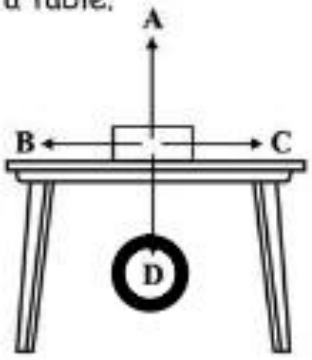
Lesson B: Force Diagrams (6.2)

Name :_____

Date :_____

1. A box is placed on a table.



Which arrow shows the direction of the gravity acting on the box?

Circle the correct letter.

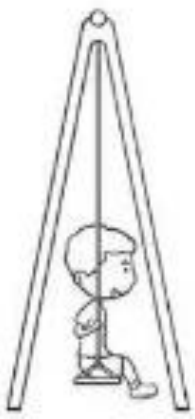
1. The diagram shows a boy sitting on a swing.

The swing does not move.

The forces are balanced
the swing is at rest

On the diagram, draw **two** arrows to show the forces acting on the boy.

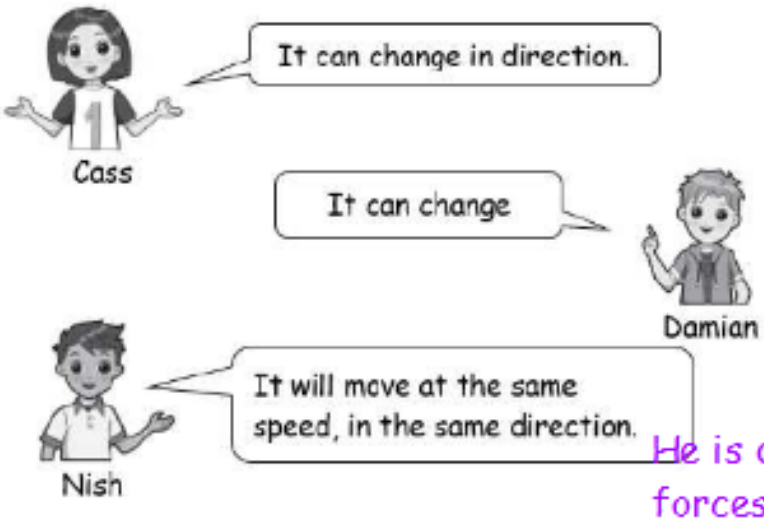
Label the arrows.



normal force

gravity

3. Some students are discussing what happens to a toy car when there are unbalanced forces acting on it.



He is describing balanced forces on moving objects

One of the students is incorrect.

Circle the name of the student who is **incorrect**.

Cass **Damian** **Nish**

4. Two forces, X and Y, are acting on a ball on the floor.

What will happen to the movement of the ball? Give a reason.

The ball is moving in the direction of force Y,
Force Y is greater than force X.
The forces are unbalanced

5. Two boys are pushing a stationary box in opposite directions.

The box remains stationary. Explain why.

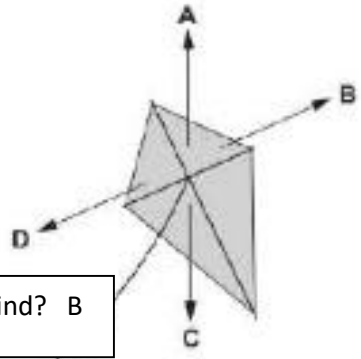
The boys are applying the same amount of force in opposite direction the forces are balanced.

6. Samir is flying a kite.
There is strong wind blowing.
The picture shows forces acting on the kite.

a. Which letter shows the gravitational force on the kite? C

b. Which letter shows the force exerted by Samir? D

c. Which letter shows the force exerted by the wind? B



d. Which two forces are balanced? Circle the c

A and C D and C C and B B and D

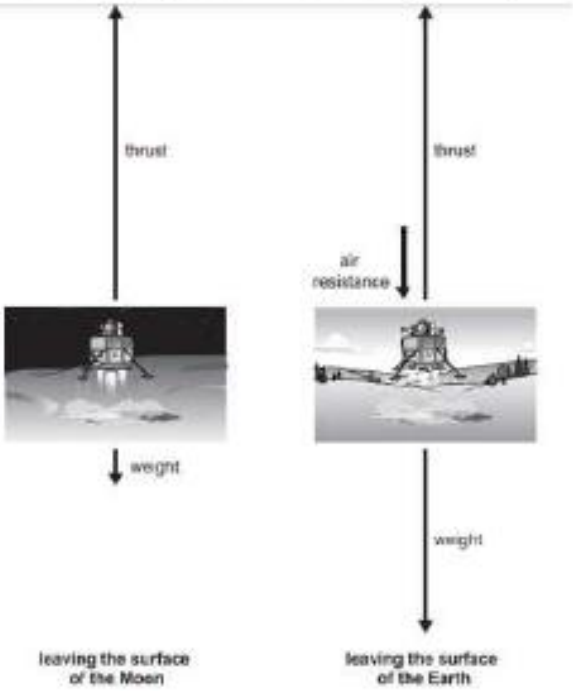
e. The strength of the wind increases.

The kite stays in the same place.

What happens to the pulling force exerted by Samir?

The pulling force exerted by Samir increases.

7. Look at these two force diagrams for a spacecraft.
One diagram shows the spacecraft leaving the surface of the Moon.
The other diagram shows the spacecraft leaving the surface of the Earth.



a. In both diagrams the mass of the aircraft is the same.
What is the name of the unit of mass?

Kilogram

b. The weight of the aircraft on Earth is different from the weight of the aircraft on the moon. Explain why.

The gravity on Earth is greater than the gravity on the moon

c. What is the unit of weight?

newton

d. Explain why the aircraft leaving the Moon moves upward faster than when it leaves Earth. (Refer to the diagram.)

Reason 1:

No or less air resistance

Reason 2:

Less gravity on the moon

8. Write the name of force acting on the object.