



# BALI KIDDY SECONDARY SCHOOL

ACADEMIC YEAR 2020/2021

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## SCIENCE WEEK 4 ASSIGNMENT

Topic : Simple Machine

Objectivities :

1. Describe the equilibrium moment
2. Describe the effect of mechanical advantage (MA) and its factor of a simple machine
3. Describe the work of lever, inclined line, pulley and wheels & axles
4. Calculate the MA of some simple machines
5. Calculate the moments of an equilibrium state of lever

Name :

Presence list number :

Class :

Date :

### Questions

1. How are the clockwise and anti-clockwise moments of a balance seesaw?

Answer:

2. Describe the difference in MA of a pair of small scissor and the big one.

Answer:

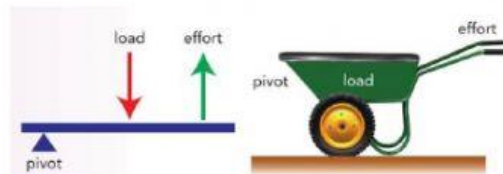
3. Why do the roads wind up at the mountains rather than go straight?

Answer:

4. Match the class of the lever and its correct diagrams.

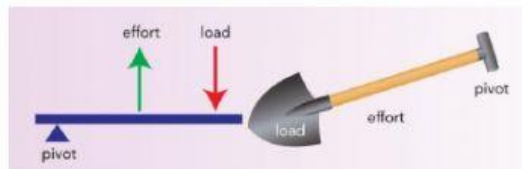
a. First class lever

1.



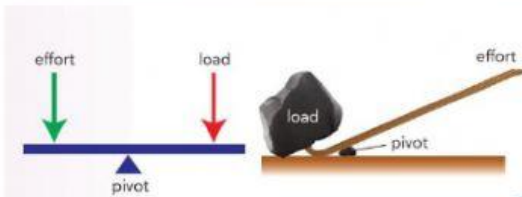
b. Second class lever

2.



c. Third class lever

3.



5. Which of the diagram below requires less force to move the load?



a.



b.

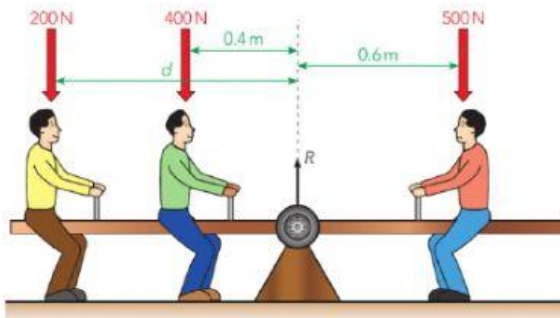
6. Describe how wheels and axles work and give two examples.

Answer:

7. A wheel with radius of 90 cm is applied on an axle with radius 30 cm. What is the mechanical advantage of the system?

Answer: \_\_\_\_\_

8. Look at the diagram below.


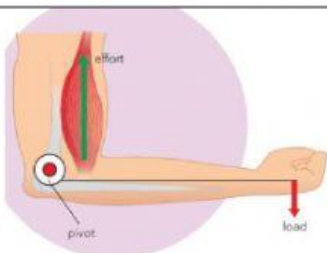


Person 1's weight is 500 N. The moment is \_\_\_\_\_. The direction of the moment is (fill with clock-wise and anti-clockwise) \_\_\_\_\_.

Person 2's weight is 400 N. The moment is \_\_\_\_\_. The direction of the moment is (fill with clock-wise and anti-clockwise) \_\_\_\_\_.

Person 3's weight is 300 N. The moment is \_\_\_\_\_. The  $d$  must be \_\_\_\_\_ meters. The direction of the moment is (fill with clock-wise and anti-clockwise) \_\_\_\_\_.

9. Match the human body diagram with the correct class of levers.

a. First class lever		<p>1.</p> 
b. Second class lever		<p>2.</p> 
c. Third class lever		<p>3.</p> 