## Simple Machines Vocabulary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>force</td>
<td>an influence on the shape, motion, or other characteristics of a body or system.</td>
</tr>
<tr>
<td>friction</td>
<td>the resistance of a surface to relative motion, as of an object sliding or rolling over it.</td>
</tr>
<tr>
<td>fulcrum</td>
<td>the point of support on which a lever turns.</td>
</tr>
<tr>
<td>inclined plane</td>
<td>a plane surface inclined at less than a right angle to a horizontal surface, used to roll or slide a load up or down.</td>
</tr>
<tr>
<td>lever</td>
<td>any of a class of basic tools consisting of a rigid bar or an equivalent, acting by pivoting around a fixed fulcrum to transfer applied force from one point to another.</td>
</tr>
<tr>
<td>load</td>
<td>an amount of something carried; cargo or freight.</td>
</tr>
<tr>
<td>machine</td>
<td>a man-made device, usu. driven by a motor or engine, with a system of interrelated parts that work together to perform a task.</td>
</tr>
<tr>
<td>axle</td>
<td>a supporting bar or shaft on which, or by means of which, a wheel or wheels turn.</td>
</tr>
<tr>
<td>power</td>
<td>physical, mechanical, or electrical energy.</td>
</tr>
<tr>
<td>pull</td>
<td>to bring or try to bring closer by exerting force upon.</td>
</tr>
<tr>
<td>pulley</td>
<td>a wheel or set of wheels with grooved edges over which a rope or chain can be drawn in order to change the direction of a pulling force and increase the capacity for lifting weight.</td>
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<tr>
<td>push</td>
<td>to thrust (something) away.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>screw</td>
<td>a fastener, usu. metal, having a sometimes tapered shank with a helical thread, driven into a surface by applying pressure to the head while turning it.</td>
</tr>
<tr>
<td>spring</td>
<td>an elastic device or object that regains its original shape after being compressed, stretched out, or otherwise distorted.</td>
</tr>
<tr>
<td>tool</td>
<td>an instrument, such as a hammer, drill, or other hand-held device, used for doing work.</td>
</tr>
<tr>
<td>torque</td>
<td>the measured ability of a force to produce turning or twisting around an axis, such as a gear or shaft.</td>
</tr>
<tr>
<td>wedge</td>
<td>a piece of wood or metal in a three-dimensional, triangular shape with a thin edge that is driven or forced between objects to split, lift, or reinforce them.</td>
</tr>
<tr>
<td>wheel</td>
<td>any instrument, device, or apparatus resembling such a disk or frame in shape, motion, or function.</td>
</tr>
<tr>
<td>work</td>
<td>physical or mental effort directed toward achieving some result; labor.</td>
</tr>
</tbody>
</table>
Simple Machines

Songs

Fifty Ways to Love Your Lever

It’s not a vision in your head, she said to me.
But a machine when you’ve work to do simply.
I’d like to help you understand mechanically,
There must be fifty ways to love your lever.

She said, it’s got a fulcrum or a pivot point, you know,
Relative to the points of effort and of load.
And what is lost in force is gained in motion, so
There must be fifty ways to love your lever.

**Chorus:**
Just slip out the jack, Mack.
Use a pry bar, Carl.
Those pliers employ, Roy.
Just listen to me.
Work that pump, Gump.
Fill a wheel barrow, Cheryl.
Magnify the force, Doris,
And let your lever be.

She said, there’s three kinds of levers you can use,
When you’ve heavy weights to lift or motion to infuse.
And I realized that though she was missing a few screws,
There must be fifty ways to love your lever.

In some, the fulcrum’s in between the effort and the load.
Or at one end as in the nutcracker you hold.
In others, the effort’s in the middle mode.
There must be fifty ways to love your lever.

**Chorus**
Simple Machines: Word Scramble Worksheet

Unscramble the words below:

1. relev_______________
2. eswcr_______________
3. innelicd_____________
4. ylplue_______________
5. eewdg_______________
6. exal_______________
7. rocfe_______________
8. fcnoiirti_____________
9. orwk_______________
10. rpweo_______________
11. psgnir_____________
12. macenih_____________
13. ullp_______________
14. phsu_______________
15. loot_______________
Simple Machines Word Search Worksheet

Directions: All words are positioned left to right.

<table>
<thead>
<tr>
<th>FRICTION</th>
<th>WORK</th>
<th>LEVER</th>
<th>WHEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORCE</td>
<td>SCREW</td>
<td>LOAD</td>
<td>AXLE</td>
</tr>
<tr>
<td>PULL</td>
<td>TOOL</td>
<td>PUSH</td>
<td>MACHINE</td>
</tr>
<tr>
<td>POWER</td>
<td>WEDGE</td>
<td>TORQUE</td>
<td>SPRING</td>
</tr>
<tr>
<td>FULCRUM</td>
<td>PULLEY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Do The Research!
Simple Machines

**Topic:** Simple Machines

**Directions:** Research the topic indicated to the right and answer the questions below based on that topic.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is a simple machine?</td>
<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
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<td>____________________________________________________________________</td>
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<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
</tr>
<tr>
<td>2. Why do we use simple machines?</td>
<td>____________________________________________________________________</td>
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<tr>
<td></td>
<td>____________________________________________________________________</td>
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<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
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<tr>
<td>3. Name six simple machines.</td>
<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
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<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
</tr>
</tbody>
</table>
Simple Machines Acrostic Poem

An acrostic poem is one where you choose a word or name and use each letter in the name as the beginning of a word or line that tells something about that person or topic.

Example: An acrostic poem using the word "Sun."

Sometimes when we go to the beach, I will get sunburn.

Usually, if I put sun block on my skin, I will not burn.

Noon is when I'm really prone to burning.

Write an Acrostic Poem using the word below.

M_________________________________________
A_________________________________________
C_________________________________________
H_________________________________________
I_________________________________________
N_________________________________________
E_________________________________________
S_________________________________________
Simple Machines Vocabulary Quiz Worksheet

Directions: Match the vocabulary words on the left with the definitions on the right.

1. friction  
   a supporting bar or shaft on which, or by means of which, a wheel or wheels turn.

2. inclined plane  
   an influence on the shape, motion, or other characteristics of a body or system.

3. force  
   the point of support on which a lever turns.

4. axle  
   the resistance of a surface to relative motion, as of an object sliding or rolling over it.

5. power  
   physical, mechanical, or electrical energy.

6. fulcrum  
   a plane surface inclined at less than a right angle to a horizontal surface, used to roll or slide a load up or down.

7. load  
   to bring or try to bring closer by exerting force upon.

8. pulley  
   any of a class of basic tools consisting of a rigid bar or an equivalent, acting by pivoting around a fixed fulcrum to transfer applied force from one point to another.

9. pull  
   a wheel or set of wheels with grooved edges over which a rope or chain can be drawn in order to change the direction of a pulling force and increase the capacity for lifting weight.

10. lever  
    to thrust (something) away.

11. screw  
    an amount of something carried; cargo or freight.

12. push  
    an elastic device or object that regains its original shape after being compressed, stretched out, or otherwise distorted.
13. tool
   a man-made device, usu. driven by a motor or engine, with a system of interrelated parts that work together to perform a task.

14. spring
   a fastener, usu. metal, having a sometimes tapered shank with a helical thread, driven into a surface by applying pressure to the head while turning it.

15. machine
   an instrument, such as a hammer, drill, or other hand-held device, used for doing work.

16. wedge
   any instrument, device, or apparatus resembling such a disk or frame in shape, motion, or function.

17. wheel
   the measured ability of a force to produce turning or twisting around an axis, such as a gear or shaft.

18. torque
   a piece of wood or metal in a three-dimensional, triangular shape with a thin edge that is driven or forced between objects to split, lift, or reinforce them.

19. work
   physical or mental effort directed toward achieving some result; labor.
Simple Machines Maze Worksheet

Directions:

Get the lever to the boulder.
Simple Machines KWL Worksheet

<table>
<thead>
<tr>
<th>K</th>
<th>W</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>What I Know</td>
<td>What I Want To Learn</td>
<td>What I Have Learned</td>
</tr>
</tbody>
</table>
If Simple Machines Weren't Around... Worksheet

Simple Machines

<table>
<thead>
<tr>
<th>Simple Machine</th>
<th>Function of Machine</th>
<th>Benefits To Mankind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclined Plane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screw</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel-and-axle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wedge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Which simple machine do you feel has had the greatest impact on mankind? Explain in detail.

________________________________________________________________________

________________________________________________________________________
Simple Machines Group Creative Writing

Directions: As a group, you have 25 minutes to write a brief story using the words or variations of the words below.

<table>
<thead>
<tr>
<th>lever</th>
<th>pulley</th>
<th>power</th>
<th>pull</th>
</tr>
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</tr>
<tr>
<td>tool</td>
<td>friction</td>
<td>torque</td>
<td>fulcrum</td>
</tr>
</tbody>
</table>
Simple Machines Cryptogram

Directions: Unscramble the words by placing the correct letter in the shaded boxes. Use the numbered boxes to complete the answer to the riddle.

RIDDLE:

How long have electric cars been around?

ANSWER: ___________
Simple Machines Crossword Puzzle Worksheet

1. [Word]
2. [Word]
3. [Word]
4. [Word]
5. [Word]
6. [Word]
7. [Word]
8. [Word]
9. [Word]
10. [Word]
11. [Word]
12. [Word]
13. [Word]
14. [Word]
Across

1. a supporting bar or shaft on which, or by means of which, a wheel or wheels turn.

4. a fastener, usu. metal, having a sometimes tapered shank with a helical thread, driven into a surface by applying pressure to the head while turning it.

6. physical, mechanical, or electrical energy.

7. an instrument, such as a hammer, drill, or other hand-held device, used for doing work.

9. an elastic device or object that regains its original shape after being compressed, stretched out, or otherwise distorted.

11. plane a plane surface inclined at less than a right angle to a horizontal surface, used to roll or slide a load up or down.

12. to bring or try to bring closer by exerting force upon.

14. a man-made device, usually driven by a motor or engine, with a system of interrelated parts that work together to perform a task.

Down

2. any of a class of basic tools consisting of a rigid bar or an equivalent, acting by pivoting around a fixed fulcrum to transfer applied force from one point to another.

3. to thrust (something) away.

5. any instrument, device, or apparatus resembling such a disk or frame in shape, motion, or function.

7. the measured ability of a force to produce turning or twisting around an axis, such as a gear or shaft.

8. an influence on the shape, motion, or other characteristics of a body or system.

10. the resistance of a surface to relative motion, as of an object sliding or rolling over it.

13. an amount of something carried; cargo or freight.
Simple Machines Chop Worksheet

Directions: The table below contains words that have been chopped in half. Find the pieces that fit together and write them in the answer area below.

<table>
<thead>
<tr>
<th>wer</th>
<th>we</th>
<th>wh</th>
<th>lo</th>
</tr>
</thead>
<tbody>
<tr>
<td>hine</td>
<td>rew</td>
<td>spr</td>
<td>ol</td>
</tr>
<tr>
<td>sc</td>
<td>ax</td>
<td>ful</td>
<td>pu</td>
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<td>rce</td>
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<td>d plane</td>
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<td>incline</td>
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<td>que</td>
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<tr>
<td>tor</td>
<td>ll</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Answers:

________________________
________________________
________________________
________________________
________________________
________________________
________________________
________________________
Simple Machines: Adjectives Worksheet

Directions:

Adjectives are words used to describe a noun. Write an adjective on each line to describe screws.

Write a sentence using each of the adjectives above.

1. ___________________________________________________
2. ___________________________________________________
3. ___________________________________________________
4. ___________________________________________________
5. ___________________________________________________
6. ___________________________________________________
Simple Machines: Adjectives Worksheet

Directions:

Adjectives are words used to describe a noun. Write an adjective on each line to describe pulleys.

Write a sentence using each of the adjectives above.

1. ___________________________________________________
2. ___________________________________________________
3. ___________________________________________________
4. ___________________________________________________
5. ___________________________________________________
6. ___________________________________________________
Simple Machines: Adjectives Worksheet

Directions:
Adjectives are words used to describe a noun. Write an adjective on each line to describe levers.

Write a sentence using each of the adjectives above.

1. ________________________________
2. ________________________________
3. ________________________________
4. ________________________________
5. ________________________________
6. ________________________________
Simple Machines: Adjectives Worksheet

Directions:
Adjectives are words used to describe a noun. Write an adjective on each line to describe inclined planes.

Write a sentence using each of the adjectives above.

1. ___________________________________________________
2. ___________________________________________________
3. ___________________________________________________
4. ___________________________________________________
5. ___________________________________________________
6. ___________________________________________________
Ancient Egyptians Used The Inclined Plane To Create Their Pyramids

Ancient Egyptians Used The Inclined Plane To Create Their Pyramids
An Average Screw Is Estimated To Have Five Times The Holding Power Of A Nail.

An Average Screw Is Estimated To Have Five Times The Holding Power Of A Nail.
Wheel Barrels Are Classified As Levers!

Wheel Barrels Are Classified As Levers!
Answers to Cryptogram

DWEGE: Wedge

SPHU: Push

MFLUCRU: Fulcrum

QRTUEO: Torque

CEWRS: Screw

OKRW: Work

INRITFCO: Friction

LVEER: Lever

LULYPE: Pulley

Riddle: Over one hundred