

**The Primary Stage of Grades (4-5)**  
**School Year 2022-2023**

Name: \_\_\_\_\_

Subject: Science

Unit 6: Forces

Worksheet 1: Multiple Forces

Class: Grade 4 CP(All sections)

Date: / /

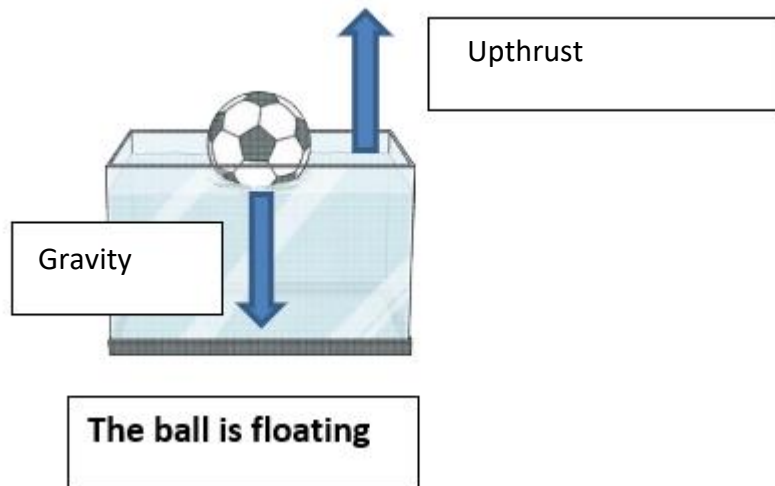
**Objective/s:**

Identify forces acting on different object, in different situations and directions.

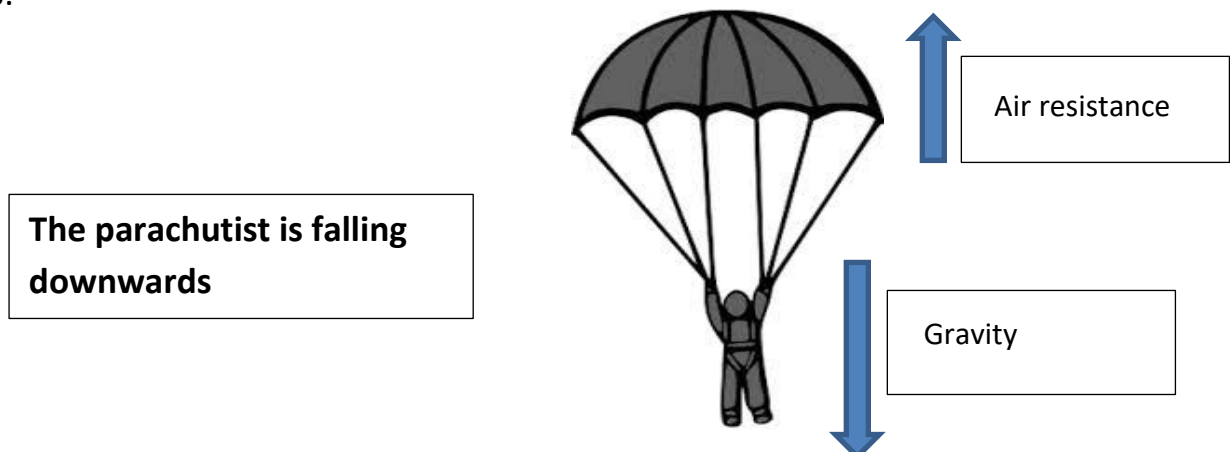
**Question One:**

Label the following diagrams with the correct forces.

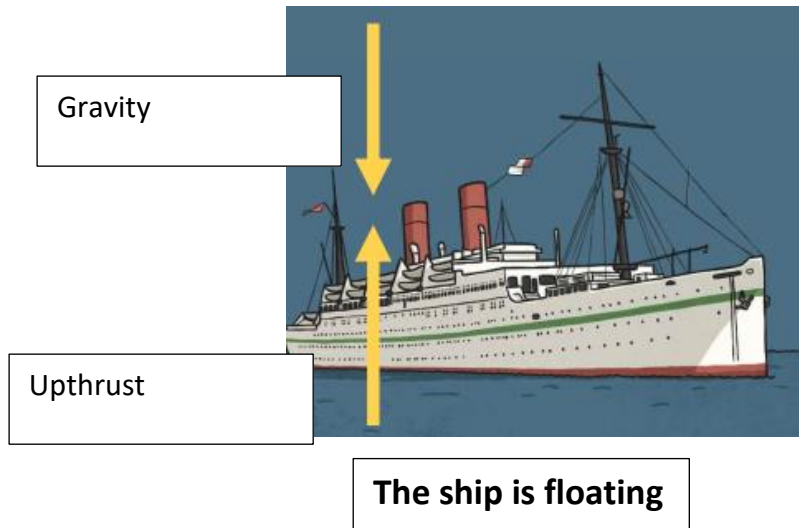
a.



b.



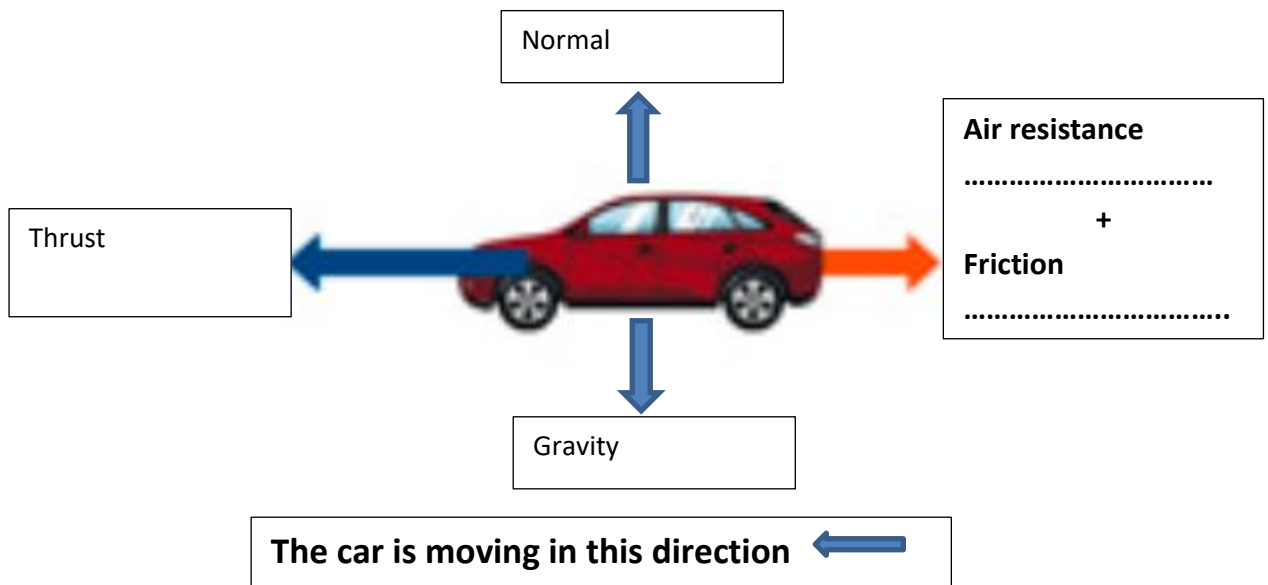
c.



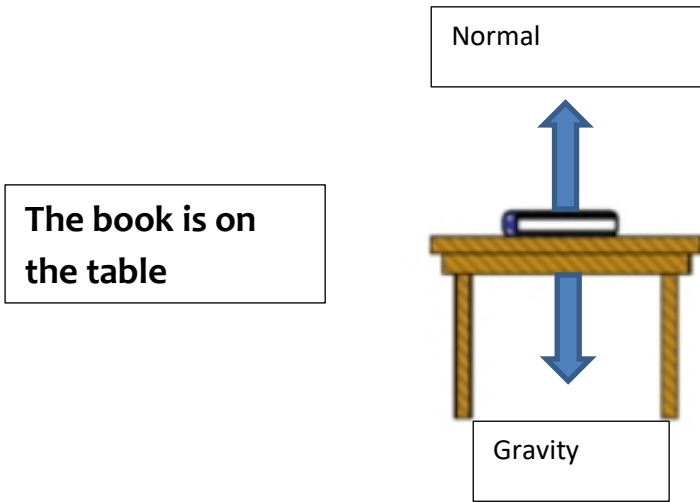
d.



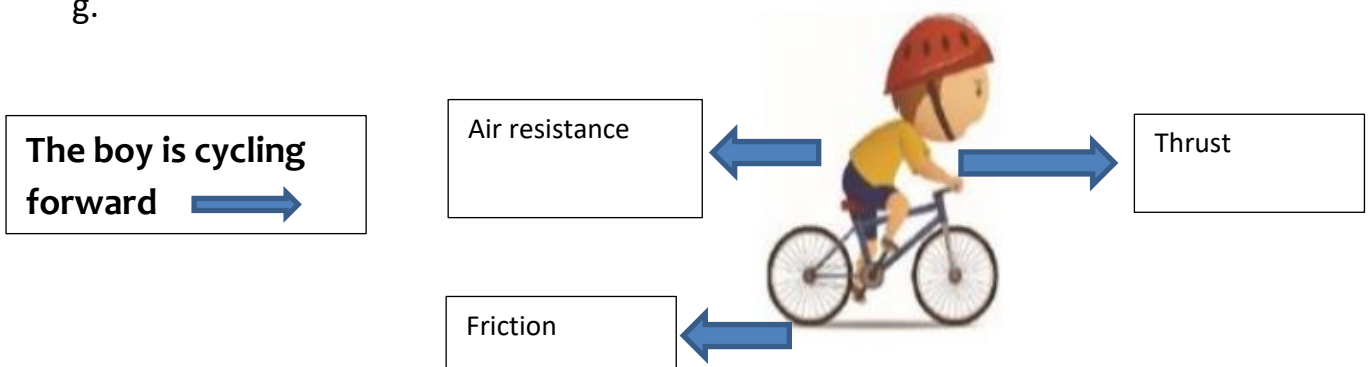
e.



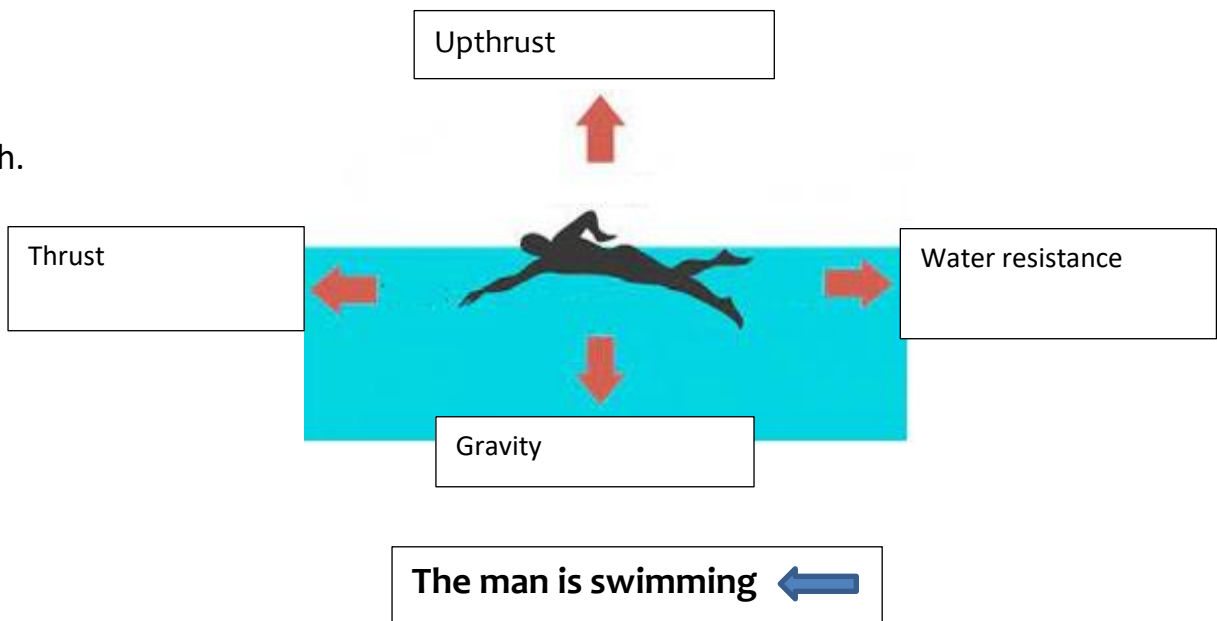
f.



g.



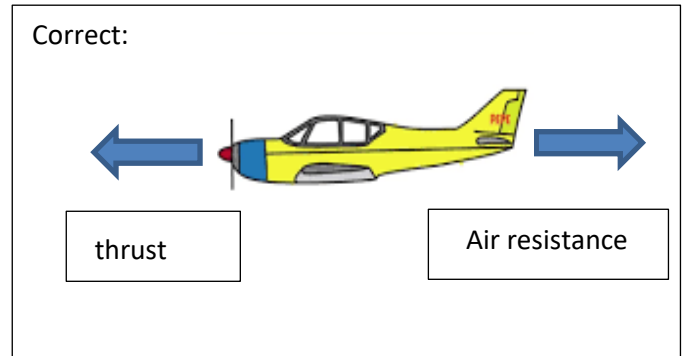
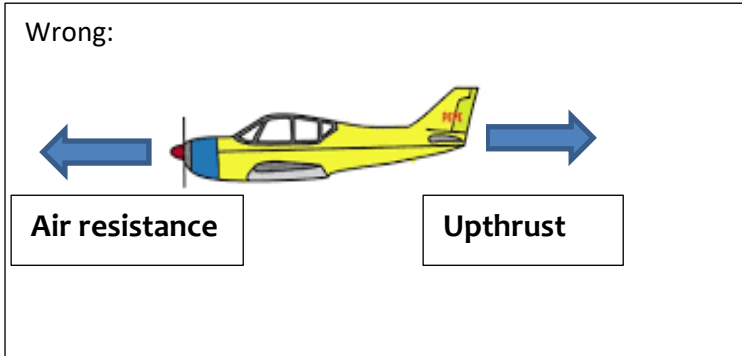
h.



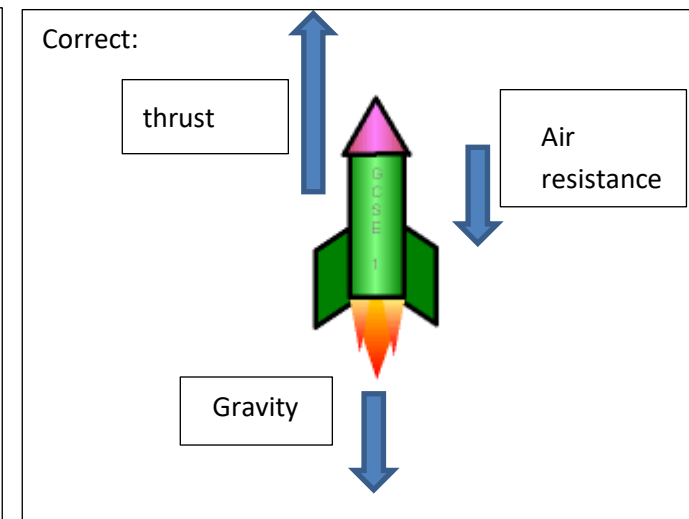
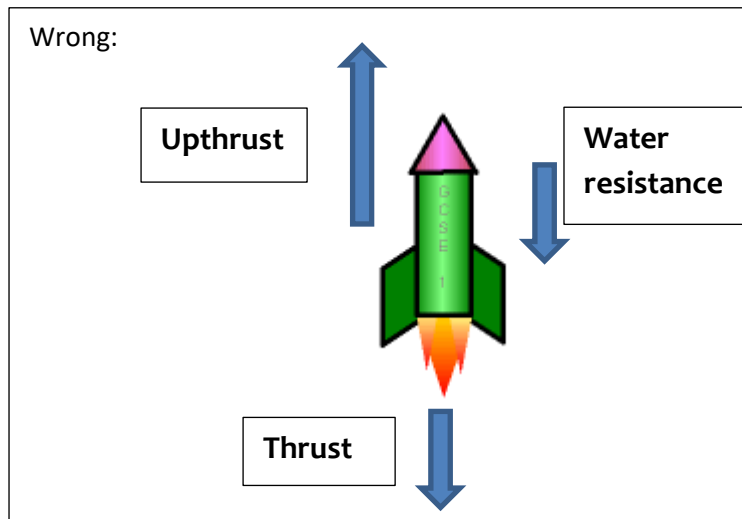
**Question 2:**

The following force diagrams are wrongly labelled, label the forces correctly.

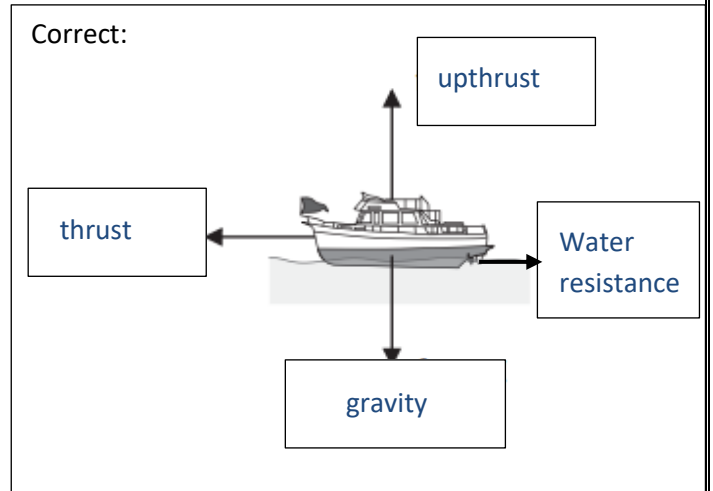
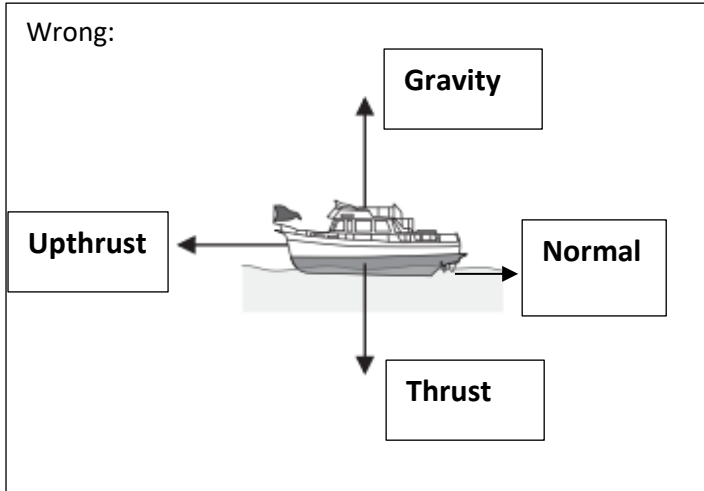
a. The plane is moving in this direction ← :



b. The rocket is launched upward:



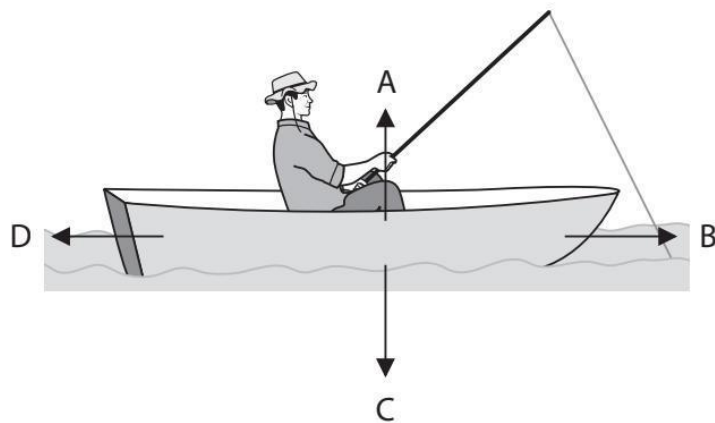
c. The ship is moving in this direction ← :



**Question 3:**

a. The diagram shows forces acting on a boat.

Which arrow represents the direction of upthrust?



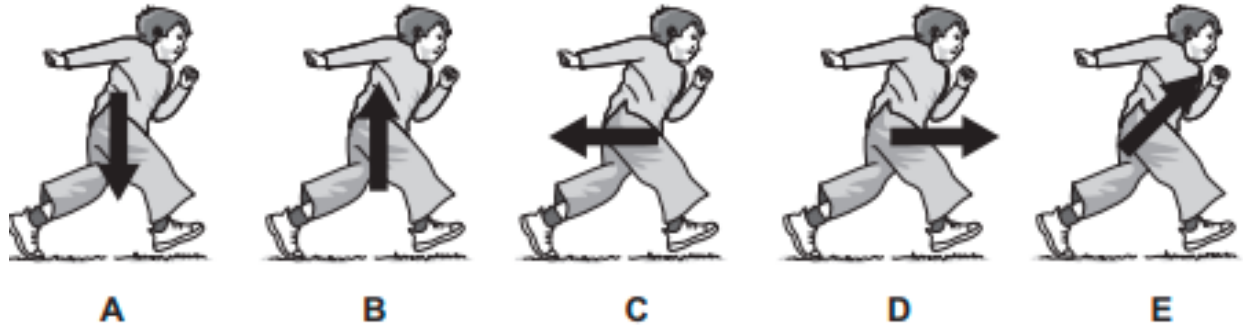
A

B

C

D

b. Pierre has five pictures showing him running.



He draws arrows on the pictures.

(a) Which picture shows the direction of the force of gravity?

Circle the correct answer.

A     B     C     D     E    [1]

(b) Air resistance slows him down.

Which picture shows the direction of air resistance?

Circle the correct answer.




A     B     C     D     E    [1]

Question 4:

John wanted to investigate the time taken by different sized papers when he drops them. He brought three pieces of paper with the same mass, he left one paper unfolded, folded the second one, and crumpled the third one. Then he dropped the three papers from the same height, and recorded the time taken by each paper to fall to the ground. He repeated his test again

Paper	Time taken to fall to the ground (seconds)	Time taken to fall to the ground (seconds)
	Trial 1	Trial 2
<b>A</b>	6	5
<b>B</b>	2	2
<b>C</b>	4	3

1- Match the paper with the different size paper.

Paper		Size pf paper
Paper A		Crumpled ball of paper 
Paper B		Half-folded paper 
Paper C		Unfolded paper 

1- Suggest a reason why Paper A took the longest time to fall. Explain your answer.

PAPER A HAS THE LAREGEST SURFACE AREA WHICH MEANS IT HAS MORE AIR RESISTANCE THAT'S WHY IT WILL TAKE THE LONGEST TIME TO FALL.....

2- Identify the **control, the independent and the dependent variables** in this investigation.

**Control:** ..... SAME MASS, SAME HIEGHT, SAME BOY.

**Dependent:** ..... TIME TAKEN TO FALL TO THE GROUND.

**Independent:** ..... THE SIZE OF THE PAPER.

3- Why did he repeat his investigation more than one time?

TO MAKE SURE THAT HIS INVESTIGATION IS RELIABLE (ACCURATE).  
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4- Draw a bar chart below to represent his results in trial 1.

TIME TAKEN TO different size

Title: of papers to FALL TO THE GROUND.

TIME TAKEN TO FALL TO THE GROUND.

