____ the wedge, the _____ it is to do work.

Click “Next” to proceed to the level experiment. Experiment with the lever by moving the fulcrum to different locations.

7. Which fulcrum location required the least amount of effort force to lift the load?
_____ Which fulcrum location required the most amount of effort force to lift the

load? _____ Which fulcrum location required us to push down the lever the least to lift the load? _____

8. Complete these statements: The closer the fulcrum is to the load, the amount of effort force is required to lift the load is _____.
9. The closer the fulcrum is to the load, the effort force must be applied over a _____ distance.

Explore the “Ramp & Pulley” activity to answer these questions.

10. Which length of ramp allows us to perform the task with the least amount of effort force?

11. Complete this statement: The longer the ramp, the _____ it is to do work, but we must apply the force over a _____ distance.

Return to the “Lab Menu” and explore the “Wheel & Axle” activity to answer these questions.

12. _____ A screw can be described as an _____ wrapped around an _____.

Experiment with the diameter of the wheel and the number of threads per meter on the screw to help you answer these questions.

13. If the wheel diameter stays the same, how does the effort force change as the number of threads per meter increases?

14. If the number of threads per meter stays the same, how does the increases the wheel diameter affect the distance the gate is lifted?

15. If the wheel diameter is 50 cm, how many threads per meter do you need to get an effort force closest to 400 N? _____
16. If the threads per meter are set to 5, what wheel diameter do you need to raise the gate a distance closest to 22 meters? _____