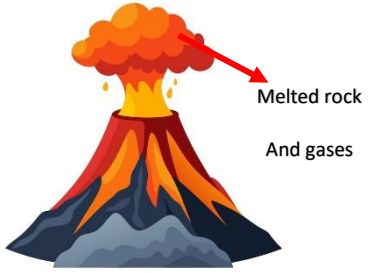
حل أسئلة مراجعة عامة وفق الهيكل الوزاري منهج انسباير

1	Students will be able to describe what a volcano is and what comes out of it.	Unit 3 p.19 (2nd Paragraph).	1a, 1b

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



2	Students will be able to identify whether forces acting on an object are balanced or unbalanced.	Unit 1 p.13 Section: Balanced and Unbalanced Forces	2a, 2b

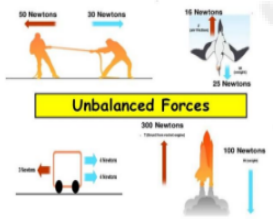
Balanced and unbalanced forces

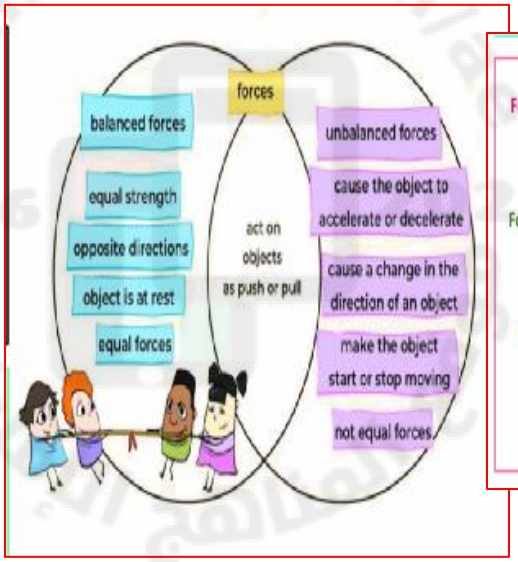
Balanced forces: are forces that cancel each other out when acting together on an object

- Sometimes balanced forces are equal in size and opposite in direction
- When object is sitting still, all forces acting on it are balanced
- When objects are moving in constant speed (سرعة ثابتة) they are also balanced
- Balanced forces don't cause change in motion

Unbalanced force: forces that are not equal

- If there is more than one force acting on an object, then the total of all forces determines the direction of motion





Force act in the same direction produce strong force.

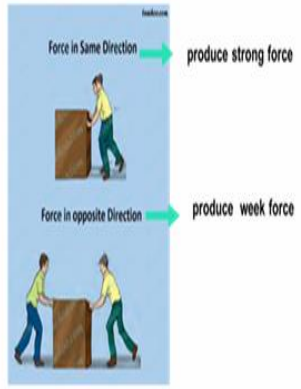
قوة تعمل بنفس الاتجاه تنتج قوة قوية .

Force act in opposite direction produce weaker force.

قوة تعمل بعكس الاتجاه تنتج قوة ضعيفة.

The total force of an object is the sum of all forces acting on an object.

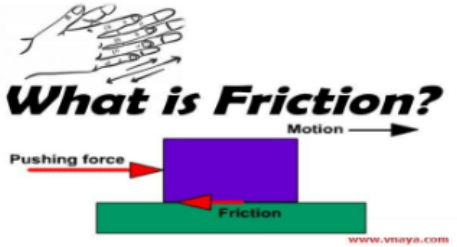
القوة الكلية لجسم هي مجموع كل القوى المؤثرة على الجسم.



3	Students will understand the concept of friction and its effects on moving objects.	Unit 1 p.15 Section: Friction	3a, 3b

Friction force: is a force that occurs when one object rubs against another object

- Friction pushes against moving objects.
- Friction makes the moving object slows down.
- Smooth surfaces (as: ice) have less friction (hard to stop)
- Rough surfaces (as: sand) have more friction (easily to stop)



- Friction acts on solids against solids.
- Heavier objects have more friction = they have greater force

Air resistance:
مقاومة الهواء

Air hit the object and slow them down.
يصطدم الهواء بالجسم ويبطئه

Air resistance increase with velocity.
مقاومة الهواء تزداد بازدياد السرعة.

- **This is why a feather falls slower than a pencil.**
- **Without air the two fall at the same rate.**

4	Students will be able to identify the correct units used to measure a given quantity.	Unit 1 p.10 Section Speed	4a, 4b, 4c

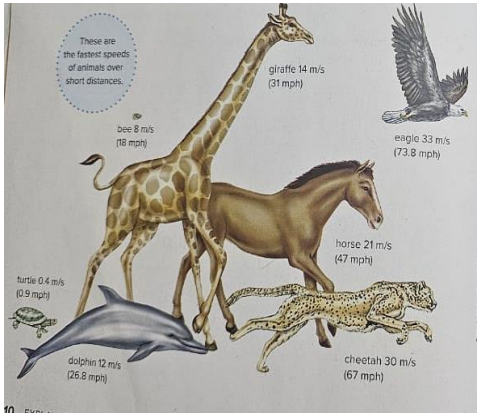
Speed: how fast an object's position changes over time. Unite of speed is unit distance per unit of time, example: (m/s) (km/h) (mph). وحدة

السرعة هي: مدى سرعة تغير موضع الجسم بمرور الوقت. وحدة السرعة هي وحدة المسافة على(÷) وحدة الوقت.

In what units can you measure distance?
meters, kilometers and miles

In what units can you measure time?
Meters per hour kilometers per hour miles per hour

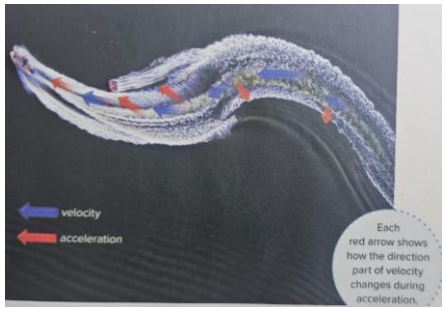
In what units can you measure speed?
Meters per second, kilometers per hour, miles per hour

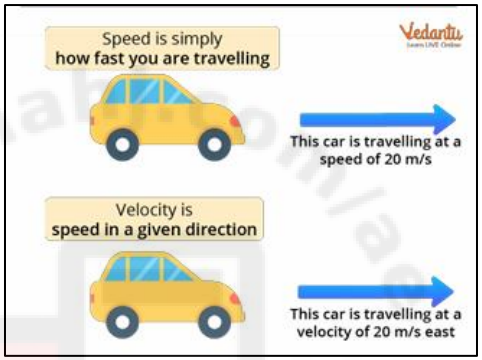


5	Students will be able to define acceleration as a change in velocity.	p.11 Section: Acceleration	5a, 5b

Acceleration: a change of velocity over time. **Object accelerate by:- speed up, slow down, or change direction.**

العجلة : التغير في التسارع بمرور (على ÷) الوقت. يتسارع الجسم (العجلة) من خلال: - الإسراع أو الإبطاء أو تغيير الاتجاه.





What is acceleration?
a change in velocity

What is velocity?
the speed and direction of an object

6	Students will be able to define a force as a push or a pull.	Unit 1 p.12 (1st Paragraph)	6

Force: any push or pull. **القوة :** أي سحب أو شد.

Cause object to start moving, change direction, speed up, slow down, or stop.

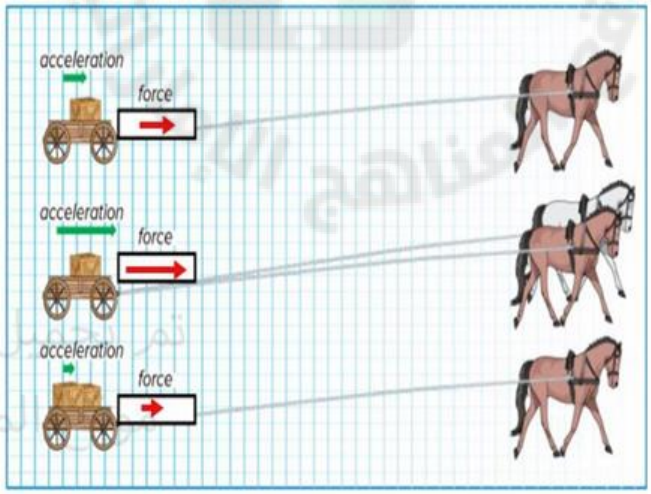
تجعل الكائن يبدأ في التحرك ، أو تغيير الاتجاه ، أو الإسراع ، أو الإبطاء ، أو التوقف.

Acceleration depend on amount of force and weight.

العجلة تعتمد على القوة و الوزن.

More force → More acceleration **(fast)**.

More weight → less acceleration **(slow)**.



7	Students will understand the concept of inertia as the tendency of objects to keep doing what they are doing	Unit 1 p.13 (5th Paragraph)	7

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

القصور الذاتي: هو ميل الجسم المتحرك للبقاء متحركاً أو ميل الجسم الساكن للبقاء ساكناً.

8	Students will understand how changing drag forces affect the motion of objects in motion	Unit 1 p.15 Section: Friction, p.21 Q3	8a, 8b

Drag forces:

قوة السحب

Act with solid against gases or fluids.

تعمل مع الأجسام الصلبة ضد السائلة او الغازية.

Larger surface have more drag.

الأسطح الكبيرة لديها قوة سحب أكبر.

- **This is why water can slow down a rock that is dropped into water**

If drag forces are **DECREASED** the object will fall

A. more slowly

B.faster

C-at the same speed

D-rapidly and then slow down

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

A. more slowly

B. faster

C. roughly at the same speed

D. rapidly and then slow down

9	Students will be able to recognize when an object has only potential energy, only kinetic energy, or both at the same time.	Unit 1 p.30 Section: Stored Energy, p.31 Section Energy in Motion, p.39 Q 2	9a, 9b, 9c

Kinetic

Kinetic Energy = Energy of Motion

الطاقة الحركية = طاقة الحركة

Because of the object movement.

بسبب حركة الجسم.

Depend on :

- Speed السرعة

Increases with increasing speed.

تزداد مع ازدياد السرعة

- Mass الكتلة

Object with greater mass has more kinetic energy.

الجسم ذو الكتلة الأكبر لديه طاقة حركية أكبر.

An airplane has kinetic energy and potential energ

Potential energy when it is NOT MOVING

Kinetic energy when it IS MOVING

Stored energy: is stored inside an object is called **potential energy.**

Not using now, but later.

What form of energy does a car in motion on a flat road have? (Answer in terms of stored and/or kinetic energies.)

A car in motion has kinetic energy. When the car is not moving it has potential energy

What form of energy does an apple have on the branch of a tree? (Answer in terms of stored and/or kinetic energies.)

It has stored energy because it is not moving

A ball is thrown upwards. What form or forms of energy does it have as it moves away from the ground? Explain your answer. (Answer in terms of stored and/or kinetic energies.)

When the ball moves up it has kinetic energy

The faster an object moves, the greater its energy.

The energy of motion is _____

- ○ determined by an object's position above a surface
- ○ increased as your speed decreases
- ○ decreased as your velocity increases
- ○ not determined by an object's position above a surface

Stretching a coil or spring increases its ___.

- ○ potential energy
- ○ kinetic energy
- ○ direction
- ○ speed

2. An airplane in flight has

- A. stored energy because it is above ground.
- B. energy of motion because it is moving.
- C both stored energy and energy of motion.
- D. None of the above

Suppose you are riding a bike. As you increase speed, your ____

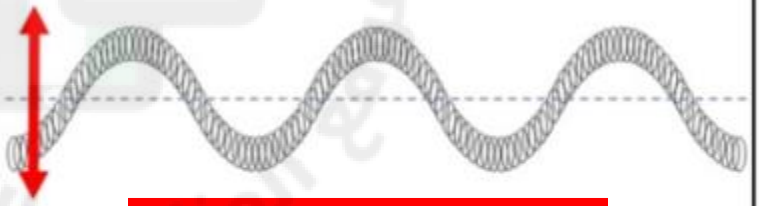
- ○ energy of motion increases
- ○ energy of motion decreases
- ○ stored energy increases
- ○ energy is used up

10	Students will be able to recall the definition of energy	Unit 1 p.30 (1st paragraph)	10

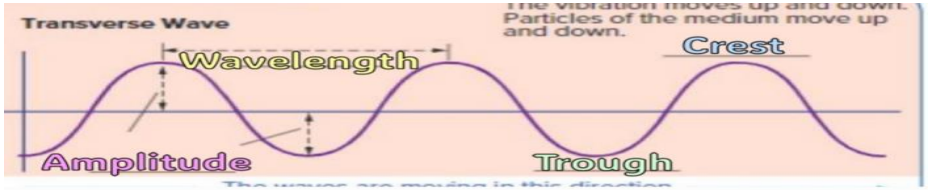
You just learned about how forces can change motion. Any force requires energy. **Energy** is the ability to do work. It can make an object move or change. Scientists classify energy into two main forms: stored energy and energy of motion.

What is energy?
Energy is the ability to do work

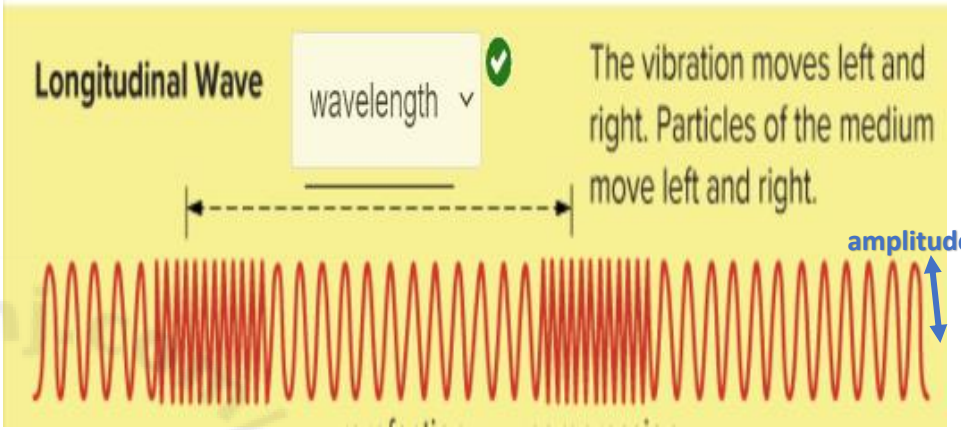
11	Students will be able to identify how particles move in transverse and longitudinal waves.	Unit 3 p. 94 (2nd Paragraph)	11a, 11b

Longitudinal Wave	Transverse Wave
	
Moves back and forth	Moves up and down
Faster than transverse waves	Slower than longitudinal waves
Causes less damage	Causes more damage

12	Students will be able to identify and label the main parts of transverse and longitudinal waves, including wavelength and amplitude.	Unit 3 p.95 Wavelength, Amplitude p.96 Label diagram activity	12a, 12b



Crest	Trough	Wavelength	Amplitude
The highest point in a wave	The lowest point in a wave	The distance from crests or troughs	The height from crest/trough to the midpoint



13	Students will be able to read and interpret data from tables to answer questions about earthquake magnitudes.	Unit 3 p.101 Q1, Q2	13a, 13b, 13c, 13d

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

1. According to the data, which decade experienced the most earthquakes?

The 1980s experienced the most earthquakes.

2. What patterns can you identify in the intensity of past earthquakes?

About every 20 years, we have a major earthquake.

14	Students will understand that large land masses on Earth are called continents.	Unit 3 p.14 (2nd Paragraph)	14

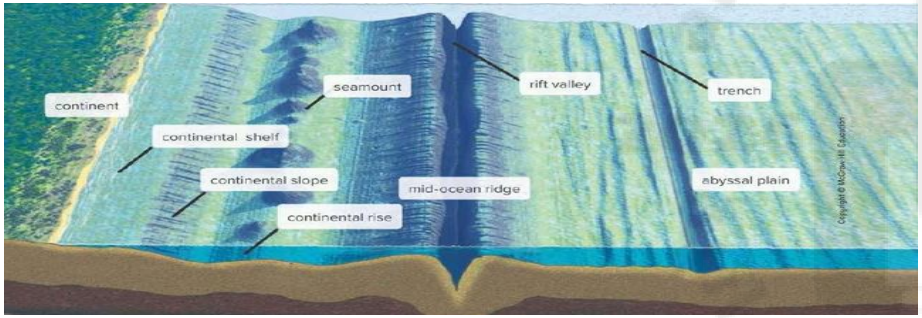
A **continent** is a large landmass.

15	Students will be able to identify the physical feature that is found near the edge of a continent.	Unit 3 p.25 Q.1	N/A

1. Which feature is most likely to occur near the edge of a continent?
   A. plain
   B. mountain
   C. lake
   D. abyssal plain

Near plate boundaries	Not near plate boundaries
Earthquakes	Abyssal plain
Volcanoes	
Mountains	

16	Students will be able to identify and name parts of the ocean floor.	Unit 3 p.14-15 Section Ocean Features, p.14 Q.1. p.14 Q.2	Questions 16,17 (Labelled Image)



Ocean Features تضاريس قاع المحيط

Continent: Large landmass. قارة ارض كبيرة جدا
Ocean: Large bodies of salt water. محيط مياه مالحة
Seamount: Mountain inside ocean. جبل بحري
Trenches: Deepest part of ocean floor. خندق اعمق جزء
Mid-ocean ridge: Mountain ranges in ocean. سلاسل جبال محيطية
Abyssal plain: Flat area on deep ocean floor. سهل سحيق
Rift valley: Valley down on mid-ocean ridge وادي متصدع

2. Which ocean floor features are underwater mountains?
Sample answer: Mid-ocean ridges and seamounts are both examples of ocean floor features.

Continental shelf: ocean floor

Continental slop: this land is steeper part and slops down

17	Students will be able to recognize that underwater canyons can form on the continental slope	Unit 3 p.14-15 Section Ocean Feature	Questions 16,17 (Labelled Image)

at the point where a sharp downward slope begins. This is called the *continental slope*. This land is the steeper part of the continent that slopes down toward the ocean floor. Underwater canyons can form on the continental slope.

18	Students will know ways buildings are made strong to stay safe during earthquakes.	Unit 3 p.114-115	N/A

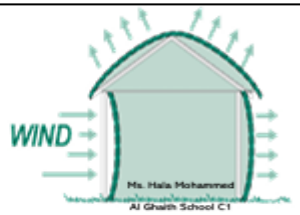
Earthquake-resistance structures used: الهياكل المقاومة للزلازل تستخدم:

Concrete metal and wood. معادن خرسانية وخشب
Rubber and steel المطاط والصلب
Motion damper المثبط الحركة
Bracing التثبيت المتقاطع
Beam عارضة
Shear wall جدار القص

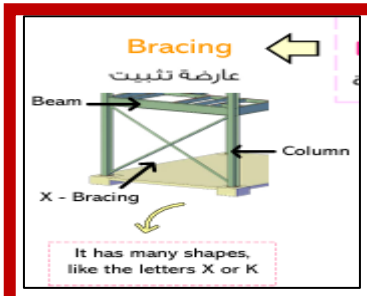
Notice how this house is not very stable because wind is pushing from the side.

A force that pushes from the side is called a lateral force. Earthquakes also apply lateral forces to buildings.

Buildings need to be strong and to resist lateral forces.



لاحظ كيف أن هذا المنزل ليس ثابتًا جدًا لأن الرياح تدفعه من الجانب. القوة التي تدفع من الجانب تسمى قوة جانبية. الزلازل أيضا تُسبّب قوى جانبية على المباني. يجب أن تكون المباني قوية ويجب أن تُقاوم القوى الجانبية



lateral forces with bracing. **Bracing** is made of diagonal pieces connecting beams and columns. Bracing comes in several shapes. Some bracing looks like the letter X. Other bracing looks like the letter K. Vertical columns

shear wall: stiff wall made of braced panels

Damper is a mass that can weigh over a million ponds

For tall building

19	Students will be able to identify areas near fault lines or tectonic plate boundaries as regions where earthquakes are most likely to occur.	Unit 3 p.19 (3rd Paragraph), p.19 Q.2, p.85 Q.1, Q.2	19

Think about patterns of earthquakes. Which number on the map shows where earthquakes are most likely to occur?

A. 1
B. 2
C. 3
D. 4

Think about the ocean floor features from page 14. Some of these features, like ocean trenches, occur where two plates push together. Mid-ocean ridges occur where two plates spread apart. As the two plates move apart, new crust forms. The mid-ocean ridges are all connected and form the most extensive underwater mountain sytem on Earth.

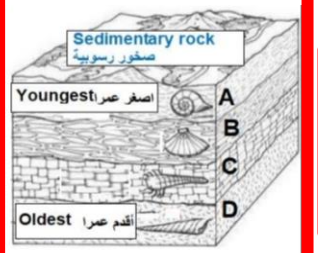
3. Use the graphic organizer to classify the location of the following features: abyssal plains, earthquakes, mountains, volcanoes.

Near Plate Boundaries	Not Near Plate Boundaries
earthquakes, mountains, volcanoes	abyssal plains

An **earthquake** is a sudden movement of Earth's crust. Like volcanoes, most earthquakes occur because of moving plates. Also, like volcanoes, earthquakes are most likely to occur near plate boundaries. You will learn more about earthquakes in the next module.

20	Students will be able to use pictures of fossils to identify which one is the youngest.	p.32 Section on Fossils (including image and paragraph that comes after)	20

Sediment: رواسب **Small pieces of rock that moved and deposited.** قطع صغيرة لصخور نُقلت وترسبت
Fossils: أحافير **Any remains or imprints of living things from past.** بقايا او طبعة لكائن حي من الماضي
Sedimentary rock: صخور رسوبية **Rock forms from small bits of materials are pressed together in layers.** صخور تكونت من أجزاء صغيرة للمواد تم ضغطها في طبقات



In Sedimentary Rocks always Lower layer is OLDEST and Upper Layer are YOUNGEST.

في الصخور الرسوبية دائما الطبقة السفلية هي الأقدم عمرا بينما العلوية هي الأحدث عمرا.

Fossil evidence provides scientists with information about: **Environment changed over time.** تفيد الاحافير العلماء بمعلومات عن تغيرات البيئة على مر الزمن

Writing questions

21	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.	Unit3 p.12-13 Landforms	21a, 21b

Mountain A landform that rises high above the Earth's surface.
Hill A natural elevation of the Earth's surface, smaller than a mountain.
Valley A valley is the low land between hills or mountains.
Canyon A canyon is a deep valley with high, steep sides.
Plain A plain is a wide, flat area.
Plateau A plateau is flat land that is higher than the land around it.
Desert A desert is an area with very little precipitation.
Beach A beach is the land along the edge of a body of water.
Dune A dune is a mound of sand.
Ocean An ocean is a large body of salt water.
Coast A coast is where a body of water meets land.
River A river is a natural body of moving water.
Lake A lake is a body of water surrounded by land.
Delta A delta is the mass of land that forms at the mouth of a river.
Inlet An inlet is a narrow body of water off a larger body of water.

الأسئلة في هذا الجزء ستكون عبارات صح أو خطأ

22	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 slow-moving water.	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	22,

Weathering: التجويه

Is the slow process that breaks down materials into smaller pieces.

هي العملية البطيئة التي تقسم المواد إلى قطع أصغر.

Weathering change size and shapes **without changing their chemical properties.**

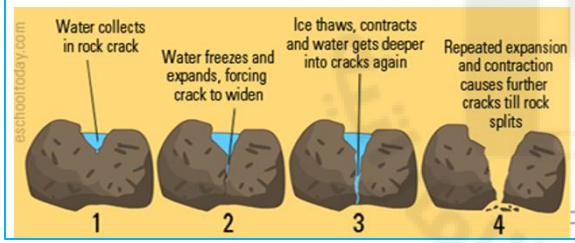
التجوية تغيير الحجم والأشكال دون تغيير خصائصها الكيميائية

Physical weathering التجوية الفيزيائية	----------	Rocks break but don't change تتكسر الصخور ولكن لا تتغير
Chemical weathering التجوية الكيميائية	----------	Rocks break and change تتكسر الصخور و تتغير

Physical Weathering by:
التجوية الفيزيائية عن طريق:

Water الماء
Abrasion تآكل
Wind ريح
Animal الحيوانات
Plants root جذور النباتات

5. Abrasion is a type of physical weathering happens by wind and water when rocks crashing together



The actions of living things, such as burrowing animals or growing plant roots, can cause weathering.

What type of force can cause abrasion?

Sample answer: The force of gravity can cause rocks to fall and cause abrasion.

Remember that in chemical weathering rocks break and their properties, like color and texture change.

Chemical Weathering (change the mineral) by:
التجوية الكيميائية (تغيير المعدن) عن طريق:

Volcano acids
Rust (iron combines with oxygen in presence of water)
أحماض بركانية
الصدأ (الحديد يجمع مع الأكسجين في وجود الماء)
Weak acid from plant (lichens)
حمض ضعيف من النبات (الأشنات)

Chemical weathering because of oxygen

Remember that rocks are made up of minerals. Some rocks are made up of iron. Iron can rust, which means these rocks can also rust!

Lichens are plant-like organisms that grow on rocks. Lichens also make weak acids as they grow. These acids can break rocks with time and cause chemical weathering.

الأشنات lichens هي كائنات حية تشبه النباتات تنمو على الصخور. تُنتج الأشنات أيضًا أحماضًا ضعيفة أثناء نموها. ويمكن لهذه الأحماض أن تكسّر الصخور بمرور الوقت وتتسبب بالتجوية الكيميائية.

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.

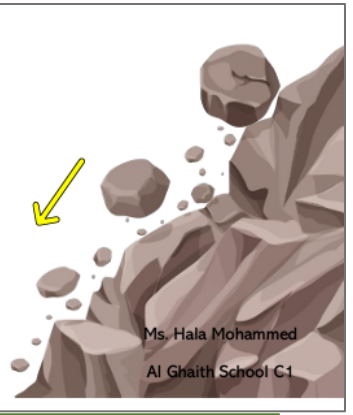
Deposition is the process where the moving rocks come to a stop and get dropped off in another place.

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

1 Erosion and Deposition because of **gravity**

Gravity is the force that pulls everything down. Rocks can roll down (erosion), then get dropped off in a new place (deposition). Remember from grade 3 that this is also called a landslide and is a natural hazard.

الجاذبية هي القوة التي تسحب كل شيء إلى الأسفل. يمكن أن تتدحرج الصخور إلى الأسفل (erosion)، ثم تسقط في مكان جديد (deposition). تذكر من الصف الثالث أن هذا يسمى أيضًا انهيارًا أرضيًا وهو كارثة طبيعية.



Gravity : (mudslide,, rockslide). Strategies to reduce landslide :

1 - building away from steep slopes.

2- redirecting surface water.

3- planting ground cover.

Running water steeper the land, the faster the water moves, has more energy, wash away large amount of heavier sediment. Form Delta

Wind: the stronger the wind blows, the larger the particles it pic up. Form Sand dune .

In Shoreline (cause by waves). Form beach

beach: is any area of shoreline made of material deposited by waves(or rivers).

Headline is an area that has water on three sides. Waves change headline into an arch.

Waves can break rocks when they hit because they carry a lot of energy (weathering).

يمكن للأمواج أن تكسر الصخور عندما تصطدم بها لأنها تحمل مقدارا كبيرًا من الطاقة (weathering).

These rocks and sand move with the waves (erosion) and can break more rocks (abrasion).

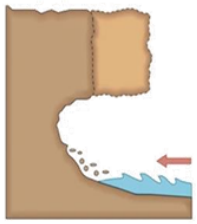
تتحرك هذه الصخور والرمال مع الأمواج (erosion) ويمكن أن تتسبب في كسر المزيد من الصخور (abrasion).

They can then get dropped off somewhere else to make a beach (deposition).

ومن الممكن بعد ذلك نقلهم وترسيبهم إلى مكان آخر لإنشاء شاطئ (deposition)

The faster the wave the more energy it has, which means it can cause more weathering and erosion.

كلما كانت الموجة أسرع، كلما زادت طاقتها، مما يعني أنها يمكن أن تسبب المزيد من ال weathering and erosion.



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.

Erosion and Deposition because of glaciers (ice)

When snow collects quickly it gets heavy and starts to move. This is called a glacier. Glaciers move rocks as they move.

عندما يتراكم الثلج بسرعة فإنه يصبح ثقيلًا ويبدأ في التحرك. وهذا ما يسمى بالglaciers. يحرّك الجليد الصخور أثناء تحركه.

Living things::الكائنات الحية
1-Sparse vegetation نباتات متفرقة
2-steep inclines منحدرات حادة

3-Heavy rain: can create new flooded for migration, can destroy nets, burrows, and reduce food source
أمطار غزيرة: يمكن أن تتسبب في فيضانات جديدة للهجرة ، ويمكن أن تدمر الجحور وتقلل من مصادر الغذاء.

1,2,3 can cause land to erode at a faster rate.
1,2,3 يمكن أن تسبب تآكل الأراضي بمعدل أسرع.

Explain how heavy rainfall can affect the land and living things in an area.

Heavy rain can erode land at a faster rate.
ويمكن للأمطار الغزيرة أن تؤدي إلى تآكل الأراضي بمعدل أسرع.

Provide new flooded areas for animals.
توفير مناطق جديدة غمرتها المياه للحيوانات.

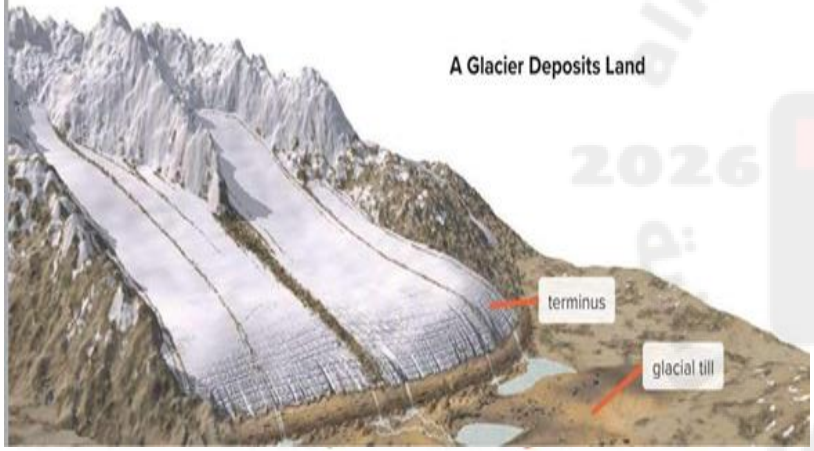
Destroy animal's homes and food sources.
تدمير منازل الحيوانات ومصادر الغذاء.

What can affect how fast land erodes?

Slop of land منحدر الأرض

Natural disaster الكوارث الطبيعية

Amount of rainfall. كمية الأمطار



Glaciers form where snow collects quickly and melts slowly. As the snow builds higher, the weight of the ice increases, and the glacier starts to move. As it moves, it tears rock from the ground. Glacial till ends up mostly at the end, or terminus, of the glacier.

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

In what ways does erosion and deposition happen?
Gravity, wind, water, glaciers and living things cause erosion and deposition

23	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.	Unit 3 p. 55 Section Feature of Waves (1st Paragraph), p.56 Q.2,	23a, 23b, 23c, 23d

Frequency: التردد

عدد الموجات

Measure of how many crests or troughs move through a given point in one unite of time.

قياس لعدد القمم أو القيعان التي تتحرك خلال نقطة معينة في وحدة زمنية واحدة.

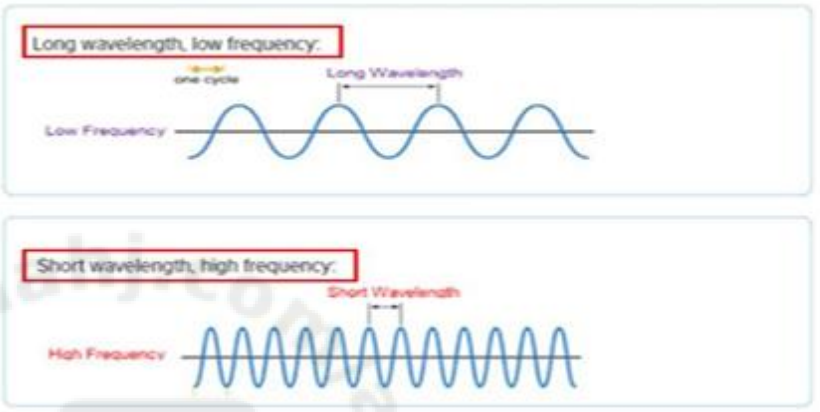
Frequency is different than speed

التردد يختلف عن السرعة

Low frequency= few # of waves عدد أقل

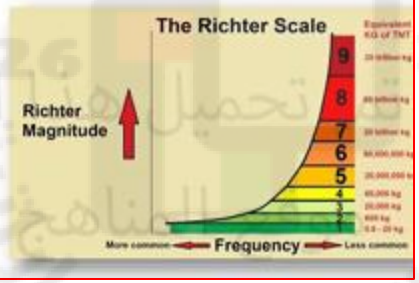
High frequency = large # of waves

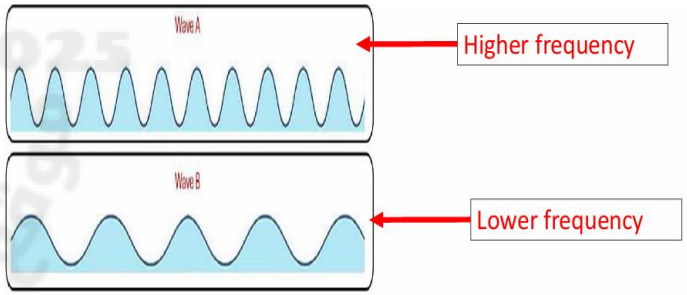
2. Draw waves with the characteristics indicated below.



Magnitude: amount of energy released by an earthquake.
الحجم: مقدار الطاقة المنبعثة من الزلزال.

Richter scale measure magnitude.
مقياس ريختر يقيس الحجم.





Arrange the earthquakes in the table below from strongest to weakest.

Earthquake	Magnitude
A	6.9
B	7.8
C	4.3

Strongest to weakest

7.8 6.9 4.3

كلما زاد الرقم زاد حجم طاقة الزلزال

Greater number = greater magnitude

24	Students will understand the relationship between force, mass, and acceleration. Students will know how to calculate average speed using distance and time	Unit 1 p.12 Label a Diagram Activity	24a, 24b, 24c, 24d, 24e, 24f, 24g, 24h

Force and motion القوة و الحركة

Force: any push or pull. القوة : أي سحب أو شد.

Cause object to start moving, change direction, speed up, slow down, or stop.

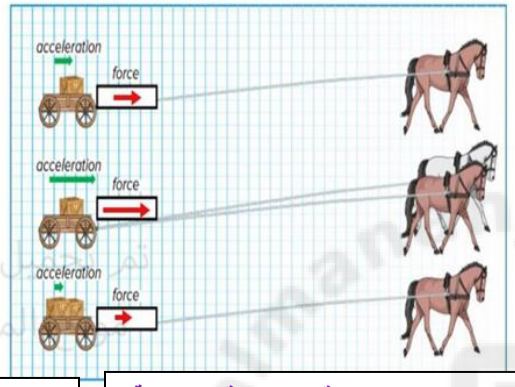
تجعل الكائن يبدأ في التحرك ، أو تغيير الاتجاه ، أو الإسراع ، أو الإبطاء ، أو التوقف.

Acceleration depend on amount of force and weight.

العجلة تعتمد على القوة و الوزن.

More force → More acceleration (fast).

More weight → less acceleration (slow)

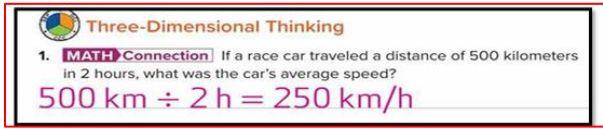


كلما زادت القوة زادت العجلة

more force = more acceleration

كلما قلت القوة قلت العجلة

less force = less acceleration



لإيجاد السرعة نقوم بتقسيم المسافة على الوقت

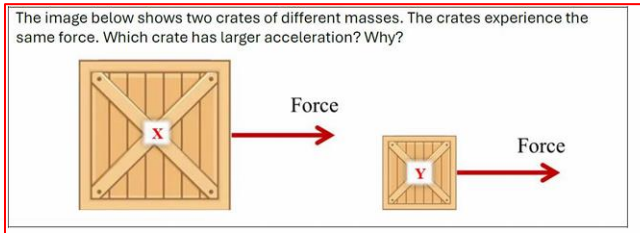
$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

DISTANCE

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

TIME

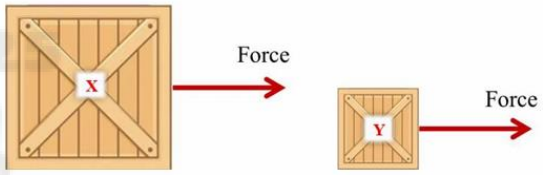
SPEED = Distance ÷ Time
SPEED = 360 ÷ 3=120
The car's speed is 120km/hour



Y has a larger acceleration. it is smaller and lighter

كلما قل الحجم زادت العجلة

less mass = more acceleration



X has a lower acceleration. it is bigger and heavier

كلما زاد الحجم قلت العجلة

more mass = less acceleration

Contact force: occur when one object touches another.
قوة الاتصال: تحدث عندما يلمس جسم آخر.

Noncontact force: occur without objects touching. Example: gravity.
قوة عدم الاتصال: تحدث بدون لمس الأشياء. مثال: الجاذبية