

JEFF BOYER PRODUCTIONS
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Study Guide: Simple Machines

1. What is friction?

Friction is a force that slows down or stops motion.

2. When does friction occur?

Friction occurs when two objects move against each other.

3. Name the simple machines:

Screw, wedge, inclined plane, pulley, wheel and axle, lever.

4. There are how many different classes of levers?

Three.

5.

- a. Generally, simple machines can help us in two ways. We can apply less effort over a _____ distance,**

greater

- b. or we can apply more effort over a _____ distance.**

shorter

6. One way to reduce friction is to use a lubricant. Another way is by using _____.

wheels

7. Simple machines change the _____ of a force.

direction

8. A _____ is what a lever rests on or “rocks” when working.

fulcrum

9. The item lifted by a lever is called a _____.

load

10. A machine made of two or more simple machines is called a _____ machine.

complex

11. Do simple machines have motors?

No.

12. The inclined plane is any _____ surface.

slanted

13. Give some examples of inclined planes.

Ramps, hills, ladders, stairs, ski or BMX jumps, etc.

14. The screw is an _____ wrapped around a cylinder.

inclined plane

15. Give examples of screws.

Screws, light bulbs, jar tops, car jacks, legs on appliances (washers, dryers, refrigerators), etc.

16. The wedge is two _____ back to back.

inclined planes

17. Give examples of the wedge.

Knife, doorstop, log splitter, ax, etc.

18. Give examples of a wheel and axle.

Car wheels, bicycle wheels, steering wheel, etc.

19. The _____ is a grooved wheel and axle with a rope or cable.

pulley

20. Give examples:

Flagpole, crane, clothesline, curtain pull.

21. The _____ is a bar that is supported in one position while force is applied at another position.

lever

22. Give examples.

Crowbar, door, seesaw, scissors, pliers, wheelbarrow, nutcracker, fishing pole, hockey stick, shovel, broom, baseball bat, arms and legs, etc.

23. Where the bar is supported is called the _____.

fulcrum

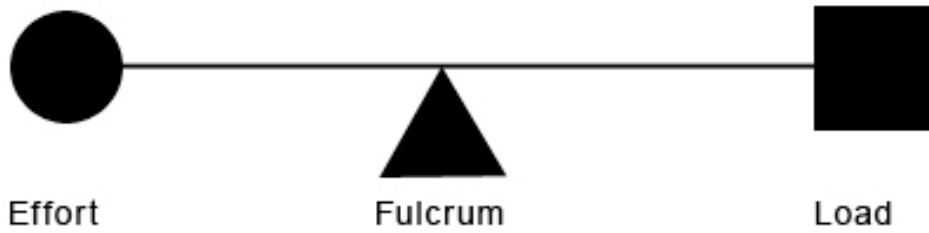
24. Where the force is applied is called the _____.

effort

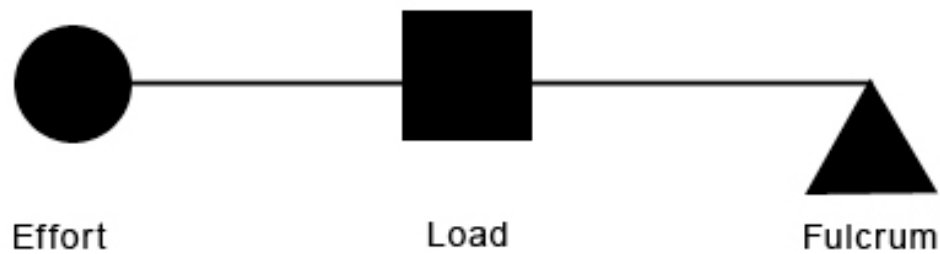
25. What is being lifted is called the _____.

load

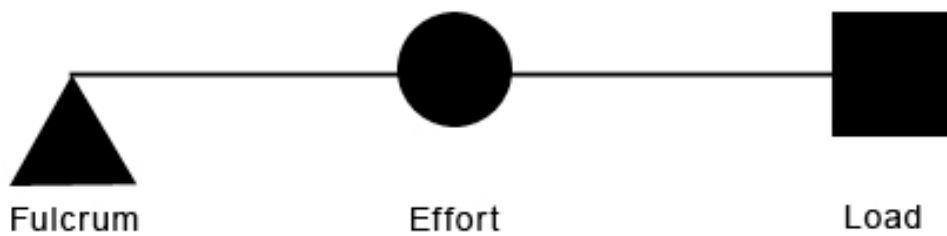
26. Draw a picture of a class 1 lever labeling the three parts.



27. Draw a picture of a class 2 lever labeling the three parts.



28. Draw a picture of a class 3 lever labeling the three parts.



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- Jeff