



وزارة التربية والتعليم
MINISTRY OF EDUCATION

مدرسة القمّة
AL QEMMA SCHOOL
مجلس 5 COUNCIL
نطاق 3 CLUSTER

Science Final Exam Review

Term 1

2025/2026



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What is included in the exam?

1. MULTIPLE CHOICE QUESTIONS- (MCQ)

20 questions- MARKS PER QUESTION - 3 MARKS

2. FORMAL RESPONSE QUESTION-(FRQ)

4 questions- MARKS PER QUESTION- 8-12 MARKS

Number of MCQ عدد الأسئلة الموضوعية	20
Marks of MCQ درجة الأسئلة الموضوعية	3
Number of FRQ عدد الأسئلة المقالية	4
Marks per FRQ الدرجات للأسئلة المقالية	(8-12)
Type of All Questions نوع كافة الأسئلة	الأسئلة الموضوعية / MCQ الأسئلة المقالية / FRQ

UNIT 3

Dynamic Earth

Unit 3
P. 19 (2nd Paragraph)
Module 1, Lesson 1 (Map Earth's Features)

LO: Students will be able to describe what a volcano is and what comes out of it.

Volcano: an **opening** on Earth's surface where melted rock or gases are forced out.



Question	
An opening on Earth's surface where melted rocks or gases are forced out is called _____	
A	Earthquake
B	Volcano
C	Tornado

Question	
What is forced out of a volcano ?	
A	Rocks
B	Sand
C	Lava and gases

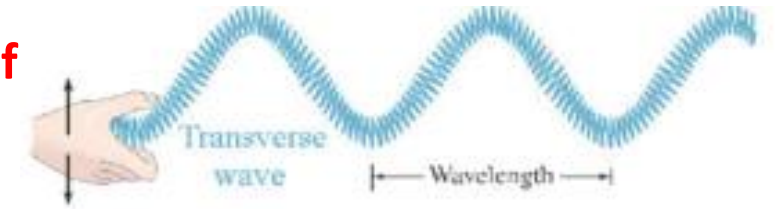
Unit 3

P. 49 (2nd Paragraph)

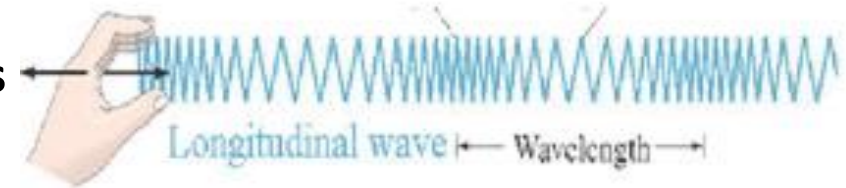
Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to identify how particles move in transverse and longitudinal waves.

Transverse Wave: a wave that vibrates **perpendicular to the direction of the energy**. Move materials **up and down**.

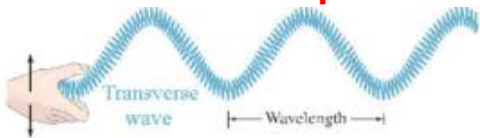


Longitudinal Wave: moves material **back and forth** as the wave travels through it.



Question

A wave that moves materials **up and down** is called ____



A Longitudinal wave

B Transverse wave

Question

How do particles move in **longitudinal wave**?

A Up and down

B Back and forth

Unit 3

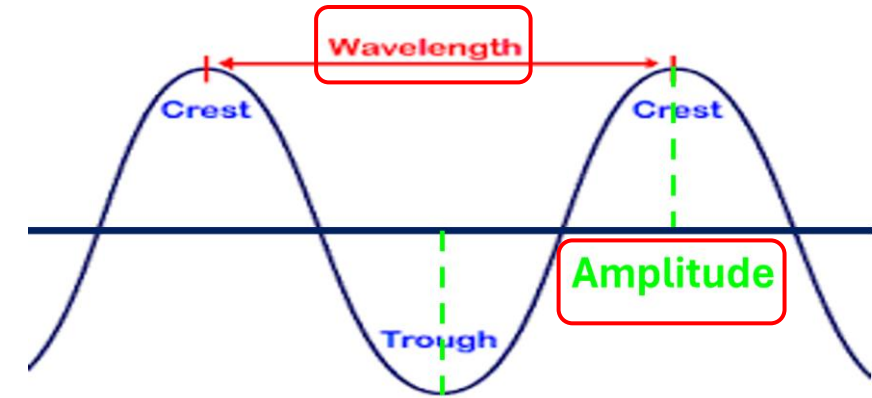
P. 95 Wavelength, Amplitude

Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to identify and label the main parts of transverse and longitudinal waves, including wavelength and amplitude.

Wavelength: the distance between wave crests and troughs.

Amplitude: the height of a wave from its crest or trough to its midpoint.



Question	
The distance between wave crests and troughs is called ____	
A	Crest
B	Wavelength
C	Amplitude

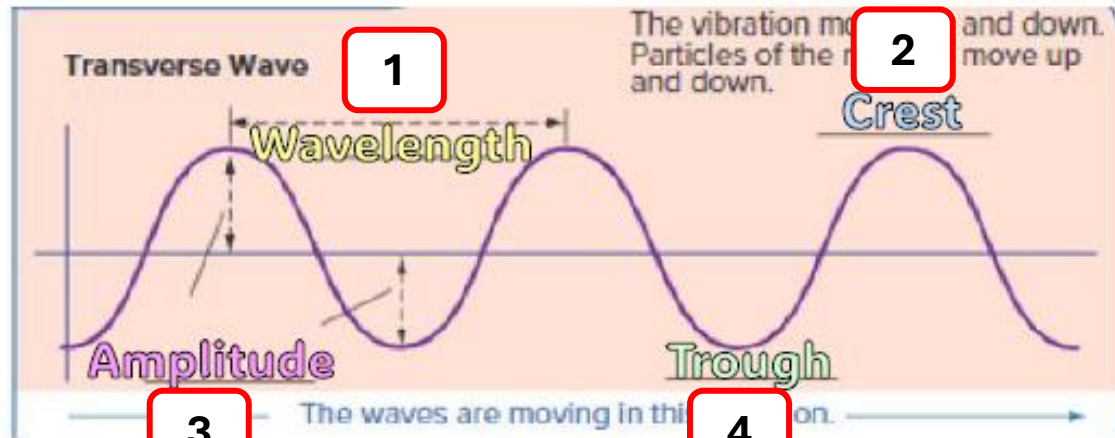
Question	
The height of a wave from its crest or trough to its midpoint is called ____	
A	Crest
B	Wavelength
C	Amplitude

Unit 3

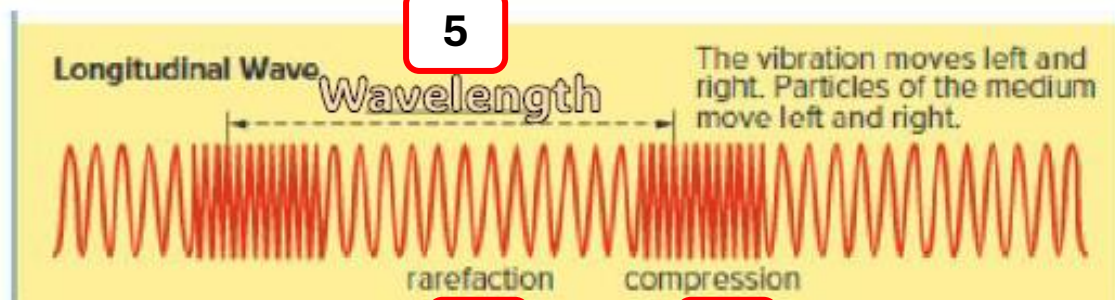
P. 96 Label Diagram Activity

Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to identify and label the main parts of transverse and longitudinal waves, including wavelength and amplitude.



This is a **transverse wave** because it is moving **up and down**



This is a **longitudinal wave** because it is moving **back and forth**

Question

Which part of the wave is number 1? (Crest / Trough / **Wavelength**)

Which part of the wave is number 2? (**Crest** / Trough / Amplitude)

Which part of the wave is number 3? (Crest / Trough / **Amplitude**)

Which part of the wave is number 4? (Crest / **Trough** / Wavelength)

Which part of the wave is number 5? (Crest / Trough / **Wavelength**)

Which part of the wave is number 6? (**rarefaction** / compression)

Which part of the wave is number 7? (rarefaction / **compression**)

Unit 3
P. 101

Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to read and interpret data from tables to answer questions about earthquake magnitudes.

California Earthquake Data

Year	Location	Magnitude	Year	Location	Magnitude
1906	San Francisco	7.8	1980	Eureka	7.2
1911	Calaveras Fault	6.5	1984	Morgan Hill	6.2
1920	Los Angeles	4.9	1989	Loma Prieta	6.9
1923	Cape Mendocino	7.2	1992	Landers	7.3
1933	Long Beach	6.4	1994	Northridge	6.7
1940	Imperial Valley	7.1	2004	Parkfield	6.0
1954	Arcata	6.6	2010	Baja	7.2

Question	Question
How many earthquakes had a magnitude greater than 7.0?	How many earthquakes had a magnitude less than 7.0?
A 5	A 7
B 6	B 8
C 7	C 9

Question

In which regions were there earthquakes of magnitude greater than 6.5 and under 7.0?

A Baja, Long Beach, Calaveras Fault

B Arcata, Loma Prieta, Northridge

C Parkfield, Morgan Hill, Baja

Question

In which regions were there earthquakes of magnitude greater than 6.2 and under 7.2?

A 5

B 6

C 7

Unit 3

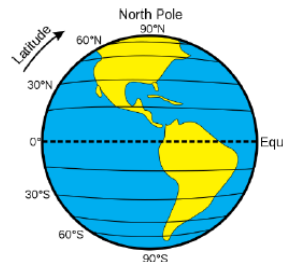
P. 17 (2nd Paragraph)

Module 1, Lesson 1 (Map Earth's Features)

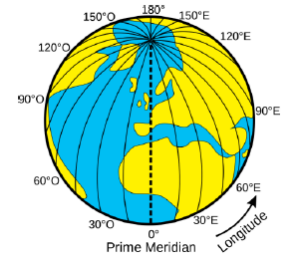
LO: Students will understand that lines of latitude and longitude are imaginary lines that help locate places on Earth.

Longitude and latitude lines help locate places on Earth

Latitude lines: tell how far **north** or **south** a place is from the **equator**.



Longitude lines: tell how far **east** or **west** a place is from the **prime meridian**.



Question

The imaginary lines that tell how far **north** or **south** a place is from the **equator** are called ____

A Longitude

B Latitude

Question

The imaginary lines that tell how far **east** or **west** a place is from the **prime meridian** are called ____

A Longitude

B Latitude

Unit 3
P. 14 (2nd Paragraph)
Module 1, Lesson 1 (Map Earth's Features)

LO: Students will understand that large land masses on Earth are called continents.

Continent: a large landmass.

7 continents map with 5 oceans



Question

The **land masses** shown below are examples of a ____



Question

A **continent** is a ____

- A A large water body
- B A large landmass**
- C A small island

A Ocean

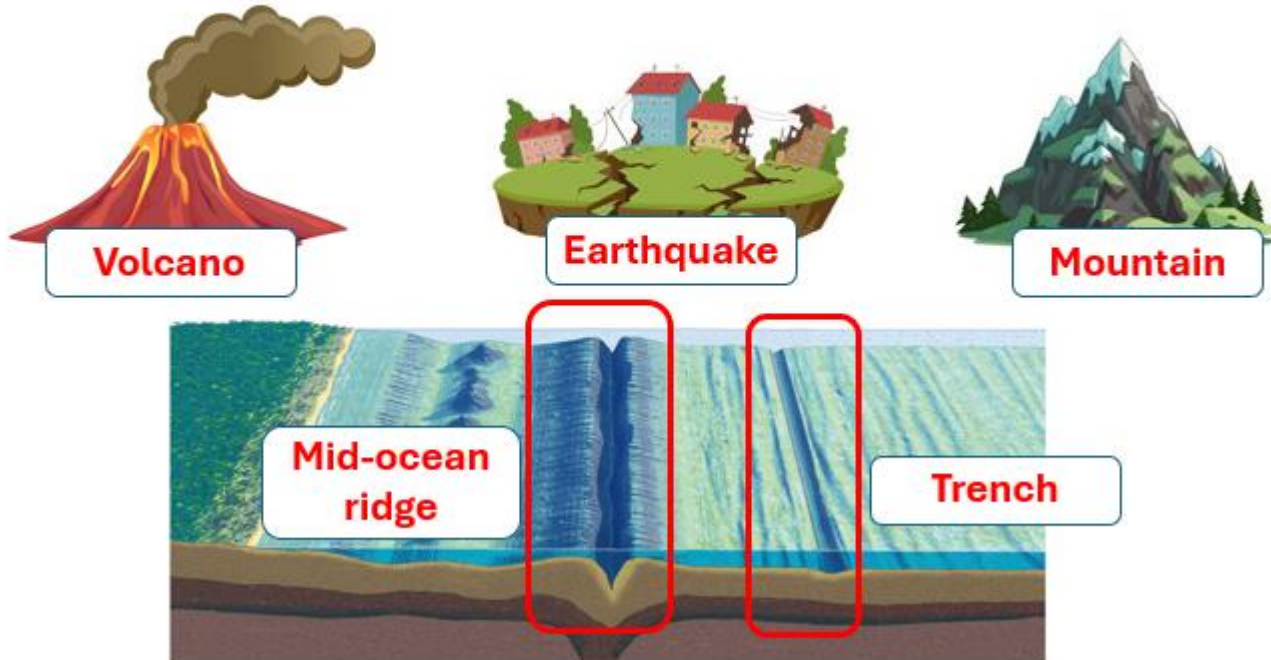
B Continent

C Ice

Module 1, Lesson 1 (Map Earth's Features)

LO: Students will be able to identify the physical feature that is found near the edge of a continent.

What mostly like to occur near the plate boundaries?

**Question**

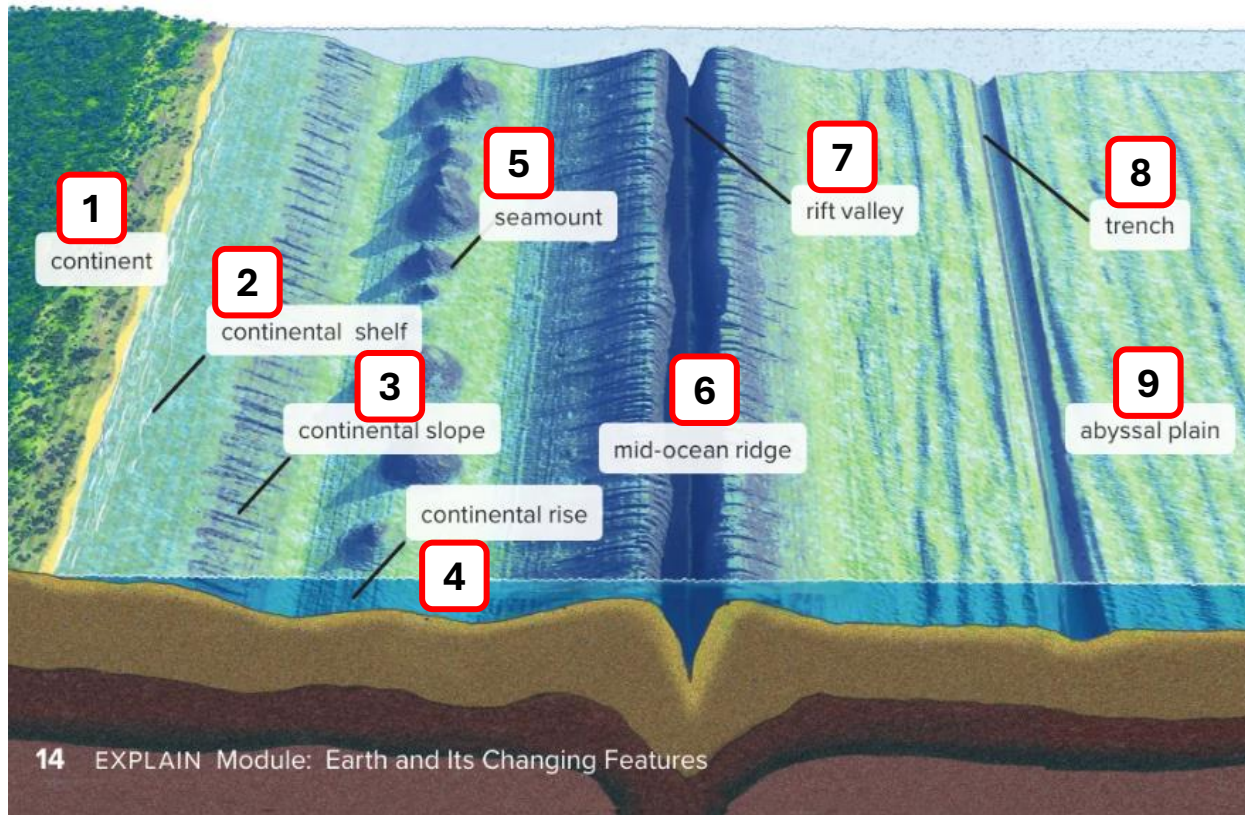
Which feature is most likely to occur near the edge of a continent?

- A Plain
- B Mountain**
- C Lake
- D Abyssal Plain

Unit 3

P. 14 – 15 Section Ocean Features (Labelled Image) Module 1, Lesson 1 (Map Earth's Features)

LO: Students will be able to recognize that underwater canyons can form on the continental slope.



Question

Where do **underwater canyons** form on the ocean floor?

A Continental shelf

B Continental slope

C Continental rise

Question

At which **number** in the figure do **underwater canyons** form?

A 1

B 2

C 3

Question

What landform can you find on the **continental slope**?

A Volcano

B Trench

C Underwater canyon

Unit 3

P 114-115

Module 2, Lesson 3 (Reduce Earthquake Damage)

LO: Students will know ways buildings are made strong to stay safe during earthquakes.

How are buildings made strong to stay safe during an earthquake?

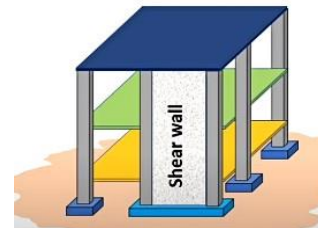
1. **Use steel, wood, and concrete frames.**



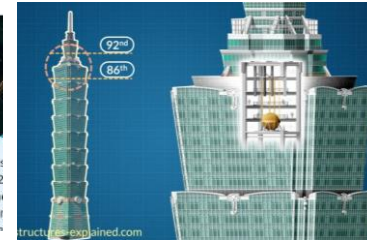
2. **Bracing:** diagonal pieces connecting beams and columns. (Shape of X or K letters).



3. **Shear Wall:** A stiff wall made of braced panels.



4. **Mass Dampers:** A heavy mass that is placed inside the top floors in tall buildings.



Question

What part of a building helps it **stay strong against lateral forces**?

- A Bracing
- B Shear wall
- C Mass Dampers
- D All of the above**

Unit 3

p.19 (3rd Paragraph), p.19 Q.2, p.85 Q.1, Q.2
Module 1, lesson 1 & Module 2, Lesson 1

LO: Students will be able to identify areas near fault lines or tectonic plate boundaries as regions where earthquakes are most likely to occur.

Earthquakes usually occur along the plates boundaries.

Question

What is the pattern of **earthquakes** shown in the world map?



- A** Earthquakes occur along the plate boundaries
- B** Earthquake occur away from the plate boundaries

Unit 3

p.19 (3rd Paragraph), p.19 Q.2, p.85 Q.1, Q.2
Module 1, lesson 1 & Module 2, Lesson 1

LO: Students will be able to identify areas near fault lines or tectonic plate boundaries as regions where earthquakes are most likely to occur.

Question

Which number on the map shows where **earthquakes are most likely to occur**?



- A 1
- B 2
- C 3**
- D 4

Question

Looking at the map, what do you know about the pattern of where **earthquakes occur**?



- A In the middle of the continents
- B Near the plate boundaries**
- C Away from the plate boundaries
- D In the middle of the oceans

Unit 3

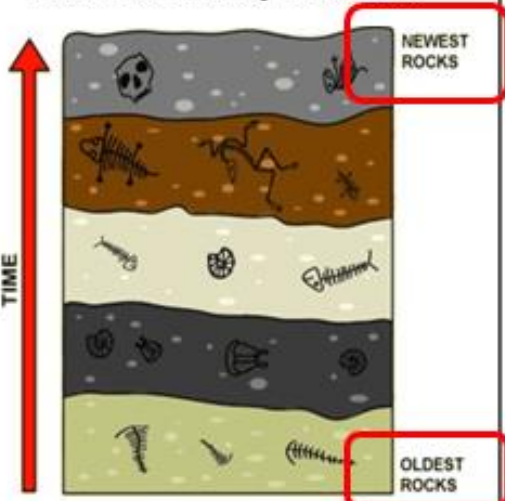
p.32 Section on Fossils (including image and paragraph that comes after)

Module 1, Lesson 2 (Evidence from Rocks and Fossils)

LO: Students will be able to use pictures of fossils to identify which one is the youngest.

Fossils: are the **remains** or **imprints** of living things from the past that preserved in **sedimentary rocks**.

What Fossils Tell us

Environment	Age of fossil	Rock layer age
Fossils give scientists <u>information about the environments</u> of the past.  Ammonites lived in water. Ammonites' fossils were found on dry land indicating that land was once covered by water.	Scientists can determine the <u>relative age of fossils</u> based on the layer of rock in which they are found. 	How deep an organism is buried gives clues as to <u>when the organism lived</u>. 

Unit 3

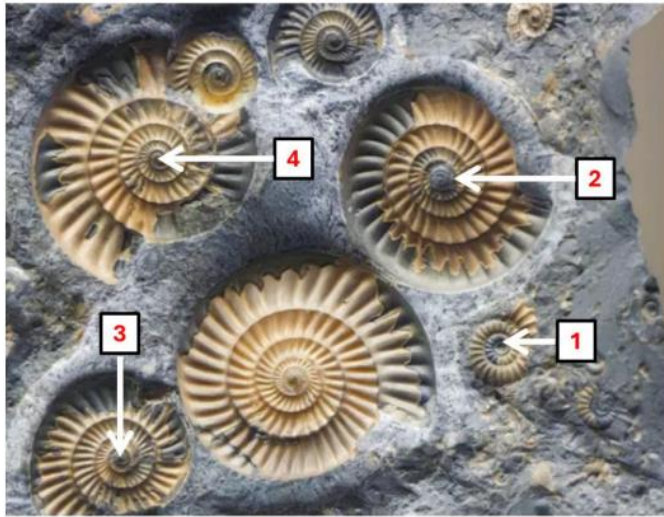
p.32 Section on Fossils (including image and paragraph that comes after)

Module 1, Lesson 2 (Evidence from Rocks and Fossils)

LO: Students will be able to use pictures of fossils to identify which one is the youngest.

Question

Which fossil, 1, 2, 3 or 4, is most likely the **youngest**?



A 1

B 2

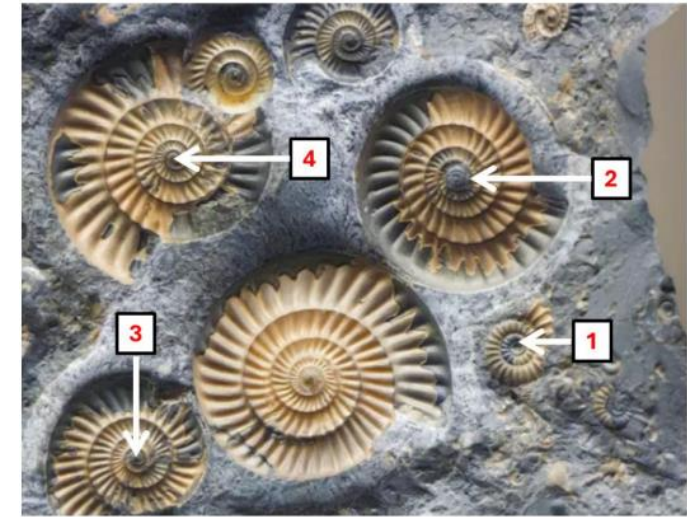
C 3

D 4

At the top

Question

Which fossil, 1, 2, 3 or 4, is most likely the **oldest**?



A 1

Deepest

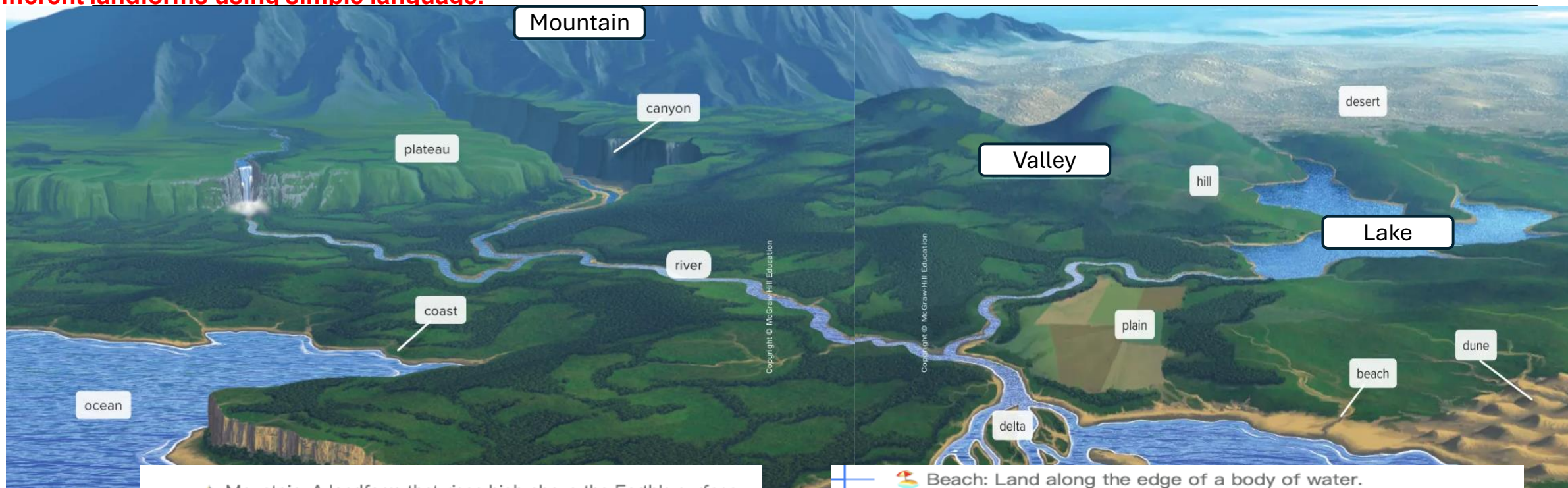
B 2

C 3

D 4

Module 1, Lesson 1 (Map Earth's Features)

LO: Students will be able to identify and name common landforms from diagrams. Students will be able to describe the characteristics of different landforms using simple language.



 Mountain: A landform that rises high above the Earth's surface.

 Hill: A natural elevation smaller than a mountain.

 Valley: The low land between hills or mountains.

 Canyon: A deep valley with high, steep sides.

 Plain: A wide, flat area.

 Plateau: Flat land higher than the surrounding area.

 Desert: An area with very little precipitation.

 Beach: Land along the edge of a body of water.

 Dune: A mound of sand.

 Ocean: A large body of salt water.

 Coast: Where water meets land.

 River: A natural body of moving water.

 Lake: A body of water surrounded by land.

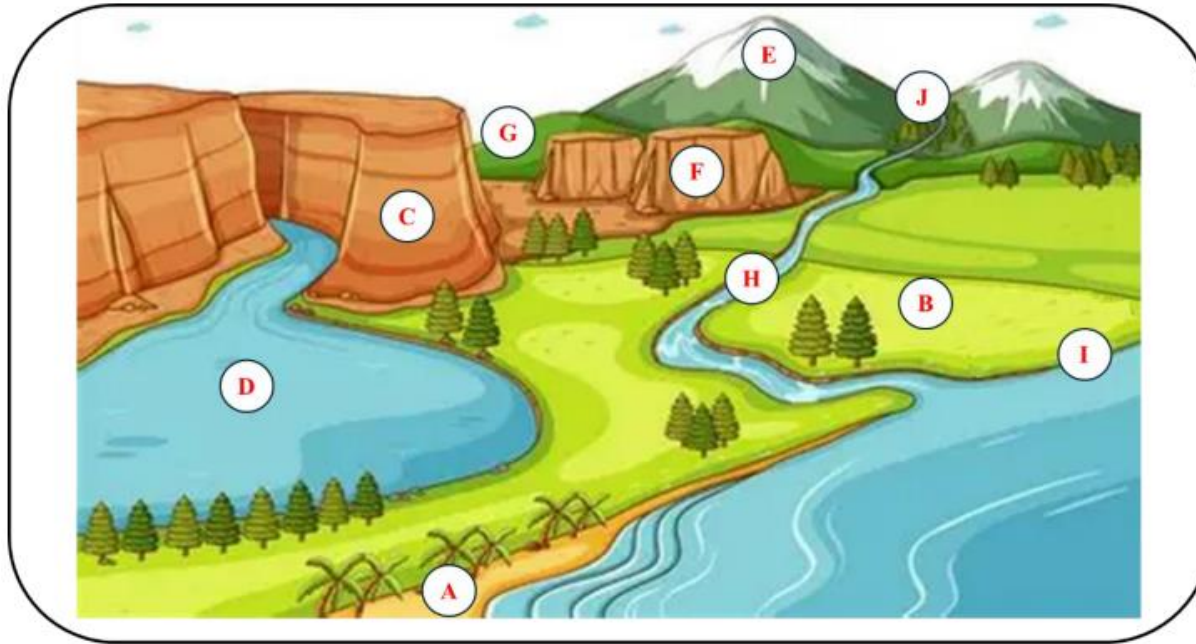
 Delta: Mass of land at the mouth of a river.

 Inlet: A narrow body of water off a larger body.

Module 1, Lesson 1 (Map Earth's Features)

LO: Students will be able to identify and name common landforms from diagrams. Students will be able to describe the characteristics of different landforms using simple language.

Question: From the image below, identify the landforms labelled A to J in the table. Then describe them.



	Landform	Description
A	Beach	Land next to water
B	Plain	Flat area
C	Canyon	Valley with steep sides
D	Lake	Water surrounded by land
E	Mountain	Highest land
F	Plateau	High flat land
G	Hill	Smaller than a mountain
H	River	Moving water
I	Coast	Where water meets land
J	Valley	Low land between mountains or hills
K	Ocean	Large body of salty water

Module 1, Lesson 3 (Changes in Landscapes Over Time)

LO: Students will be able to identify true and false statements about weathering and erosion and deposition. Students will be able to name common ways erosion and deposition happen. Students will be able to explain why fast-moving water changes land more than slowmoving water

Changes in landscapes are caused by:

Weathering, Erosion, Deposition

Weathering is the process where rocks **break** into smaller pieces. Weathering is a slow process.

التجوية هي عملية تكسّر الصخور إلى قطع أصغر وهي عملية بطيئة.



Erosion is the process where the broken rocks and soil **move** from one place to another.

التعرية هي حركة الصخور المتكسّرة والتربة من مكان إلى مكان آخر.



Deposition is the process where the moving rocks come to a **stop** and get **dropped off** in another place.



الترسيب هي توقف هذه الصخور عن الحركة وإسقاطها في مكان آخر.

Weathering:

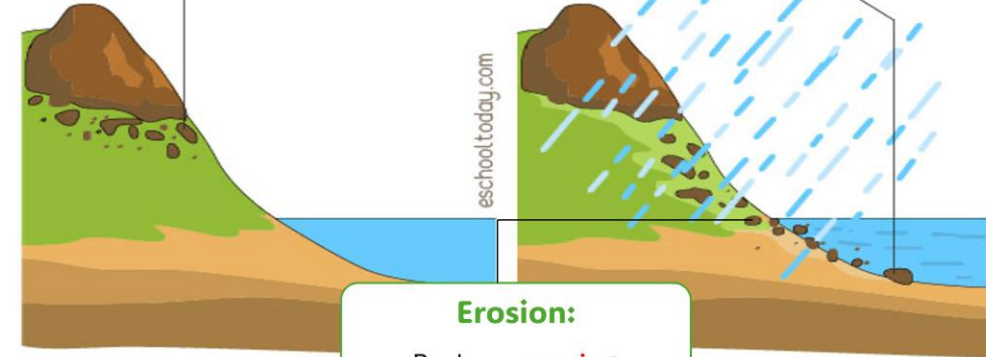
Rocks are **breaking**.

Deposition:

Rocks got **dropped off**.

Erosion:

Rocks are **moving**.



Changes in landscapes are caused by:

Weathering :

The slow process that **breaks** materials into smaller peices.



Erosion :

Movement of weathered material from one place to another.



Deposition :

Eroded soil and rock being **dropped off** in another place.



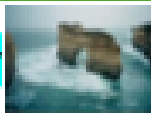
Physical Weathering:

When rocks **break** with **NO change**.

Ice



Moving wtaer



Wind



Animals



Plants roots



Chemical Weathering:

When rocks **change** its properties (color, texture, minerals)

Acids



Oxygen



Living thing



Gravity



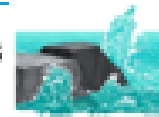
Running water (rivers)



Wind



Waves in Shorelines



Glaciers

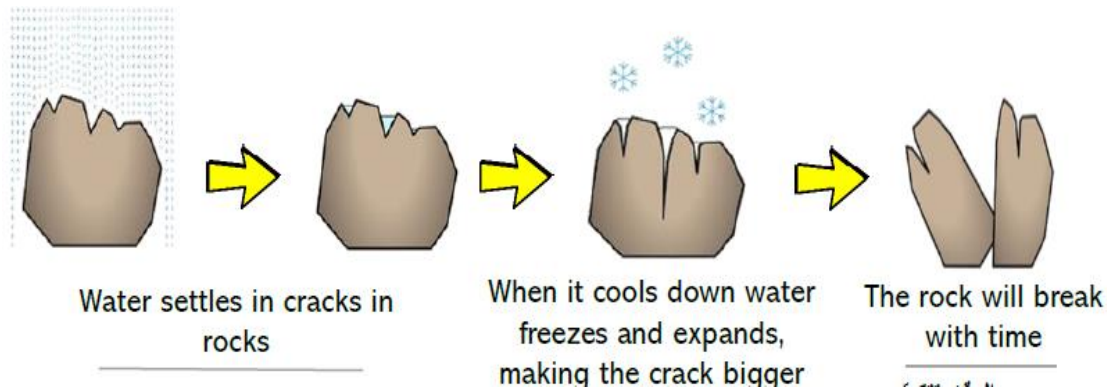


Types/Causes of Weathering:

A. Physical Weathering: Change in **size and shape** of rocks **without changing** its chemical properties, such as color, texture or minerals.

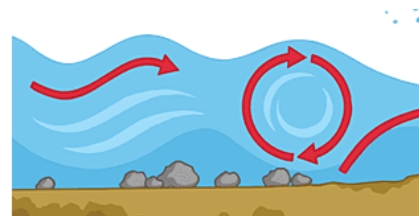
Causes/Types of physical weathering:

1. Ice



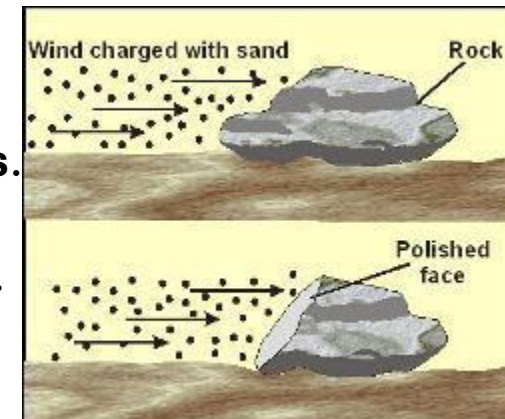
2. Moving water:

Rivers move rocks and they grind against each other causing **abrasion** and break rocks.



3. Wind

Wind blows **sand and small rocks**. Rocks grind against each other causing **abrasion** and break rocks.



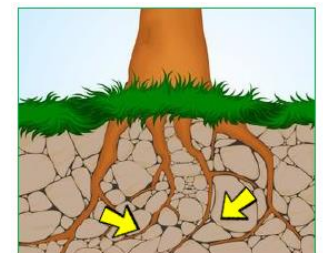
4. Animals

Gophers, worms, and ants can **break rocks** as they burrow in the ground.



5. Plant roots:

Plant roots can **grow inside rock cracks** and **split them** into pieces.



Types/Causes of Weathering:

B. Chemical Weathering: Change in **rocks** chemical properties, such as color, texture or minerals.

Causes/Types of chemical weathering:

1. Acids

Sometimes volcano's **lava** mixes with the water.
So, water becomes **acidic**.

Acidic lava + Water = Acidic water

When **acidic water** hits the rocks next to it,
it makes the **soft and break** them.



2. Oxygen

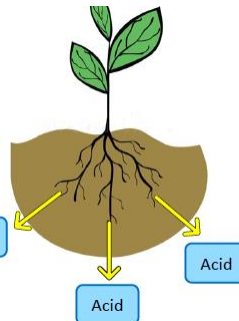
Some rocks contain **minerals** like **iron**. When these rocks are exposed to **water** and **oxygen**, they form **rust**.
Rust makes rocks **soft** and **easy to break**.

Iron + Water + Oxygen = Rust



3. Living things:

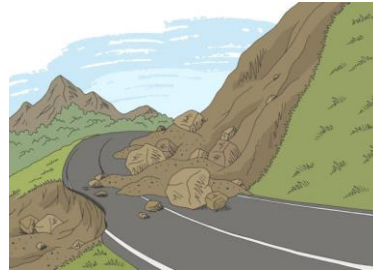
Lichens (plant-like organism) **grow on rocks**.
Lichens and **plants roots** make weak acids
that cause **chemical weathering**.



Types/Causes of Erosion and Deposition:

1. Gravity

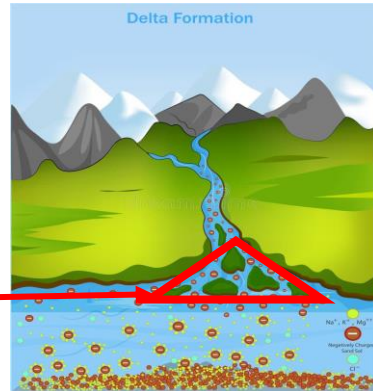
Gravity **pulls broken rocks** down the slope (mudslides, landslides and rockslides).



2. Running water

Rivers move rocks and soil as they flow (**erosion**).

Rivers deposit rocks and soil that can form **delta**.



3. Wind

Wind can **move sand** (erosion)
A **sand dune** is a **deposit** of wind blown sand.



4. Waves in Shorelines

- Waves** have a **lot of energy**, so, they can **break** solid rocks, **move** them, and **drop them off** somewhere else to make a **beach**.



This is a **headland**.
It has water on 3 sides.



Waves **break** and **erode** the rocks on the sides.



Eventually it turns into an **arch**.

5. Glaciers

When **snow** collects **quickly** it gets heavy and starts to **move**, which is called "**glacier**".

Glaciers move rocks as they move.



Erosion Effect on Living Things:

Erosion has **negative impacts** on wildlife.

It **destroys** organisms' **habitats**.

- Heavy rainfall can destroy nests and burrows.



Unit 3

Unit 3 p.48-52 Section Weathering + Section Erosion and Deposition, p.50 Erosion and Deposition by gravity, water and wind, p.51 Q.1

Module 1, Lesson 3 (Changes in Landscapes Over Time)

LO: Students will be able to identify true and false statements about weathering and erosion and deposition. Students will be able to name common ways erosion and deposition happen. Students will be able to explain why fast-moving water changes land more than slowmoving water

Question: Identify which of the following sentences are true or false.

1. Weathering is a slow process that does not break down materials into smaller pieces. (TRUE / FALSE)
2. Physical weathering does not change the minerals that make up rocks. (TRUE / FALSE)
3. Water, living things and oxygen can cause chemical weathering. (TRUE / FALSE)
4. Erosion is the movement of weathered material from place to another. (TRUE / FALSE)
5. Deposition is the process through which eroded soil and bits of rock are dropped off in another place. (TRUE / FALSE)
6. Erosion and deposition change the land. (TRUE / FALSE)

Unit 3

Unit 3 p.48-52 Section Weathering + Section Erosion and Deposition, p.50 Erosion and Deposition by gravity, water and wind, p.51 Q.1

Module 1, Lesson 3 (Changes in Landscapes Over Time)

LO: Students will be able to identify true and false statements about weathering and erosion and deposition. Students will be able to name common ways erosion and deposition happen. Students will be able to explain why fast-moving water changes land more than slowmoving water

Question: In what ways does erosion and deposition happen?

1. Gravity
 2. Running water
 3. Wind
 4. Shorelines
- Glaciers
Living things

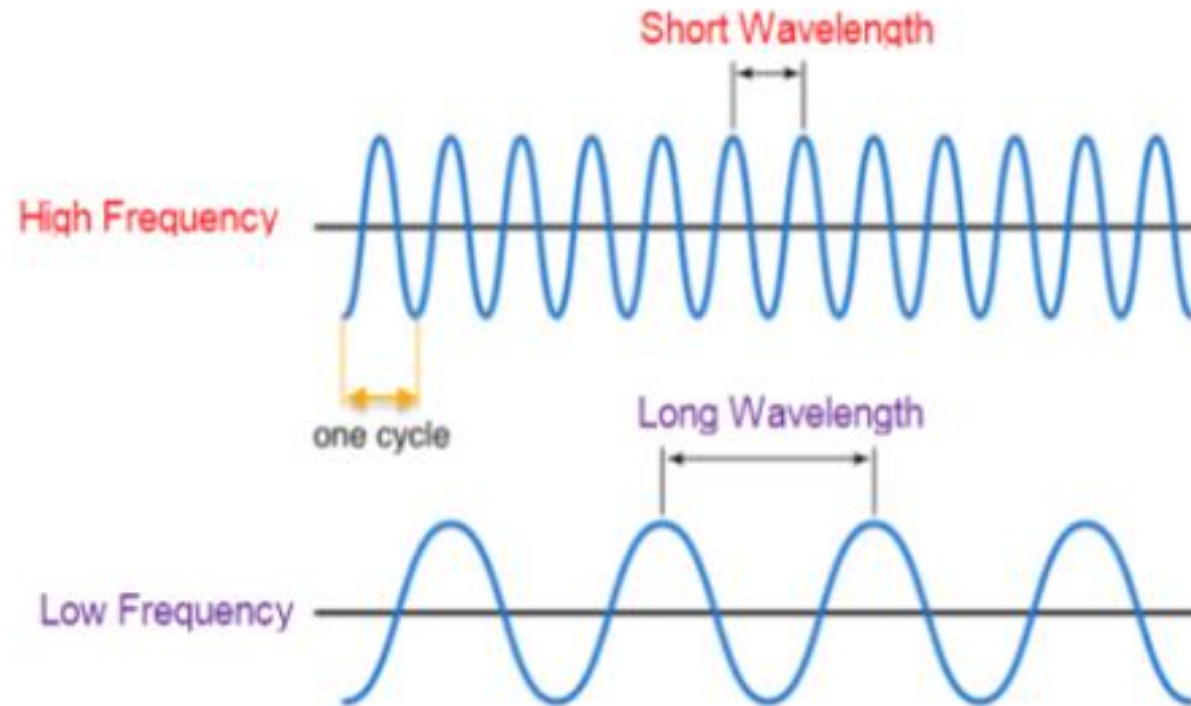
Question: Why does fast moving water have a greater effect on land?

Fast moving water has more energy so it can move
more sediments and more change land

Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to compare the wavelength and frequency of two waves traveling at the same speed. Students will be able to rank earthquake magnitudes by comparing their values.

Frequency: is how many **crests** or **troughs** move in a specific time.



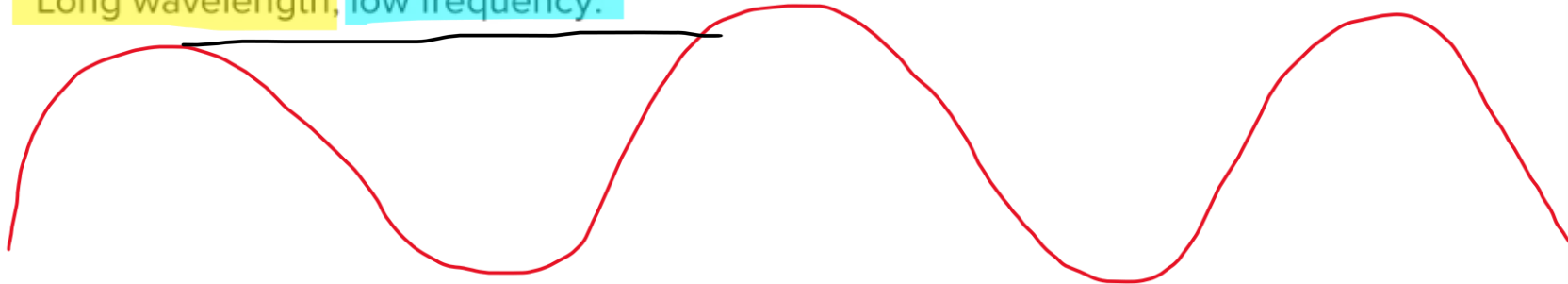
High frequency (عدد موجات أكثر)
Short Wavelength (طول موجي أقصر)
More energy (طاقة أكثر)

Low frequency (عدد موجات أقل)
Long Wavelength (طول موجي أطول)
Less energy (طاقة أقل)

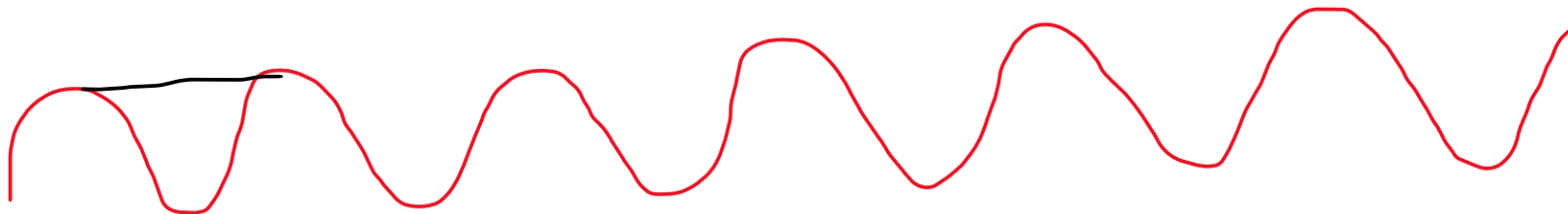
LO: Students will be able to compare the wavelength and frequency of two waves traveling at the same speed. Students will be able to rank earthquake magnitudes by comparing their values.

Question: Draw waves with the characteristics indicated below

Long wavelength, low frequency:



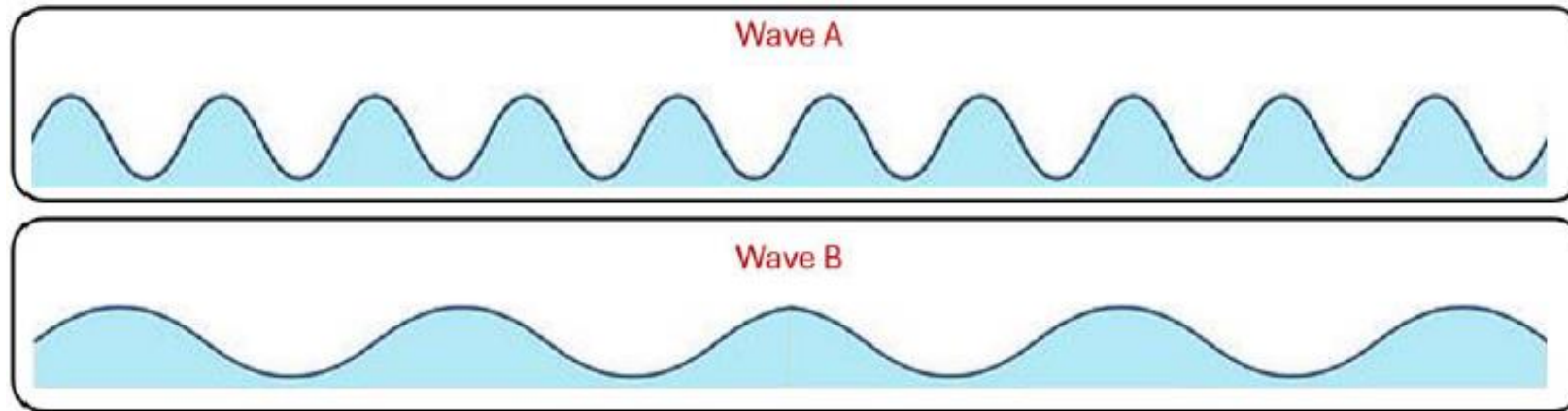
Short wavelength, high frequency:



Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to compare the wavelength and frequency of two waves traveling at the same speed. Students will be able to rank earthquake magnitudes by comparing their values.

Question: The two waves shown below travel with the same speed.



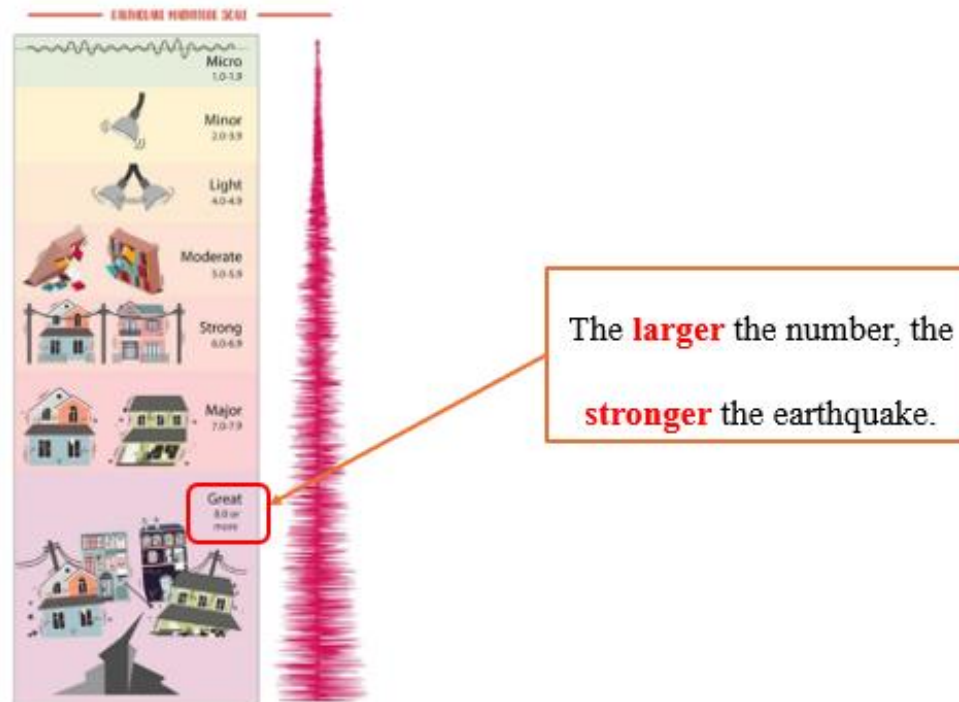
- Which wave has **longer wavelength**? Explain your answer.
Wave B, because the distance between crests is long.
.....
- Which wave has **shorter wavelength**? Explain your answer.
Wave A, because the distance between crests is short.
.....
- Which wave has **lower frequency**? **Wave B (less number of crests)**
- Which wave has **higher frequency**? **Wave A (More number of crests)**

Module 2, Lesson 2 (Model Earthquake Movement)

LO: Students will be able to compare the wavelength and frequency of two waves traveling at the same speed. Students will be able to rank earthquake magnitudes by comparing their values.

Question: Arrange the earthquakes in the table below from:

Magnitude: The **amount of energy** released by an **earthquake**.



Earthquake	Magnitude
A	6.9
B	7.8
C	4.3

a. Strongest to weakest:

B, A, C

b. Weakest to strongest:

C, A, B

Earthquake	Magnitude
A	6.9
B	6.8
C	7.3

a. Strongest to weakest:

A, B, C

b. Weakest to strongest:

C, B, A

UNIT 1

Forces and Energy

Unit 1

P. 13 Section - Balanced and Unbalanced Forces

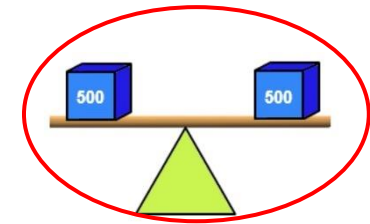
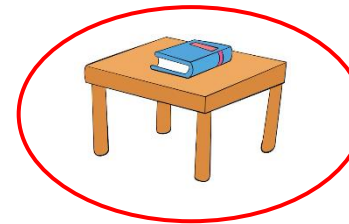
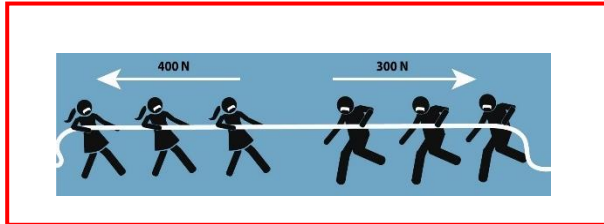
Module 1 Lesson 1 (Forces and Motion)

LO: Students will be able to identify whether forces acting on an object are balanced or unbalanced.

Balanced Force: forces working on an object **without** changing its motion.

Unbalanced Force: change the **motion** of an object.

Draw circle around pictures that represent balanced forces and square around unbalanced forces.



Question	
Unbalanced forces cause the skier's speed and _____ to change	
A	Shape
B	Direction
C	Movement



Unit 1

P. 13 Section - Balanced and Unbalanced Forces

Module 1 Lesson 1 (Forces and Motion)

LO: Students will be able to identify whether forces acting on an object are balanced or unbalanced.

Balanced Force: forces working on an object **without** changing its motion.

Unbalanced Force: change the **motion** of an object.

1) The boy dropped a ball.

Balanced

Unbalanced



2) A tower is sitting on a table.

Balanced

Unbalanced



3) The car is pushed on the floor.

Balanced

Unbalanced

4) Two children are fighting over a teddy bear. The teddy bear is not moving.

Balanced

Unbalanced



5) The puzzle pieces are laying on the floor.

Balanced

Unbalanced

6) The blocks are knocked over and are falling to the floor.

Balanced

Unbalanced

7) The girl is rocking on the horse.

Balanced

Unbalanced



Unit 1

P. 15 Section - Friction

Module 1 Lesson 1 (Forces and Motion)

LO: Students will understand the concept of friction and its effects on moving objects.

Friction: a force between surfaces that **slows down** objects or **stops** them from moving.

Question	
A force between surfaces that slows down objects or stops them from moving is called _____	
A	Gravity
B	Inertia
C	Friction
D	Speed

Question	
What is the effect of friction ?	
A	Make objects move faster
B	Make objects move slower or stop them from moving
C	Have no effect on movement

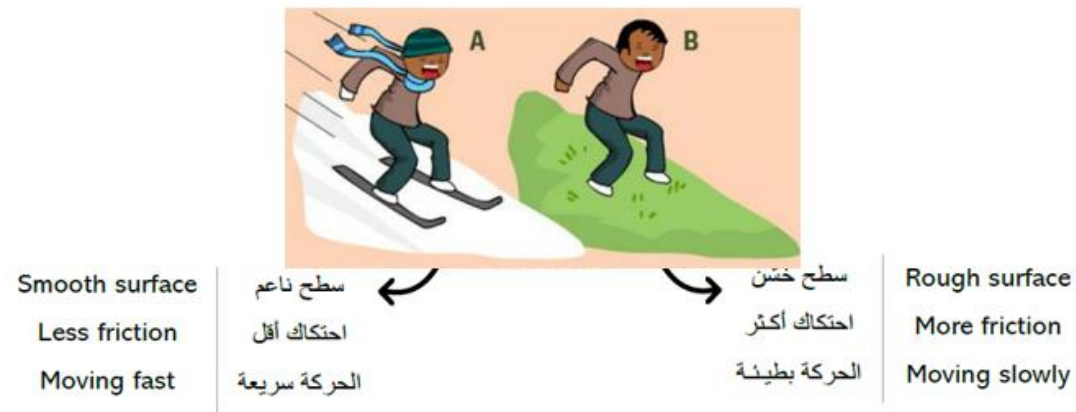
Unit 1

P. 15 Section - Friction

Module 1 Lesson 1 (Forces and Motion)

LO: Students will understand the concept of friction and its effects on moving objects.

Friction: a force between surfaces that **slows down** objects or **stops** them from moving.



Question	
Heavier objects have _____ friction.	
A	More
B	Less
C	The same

Question	
Smooth surface have _____ friction than rough surfaces.	
A	More
B	Less
C	The same

Unit 1

P. 10 Section - Speed

Module 1 Lesson 1 (Forces and Motion)

LO: Students will be able to identify the correct units used to measure a given quantity.

Speed: how **fast** an object changes position over time.

Calculate speed: distance over time travelled .

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

Units of speed:

Distance: meter (m)
kilometer (km)
mile (mi)

Time: Seconds (s)
hour (h)

Speed: meters per seconds (m/s)
Kilometers per hour (km/h)
Miles per hour (mph)

Question	
In what units can you measure distance ?	
A	Seconds
B	Liters
C	Kilometers

Question	
In what units can you measure time ?	
A	Meters
B	Hours
C	Miles

Question	
In what units can you measure speed ?	
A	Km
B	Hours
C	Km/h

Unit 1

P. 11 Section - Acceleration

Module 1 Lesson 1 (Forces and Motion)

LO: Students will be able to define acceleration as a change in velocity.

Acceleration: a change in velocity over time.

Velocity: speed and direction of an object.

Question

Acceleration is a change in _____ over time.

A Motion

B Speed

C velocity

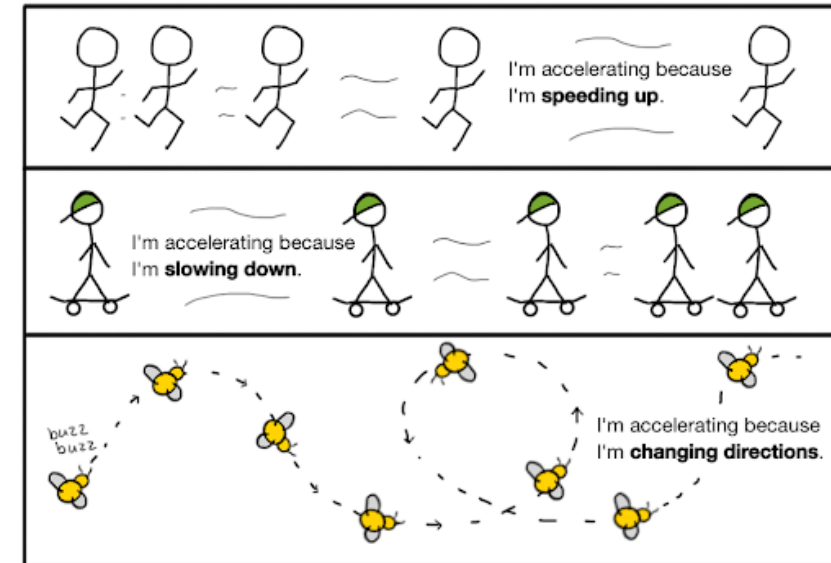
Question

A change in velocity over time is called _____

A Motion

B Speed

C Acceleration



Question

A change in an object's speed or direction is called _____

A Motion

B Speed

C Acceleration

Unit 1

P. 12 (1st paragraph)

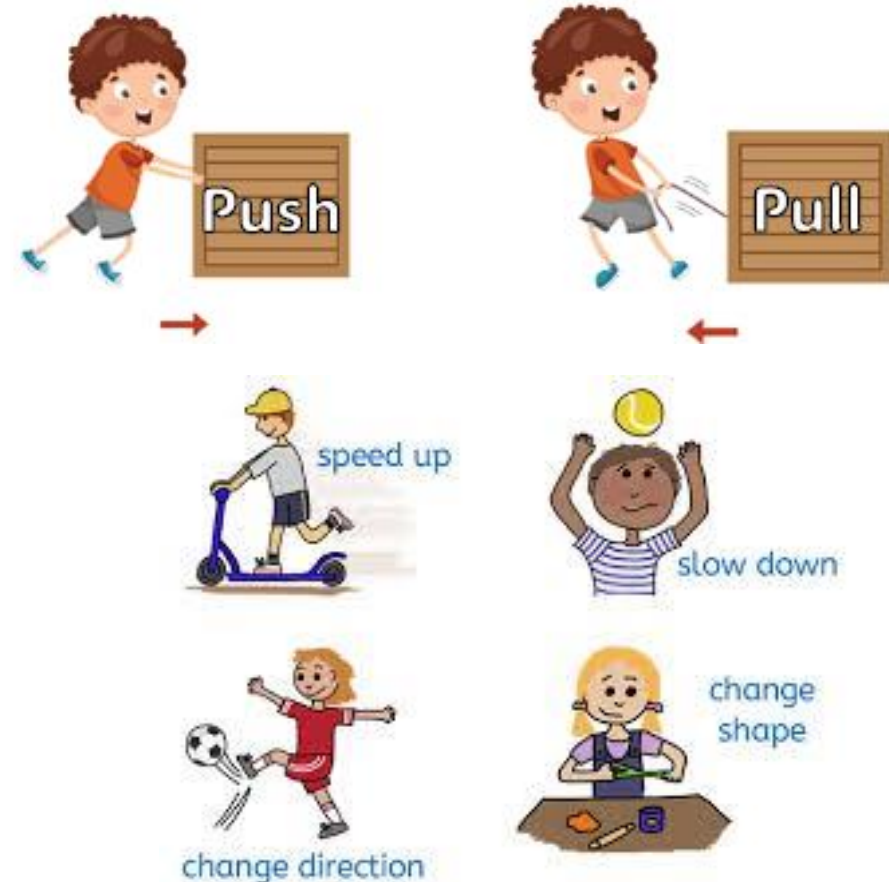
Module 1 Lesson 1 (Forces and Motion)

LO: Students will be able to define a force as a push or a pull.

Force: any **push** or **pull**. Can cause an object to start moving, stop moving, change direction, speed up or slow down

Question	
Pushing a door is a type of ____	
A	Direction
B	Force
C	Place

Question	
Any pull or push is a ____	
A	Direction
B	Time
C	Force



Unit 1

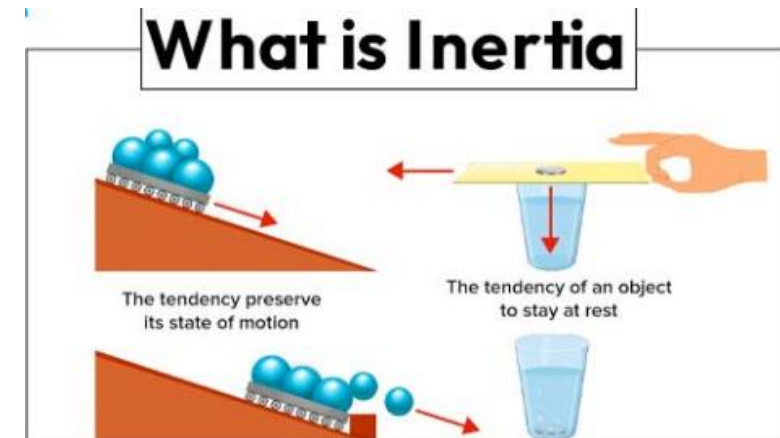
P. 13 (5th paragraph)

Module 1 Lesson 1 (Forces and Motion)

LO: Students will understand the concept of inertia as the tendency of objects to keep doing what they are doing

Inertia: the tendency of an **object in motion to stay in motion** or an **object at rest to stay at rest**.

Question	
Which of the following describes the tendency of an object to stay in motion or of an object at rest to stay at rest ?	
A	Gravity
B	Inertia
C	Momentum



Unit 1

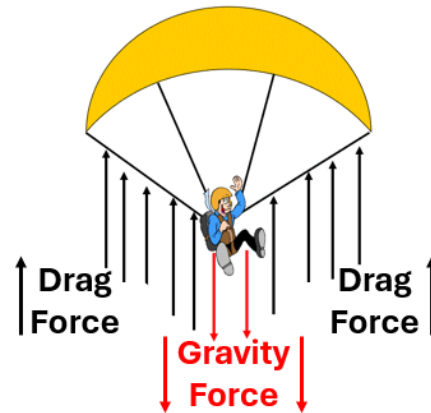
P. 15 Section - Friction P 21 Q3

Module 1 Lesson 1 (Forces and Motion)

LO Students will understand how changing drag forces affect the motion of objects in motion

Drag forces: acts with solids against gases or fluids.

Drag force (or air resistance)
is just like friction.
Drag force pulls the object
in the opposite direction



Drag Force Example

An Airplane Flying



Question

If the **drag forces** are **increased**, then an object will fall _____

A More slowly

B Faster

C At the same speed

Question

If the **drag forces** are **decreased**, then an object will fall _____

A More slowly

B Faster

C At the same speed

Unit 1

Unit 1 p.30 Section: Stored Energy, p.31 Section Energy in Motion, p.39 Q 2

Module 1 Lesson 2 (Speed and Energy)

LO: Students will be able to recognize when an object has only potential energy, only kinetic energy, or both at the same time.

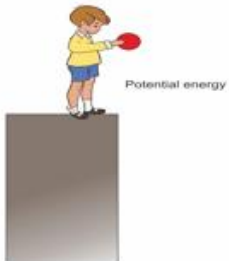
Stored energy (potential energy): is energy that is **stored** inside an object.

Energy of Motion (kinetic energy): the energy an object has because it is **moving**.

Stored energy (potential energy)

The energy that is **stored** inside an object.

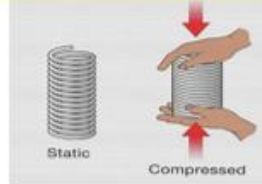
Objects above a surface



Stretched objects



Compressed spring

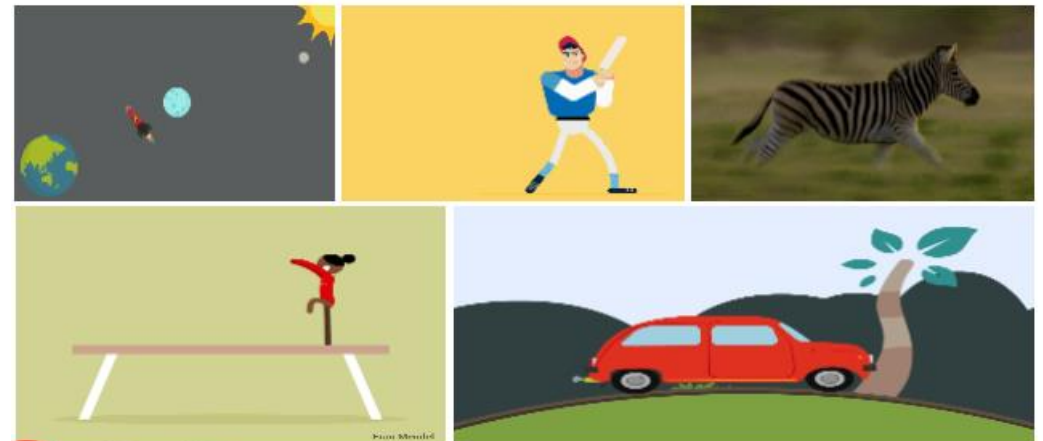


Still Objects



Energy of Motion (kinetic energy)

The energy an object has because its **motion**.



Unit 1

Unit 1 p.30 Section: Stored Energy, p.31 Section Energy in Motion, p.39 Q 2

Module 1 Lesson 2 (Speed and Energy)

LO: Students will be able to recognize when an object has only potential energy, only kinetic energy, or both at the same time.

Stored energy (potential energy): is energy that is **stored** inside an object.

Energy of Motion (kinetic energy): the energy an object has because it is **moving**.

Question	
What form of energy does an apple have on the branch of a tree ?	
A	Stored energy
B	Energy of motion
C	Both stored and energy of motion



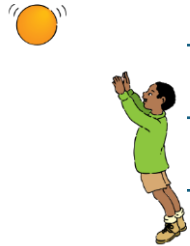
Question	
An airplane in flight has _____.	
A	Stored energy because it is above the ground
B	Energy of motion because it is moving
C	Both stored and energy of motion



Question	
What form of energy does a car in motion on a flat road have?	
A	Stored energy
B	Energy of motion
C	Both stored and energy of motion



Question	
A ball is thrown upwards . What form or forms of energy does it have as it moves away from the ground ?	
A	Stored energy because it is above the ground
B	Energy of motion because it is moving
C	Both stored and energy of motion



Unit 1

Unit 1 p.30 (1st paragraph)

Module 1 Lesson 2 (Speed and Energy)

LO: Students will be able to recall the definition of energy

Energy: the ability to **do work**.

Question	
Which statement is true about energy ?	
A	Energy makes things stop
B	Energy helps things do work
C	Energy is not needed to move

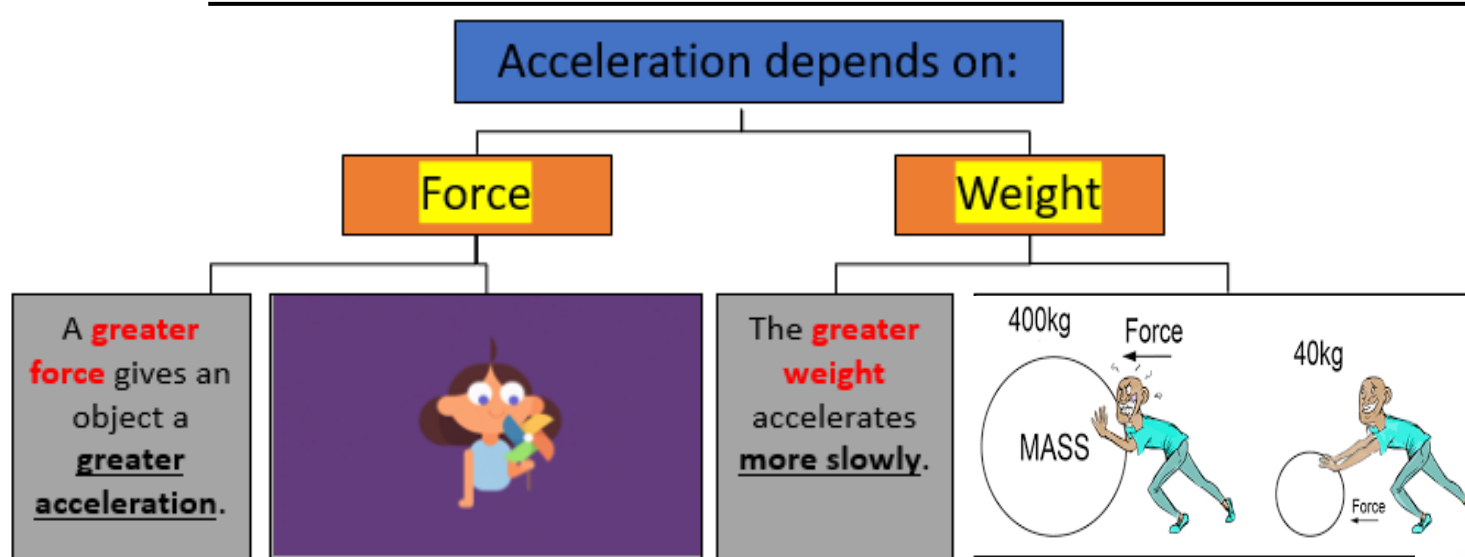
Question	
The ability to do work is called _____	
A	Force
B	Energy
C	Acceleration

Unit 1

Unit 1 p.12 Label a Diagram Activity

Lesson 1 (Speed and Energy)

LO: Students will understand the relationship between force, mass, and acceleration. Students will know how to calculate average speed using distance and time



Label a Diagram: Force and Acceleration

Use what you learned in the paragraph above to draw arrows that show the acceleration of each cart. Draw a longer arrow to represent greater force and a shorter arrow to represent lesser force.



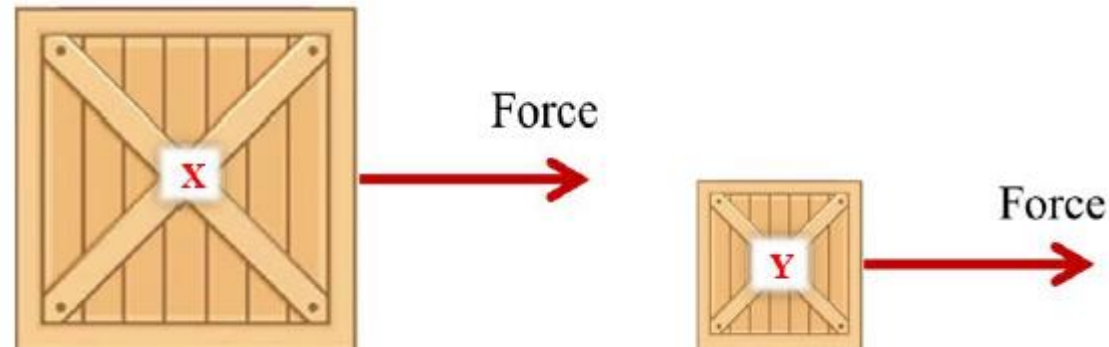
Unit 1

Unit 1 p.12 Label a Diagram Activity

Lesson 1 (Speed and Energy)

LO: Students will understand the relationship between force, mass, and acceleration. Students will know how to calculate average speed using distance and time

Question: The image below shows two crates of different masses. The crates experience the same force.



a. Which crate has **larger acceleration**? Why?

Y

because it is smaller (less weight/lighter)

a. Which crate has **lower acceleration**? Why?

X

because it is bigger (more weight/heavier)

Lesson 1 (Speed and Energy)

LO: Students will understand the relationship between force, mass, and acceleration. Students will know how to calculate average speed using distance and time

To measure speed:

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

A boy is driving his car. He travels 50 Km in 10 minutes. Calculate his speed.

$$\text{Speed} = \frac{50}{10}$$

$$\text{Speed} = 5 \text{ km/m}$$

Distance: meter (m)

kilometer (km)

mile (mi)

Time: Seconds (s)

hour (h)

Speed: meters per seconds (m/s)

Kilometers per hour (km/h)

Miles per hour (mph)

Question: If a car travels **360 kilometers** in **3 hours**, what was the car's average **speed**?

$$\text{Speed} = \text{distance/time}$$

$$= 360 \text{ km} / 3 \text{ h}$$

$$= 120 \text{ km/h}$$

Question: If a car travels **250 kilometers** in **2 hours**, what was the car's average **speed**?

$$\text{Speed} = \text{distance/time}$$

$$= 250 \text{ km} / 2 \text{ h}$$

$$= 125 \text{ km/h}$$