Revision

1. For each of the following, mark on the load, fulcrum and effort. Then complete the table.

|  |  |  |
| --- | --- | --- |
| Picture | What is in the centre? | Class of lever? |
| https://c1.staticflickr.com/3/2862/12153352035_f1ee128bf8_b.jpg |  |  |
| http://www.mstworkbooks.co.za/technology/gr8/Tech_English_LB_Grade8-term3_1-web-resources/image/Tech2_gr8_ch1_fig4_opt.jpeg |  |  |
| https://bvg8science.wikispaces.com/file/view/fishrod.gif/420790670/459x319/fishrod.gif |  |  |
| http://hsc.csu.edu.au/engineering_studies/application/lift/3-1/image2.gif |  |  |
| http://00.edu-cdn.com/files/static/wiley/9780471571087/lifter-2.gif |  |  |
| http://worldhistoryhub.weebly.com/uploads/5/4/4/5/5445474/4962426.jpg?274 |  |  |
| http://depssa.ignou.ac.in/wiki/images/d/de/Eg1.jpg |  |  |

1. **You can measure how much easier a task has become by calculating the mechanical advantage a machine produces.**

Remember that the equation is

Work out the problems below, showing **all** working out.

1. Bob uses a pulley system to move a 2000N load. The effort needed is 200N. What is the Mechanical advantage?
2. Katy is rolling a barrel up a ramp. The Barrel has a weight of 400N. The effort required to move it up the ramp is 50N. What is the mechanical advantage?

**C. You can measure the mechanical advantage provided by a ramp.**

Remember that the equation is



Work out the mechanical advantage of the slope below, showing **all** working out. (2 marks)

D.

|  |  |
| --- | --- |
| Word | Meaning |
| Force |  |
| Machine |  |
| Screw |  |
| Pulley |  |

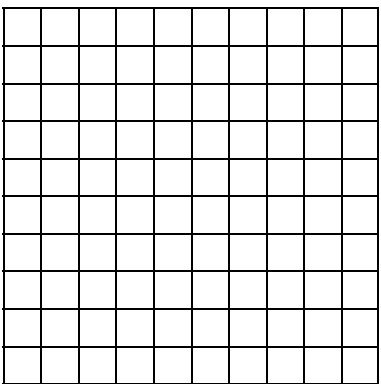
**e. What force can reduce the efficiency of a Pulley system? Clue: it can make the pulley squeak and can be reduced using a lubricant.**

**f. John needs to move a 1000N load. He uses 3 types of pulley. The effort required for each to lift the load is given in the table below.**

**Effort need to lift 1000N load Using Different pulley Systems**

|  |  |  |
| --- | --- | --- |
| **Pulley set up** | **Effort(N)** | **Mechanical advantage** |
| **Single fixed** | **1000** |  |
| **Single movable** | **500** |  |
| **Single fixed and single movable pulley combination** | **500** |  |
| **3 movable pulleys and one fixed pulley combination** | **350** |  |

**Plot the Mechanical advantage for the different pulley set ups.**



**Which Pulley set up gave the greatest Force advantage?**

**What is a Force multiplier? Give an example.**

**What is the unit of measure for Force?**

**Give a definition for wheel and axle.**

**What is a ramp?**

**What kind of machine is an axe head?**

**What kind of machine is a fishing rod?**

**What kind of machine are a pair of pliers?**

**Where is the fulcrum on a wheel barrow?**

**Why is a single fixed pulley useful?**