Refaa School G4 **Science** Ms. Arwa Al Messabi

Book Unit 1 Lesson 1 **Forces and Motion** page 10 -15

**ST name**: ..... G 4 \ .....

## Q 1: Put number of meaning near its term:

1. Any change of position
2. How fast an object's position changes over time.
3. The speed and direction of an object.
4. Change in velocity over time
5. Any push or pull
6. The tendency of an object in motion to stay in motion or of an object at rest to stay at rest.
7. Force that pulls two objects toward each other
8. Force between surfaces that slows objects or stops them from moving.
9. The location of an object.

(.....) Velocity

(.....) Speed

(.....) Motion

(.....) Force

(.....) acceleration

(.....) Gravity

(.....) Friction

(.....) Inertia

(.....) Position

## Q2: Choose speed of a car in m/s. *Speed = distance ÷ time.* السرعة = المسافة ÷ الزمن

| | | | | |
|---|---|---|---|---|
| Speed | A- 100 meters in 10 seconds | A-10 ÷ 100 = 1/10 m/s | B-100 ÷ 10 = 10 m/s | Distance is= A-10s B-100m |
| | B- 300 meters in 10 seco | A-10 ÷ 300 = 1/30 m/s | B-300 ÷ 10 = 30 m/s | Distance is= A-300m B-10s |
| Velocity? | C- 200 km/ 2 hours *West* | A-200 ÷ 2= 100 km/h West | B- 200 ÷ 2 = 100 km/h | Direction is= A-200 km B-200m |

## Q3: Choose correct answer:

1-An object that is sitting still has ..... forces acting on it.

a-Unbalanced b- Balanced

2-Objects in motion tend to stay in motion because of the property of .....

a- Inertia b- Gravity

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3-The distance traveled in an amount of time is called .....

a-Motion b- Speed

4- Describes when a moving object speeds up.

a-Acceleration b- Velocity

5-What causes heat when rubbing your hands together?

a-Gravity b- Friction

6- If you drop a rock in a lake, the rock will slow down because the water exerts....

A- Gravity b- Less resistance

c- Drag forces d- Velocity

7- A boy pushes on a box and moves it a way. This is an example of....

a- Balanced forces b- Unbalanced forces

b- Potential energy d-Chemical energy

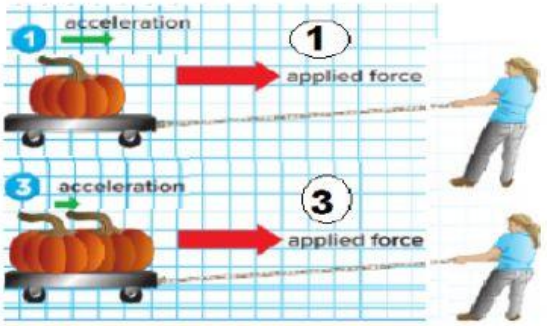
8- Look to picture choose correct answer to solve:

a- Acceleration in 3 greater than acceleration in 1

b- Acceleration in 3 double than acceleration in 1

c- Acceleration in 3 half than acceleration in 3

d- Acceleration in 1 equal acceleration in 3




9- How does friction affect a moving object?

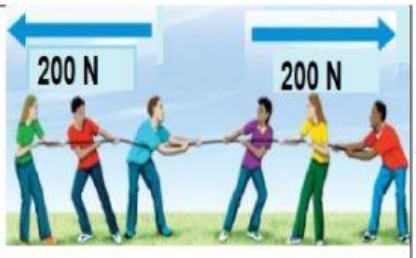
a-Speeds it up b- Slows it down

c- Has no effect d-Pulls it downwards

## Q4: Choose correct answer of total forces for each picture:

Sum Forces (same direction) = F1+ F2

Sum Forces (different direction)= big F1- small F2

| | | |
|---|---|---|
|   |   |   |
| Total forces = Unbalance Force<br>A-400 - 200 = 200 N<br>B-400 + 200 = 600 N | Total forces = Balance Force<br>A-80 - 80 = 0 N<br>B-80 + 40 + 80 = 200 N | Total forces = Balance Force<br>A-200 - 200 = 0 N<br>B-200 + 200 = 400 N |

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