

Balanced & Unbalanced Forces

Worksheet (Grade Level)

Name _____

Question 1

What does it mean when forces on a rocket are balanced? What will the rocket do?

Question 2

What force must be greater than gravity for a rocket to lift off the ground?

Question 3

If a rocket is heavier on one side, how might that affect its flight?

Question 4

Why is gravity still important after the rocket has left the ground?

Question 5

What is one way a rocket can correct its flight path if it starts to tilt?

Question 6

Can a rocket be moving and still have balanced forces acting on it? Explain.

Notes:

Balanced & Unbalanced Forces

Worksheet (Higher Level)

Name _____

Question 1

Explain what it means for forces to be balanced on a rocket and describe how this affects its state of motion.

Question 2

Identify the forces involved in a rocket launch and analyze how thrust must compare to gravitational force for successful liftoff.

Question 3

Discuss the impact of an asymmetric mass distribution on a rocket's trajectory and stability during ascent.

Question 4

Describe how gravitational force continues to influence a rocket after liftoff and explain its significance in orbital mechanics.

Question 5

Evaluate the methods and technologies used by rockets to correct their flight path when experiencing torque or rotational forces.

Question 6

Can an object in motion experience balanced forces? Explain your reasoning and provide examples related to rocket flight dynamics.

Notes:

Balanced & Unbalanced Forces

Worksheet (Lower Level)

Name _____

Question 1

What happens to a rocket if the forces pushing and pulling on it are the same?

Question 2

What makes the rocket go up and away from the ground?

Question 3

What could happen if one side of the rocket is heavier than the other?

Question 4

Does gravity still pull on the rocket after it takes off? Why?

Question 5

How can a rocket stay straight if it starts to lean or tip?

Question 6

Can a rocket move if the forces on it are the same? What would happen?

Notes: