

## QUIZEN – Gravitation(9P03)

<b>Learning Level 1</b>	<b>Learning Level 2</b>	<b>Learning Level 3</b>
Q - Remembering (knowledge-based questions) U - Understanding (comprehension-based questions)	I - Applying (application-based questions) Z - Analyzing (analysis-based questions)	E - Evaluating (evaluation-based questions) N - Creating (creation-based questions)

### Learning Level 1

1. State Newton's first law of motion.
2. What is the acceleration due to gravity on Earth?
3. Define buoyancy.
4. What is Archimedes' principle?
5. What is the SI unit of force?

### Learning Level 2

1. A 10 kg object is placed on a surface with a coefficient of static friction of 0.4. What force is required to start the object moving?
2. An object is thrown vertically upwards with an initial velocity of 20 m/s. How long will it take for the object to reach its maximum height?
3. A 100 N object is placed in a liquid with a density of  $800 \text{ kg/m}^3$ . What is the buoyant force acting on the object?
4. An object has a weight of 50 N in air and a weight of 45 N when submerged in water. What is the density of the object?
5. Two objects with masses of 2 kg and 4 kg are placed at a distance of 2 meters apart. What is the gravitational force between them?

### Learning Level 3

1. Evaluate the statement: "Objects with greater mass experience greater acceleration due to gravity."
2. Create a scenario where the buoyant force acting on an object is equal to its weight.
3. Evaluate the statement: "Archimedes principle can only be applied to objects in fluids."
4. Design an experiment to measure the acceleration due to gravity using a simple pendulum.
5. Compare and contrast the effects of air resistance on objects with different shapes and masses.

