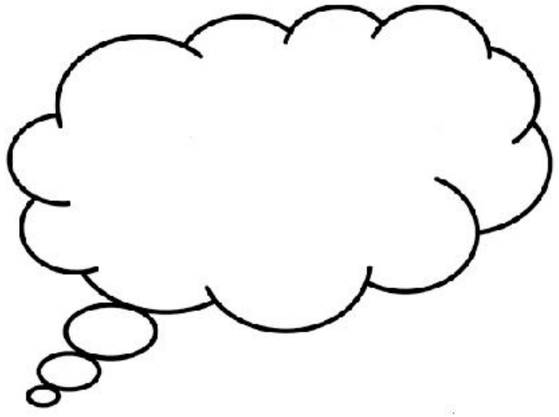
The Pebble in my Pocket

Think about what you read last week.

What did you learn about the Earth's surface 480 million years ago?

Is it like you first thought?

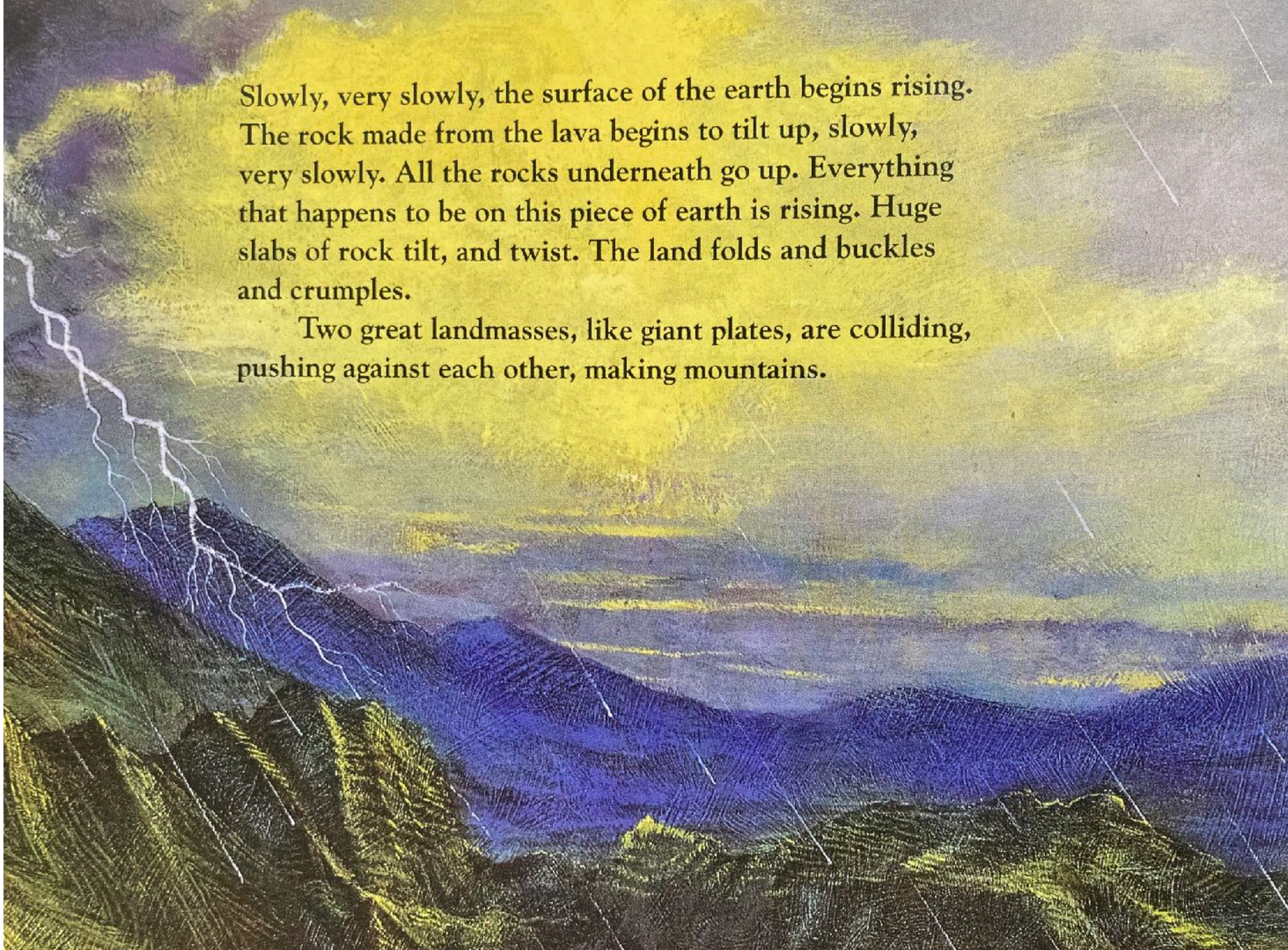


Divide your page into 3 columns using these subheadings:

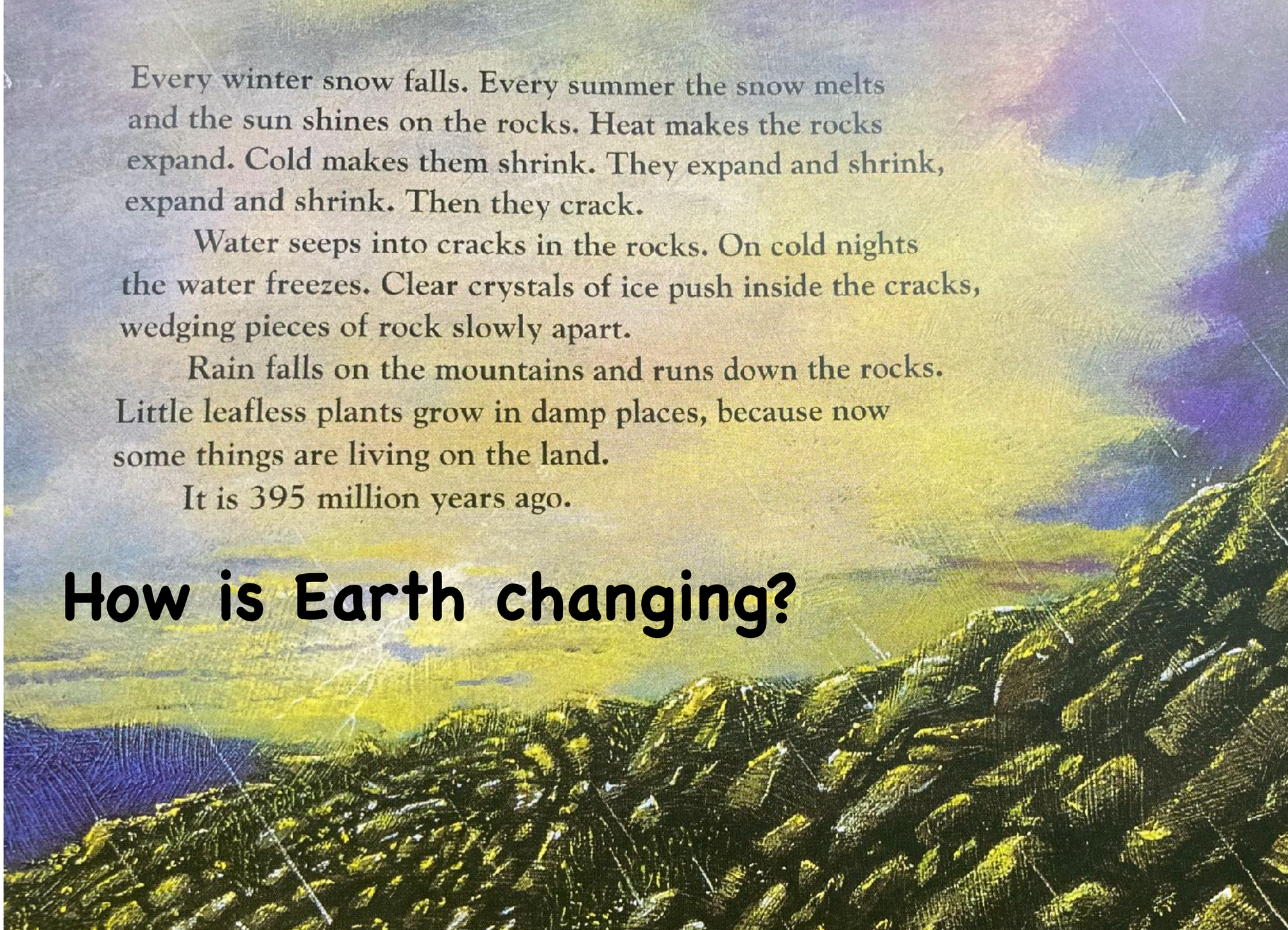
395 million years ago	390 million years ago	375 million years ago

Complete these boxes as you read on…

395 million years ago



395 million years ago

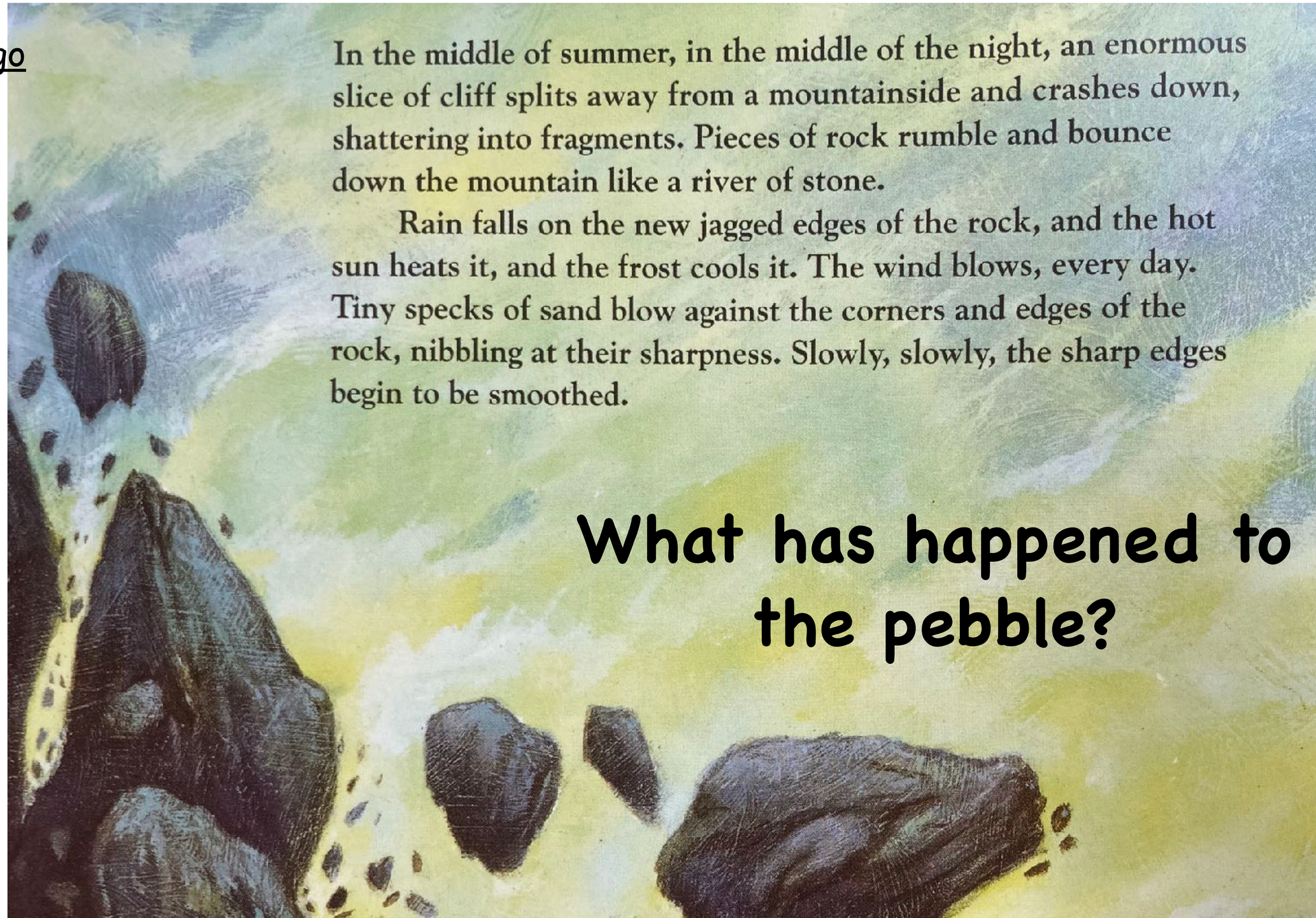


Did you find all this information?

395 million years ago

- The surface of the earth begins to rise.
- The rock (made from the lava) begins to tilt up.
- All the rocks go underneath.
- Big bits of rock tilt and twist around.
- 2 giant landmasses are colliding (pushing against each other). They make mountains.
- In winter the snow falls and then in summer the snow melts.
- In summer the rocks expand (get bigger) but then in winter they shrink (get smaller).
- Expanding and shrinking makes the rocks crack.
- Then water gets into the cracks in the rocks.
- When it is very cold, the water freezes to make ice crystals.
- The ice crystals push inside the cracks and push the rocks apart.
- Rain falls on the mountains and runs down the rocks.
- Little plants (without any leaves on) grow in the damp areas.
- This all happens VERY, VERY SLOWLY.
- Some things are living on the land now.

390 million years ago



In the middle of summer, in the middle of the night, an enormous slice of cliff splits away from a mountainside and crashes down, shattering into fragments. Pieces of rock rumble and bounce down the mountain like a river of stone.

Rain falls on the new jagged edges of the rock, and the hot sun heats it, and the frost cools it. The wind blows, every day. Tiny specks of sand blow against the corners and edges of the rock, nibbling at their sharpness. Slowly, slowly, the sharp edges begin to be smoothed.

What has happened to the pebble?

390 million years ago

Everything on the surface of the earth is slowly being eroded and broken down into smaller and smaller pieces. Boulders powder into streaks of mud. Cliffs crumble to grains of sand. The tops of mountains disintegrate into pebbles. It has always happened. It will always happen. It is happening now. All that is needed is time. And the weather.

Worm-like creatures burrow in moss jungles and millipedes shelter under the rock.

It is 390 million years ago.

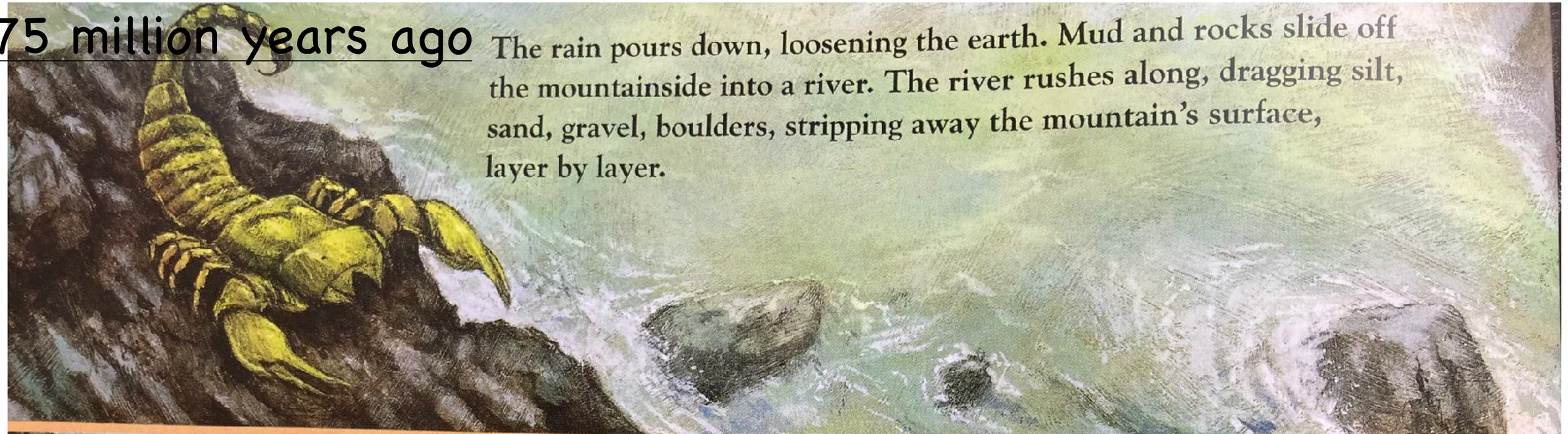
What life is evolving?

Did you find all this information?

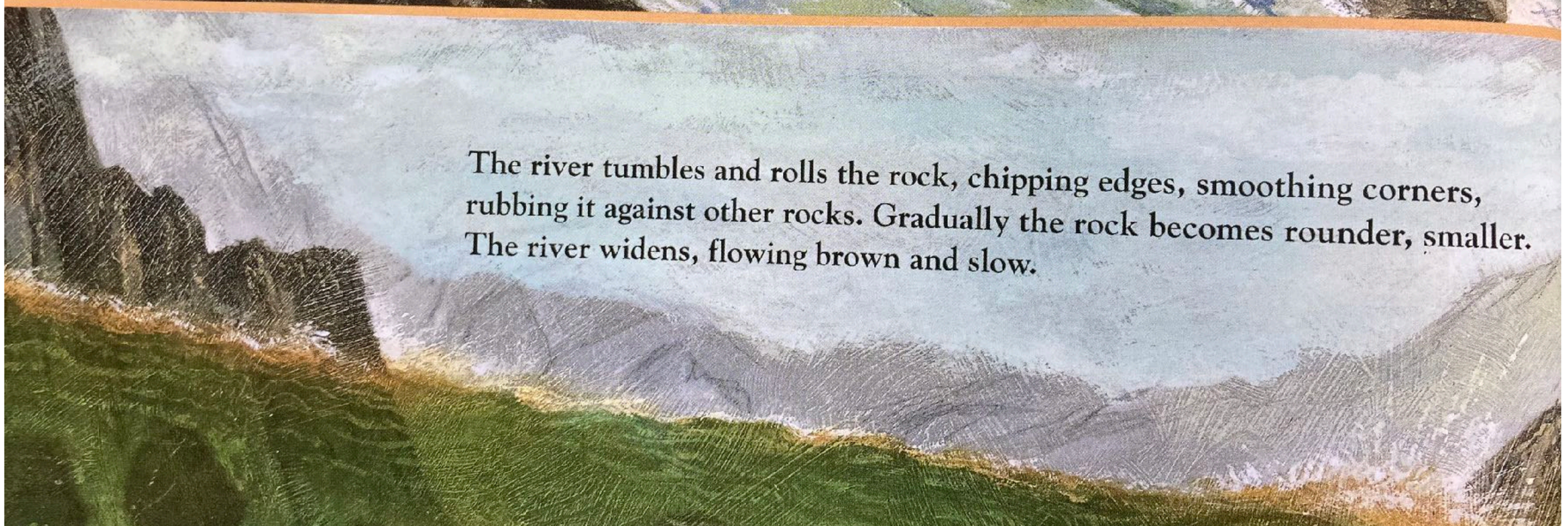
390 million years ago

- An enormous slice of the cliff comes away from the side of the mountain and crashes down. It breaks into lots and lots of pieces. The edge of the mountain is left jagged (rough with sharp points).
- Pieces of rock fall down the mountain like a river of stones.
- Rain falls onto the new jagged edges of the rock. It gets hotter then the sun heats it up, then colder when it is frosty. The wind keeps blowing on it every, single day.
- Tiny particles of sand blow on the corners and edges of the rock. This starts making the sharp edges a lot smoother.
- Everything is VERY SLOWLY wearing away and being broken down into smaller and smaller pieces.
- Boulders become streaks of mud.
- Cliffs crumble to grains of sand.
- The tops of mountains break down into pebbles.
- This keeps happening over and over again! (It is even happening now!)
- Millipedes shelter under rocks.
- Creatures that are like worms live in moss jungles.

375 million years ago

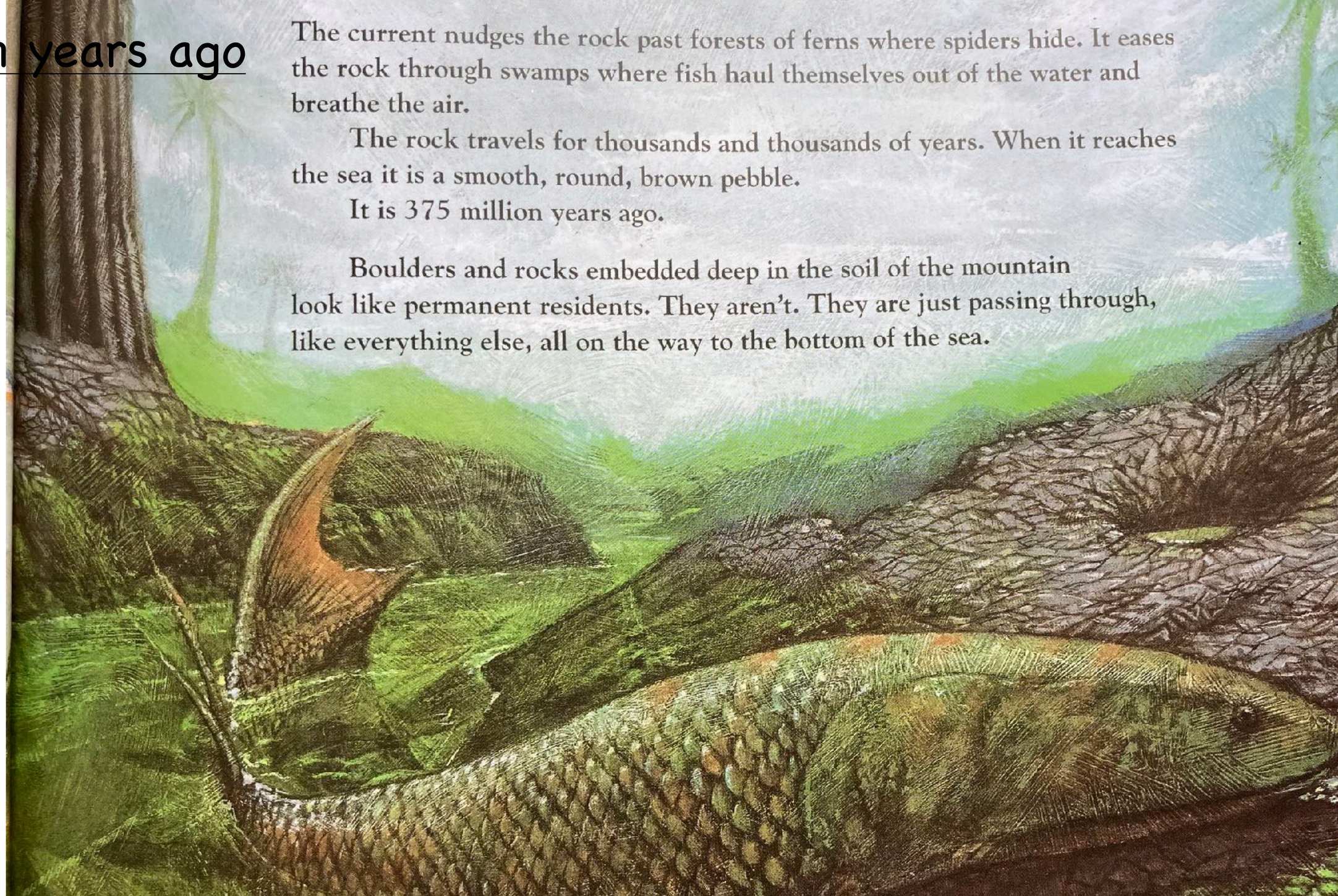


The rain pours down, loosening the earth. Mud and rocks slide off the mountainside into a river. The river rushes along, dragging silt, sand, gravel, boulders, stripping away the mountain's surface, layer by layer.



The river tumbles and rolls the rock, chipping edges, smoothing corners, rubbing it against other rocks. Gradually the rock becomes rounder, smaller. The river widens, flowing brown and slow.

375 million years ago



The current nudges the rock past forests of ferns where spiders hide. It eases the rock through swamps where fish haul themselves out of the water and breathe the air.

The rock travels for thousands and thousands of years. When it reaches the sea it is a smooth, round, brown pebble.

It is 375 million years ago.

Boulders and rocks embedded deep in the soil of the mountain look like permanent residents. They aren't. They are just passing through, like everything else, all on the way to the bottom of the sea.

Did you find all this information?

375 million years ago

- The rain keeps pouring. This makes the earth loose.
- Mud and rocks slide off the mountainside into a river.
- The river keeps rushing along with all of the silt, sand, gravel and boulders, stripping away the surface of the mountain.
- The rocks roll along the river.
- The river rolls the rock and helps to make them smoother. The river chips away at edges, smoothes the corners, so that the rock eventually becomes rounder and smaller.
- The rock travels for thousands and thousands of years.
- When the rock reaches the sea it is a smooth, round and brown pebble.

What have you learnt? Have any of your questions from last week been answered?

Add in your new knowledge next to your original questions, using a different colour
OR Make a new mind map/list to show what you've learnt

Are there any more questions you'd like to ask now or would like to investigate further?

Grammar Time - Simple present and continuous present tense

PRESENT SIMPLE & PRESENT CONTINUOUS

Present Simple	Present Continuous
S + verb	S + am/is/are (not) + V-ing
Express general truths	Describe actions happening now
E.g. It rarely rains in the desert.	E.g. She is reading a newspaper upstairs.

Sort these present tense verbs into their correct form:

Simple present tense	Continuous present tense
pours tumbles rushes nudges	loosening dragging chipping smoothing

rising

freezes

pushing

wedging

melts

folds

buckles

seeps

runs

falls

living

crumples

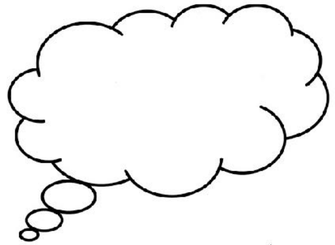
colliding

shines

crashes

blows

Choose a short piece of the text you'd like to focus on from the slides before...



What impact does it have on you as the reader?

Which words and phrases are powerful?

Write out the powerful vocabulary used in that part of the text. Look at my example below:

Verbs

dragging

dripping

tumbles

rolls

Alliteration

river rushes

cliffs crumble

clear crystals

Adjectives

smooth

enormous

jagged

rounder, smaller

Repetition

smaller and smaller

slowly, slowly

Similes

like giant plates

like a river of stone

PERFORM!

Use the short piece of text you have chosen to create a performance. Read your piece of text aloud pretending you have an audience in front of you. (This is like when we learnt a section of The Iron Man story and performed it to the class. Do you remember we tried to learn it off by heart and use actions to tell the story?)

Think about how you can:

- change your voice volume
- use voice expression
- use body movement and actions
- add in sound effects or props
- use punctuation, pauses and short sentences for effect
- add in some repetition of particular lines

If you can, perform the text to your family or involve them in learning some of it with you, if you wish!

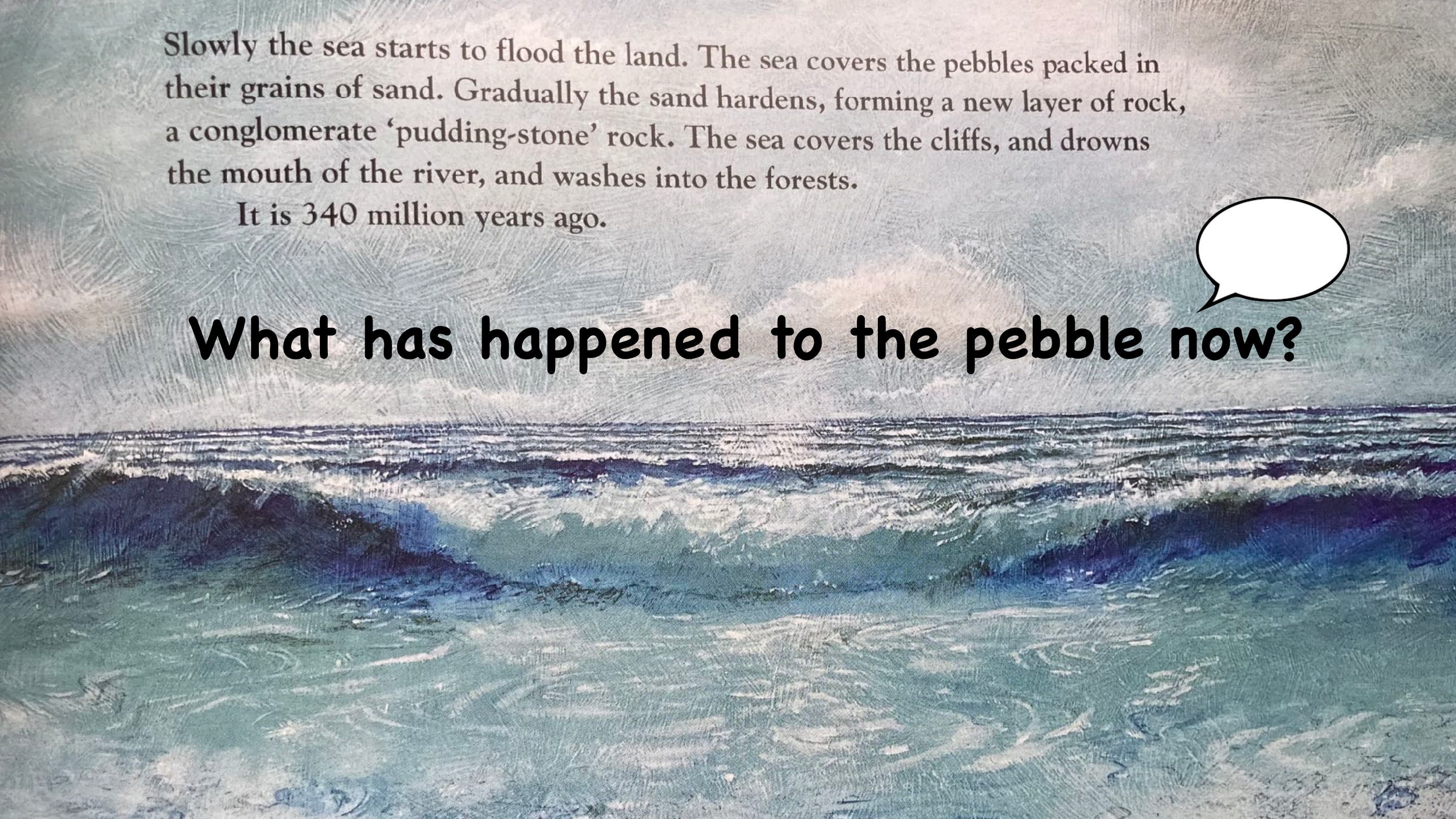
If you want to, you can video your performance and email it into school.

The river drops the pebble on to a beach filled with other pebbles. The waves of the sea wash them backwards and forwards, grinding them up and grinding them down, rattling and clinking the pebbles together: stripy pebbles, spotted pebbles, grey, brown and white pebbles. Each pebble has come from its own special rock. Each was made in its own time and place.

Shiny grains of sand settle between the pebbles. The sand fills the spaces like the mixture between pieces of fruit in a pudding.

Slowly the sea starts to flood the land. The sea covers the pebbles packed in their grains of sand. Gradually the sand hardens, forming a new layer of rock, a conglomerate 'pudding-stone' rock. The sea covers the cliffs, and drowns the mouth of the river, and washes into the forests.

It is 340 million years ago.



What has happened to the pebble now?

THEME: Learn about weathering and erosion!

We would like you to learn about this topic and email a picture of your finished research. You can present your research however you'd like. This could be a fact file, leaflet, poster or even a video! Be as creative as you'd like.

Here are some links that explain these scientific processes:

Video

Information

The more you research and understand these scientific processes, the better you'll be at understanding the pebble's journey! Keep looking through the slides to see some more information and examples...

THEME: Learn about weathering and erosion!

Here's a simple Science experiment for you to enjoy:

Biscuit weathering and erosion!

You will need:

- A cookie or biscuit (x 3)
- water
- A toothpick, pen, pencil

Method:

- Be the wind! Blow on the biscuit (use a straw if you have one).
- Be the animals/plants! Use the toothpick (or a pen or pencil) to break the biscuit (rock).
- Be the rain! Drop water onto the biscuit (rock).

Experiment!

Pretend you're weathering the biscuit (rock!) using different forms and observe the changes each time!

Fair test:

To make it a fair test, you could time 1 minute before you stop and observe your results for each one.

Make erosion happen!

After each minute of 'weathering' your biscuit, you can show erosion by blowing the broken pieces/ crumbs until they move (This movement is called erosion!).

Results table:

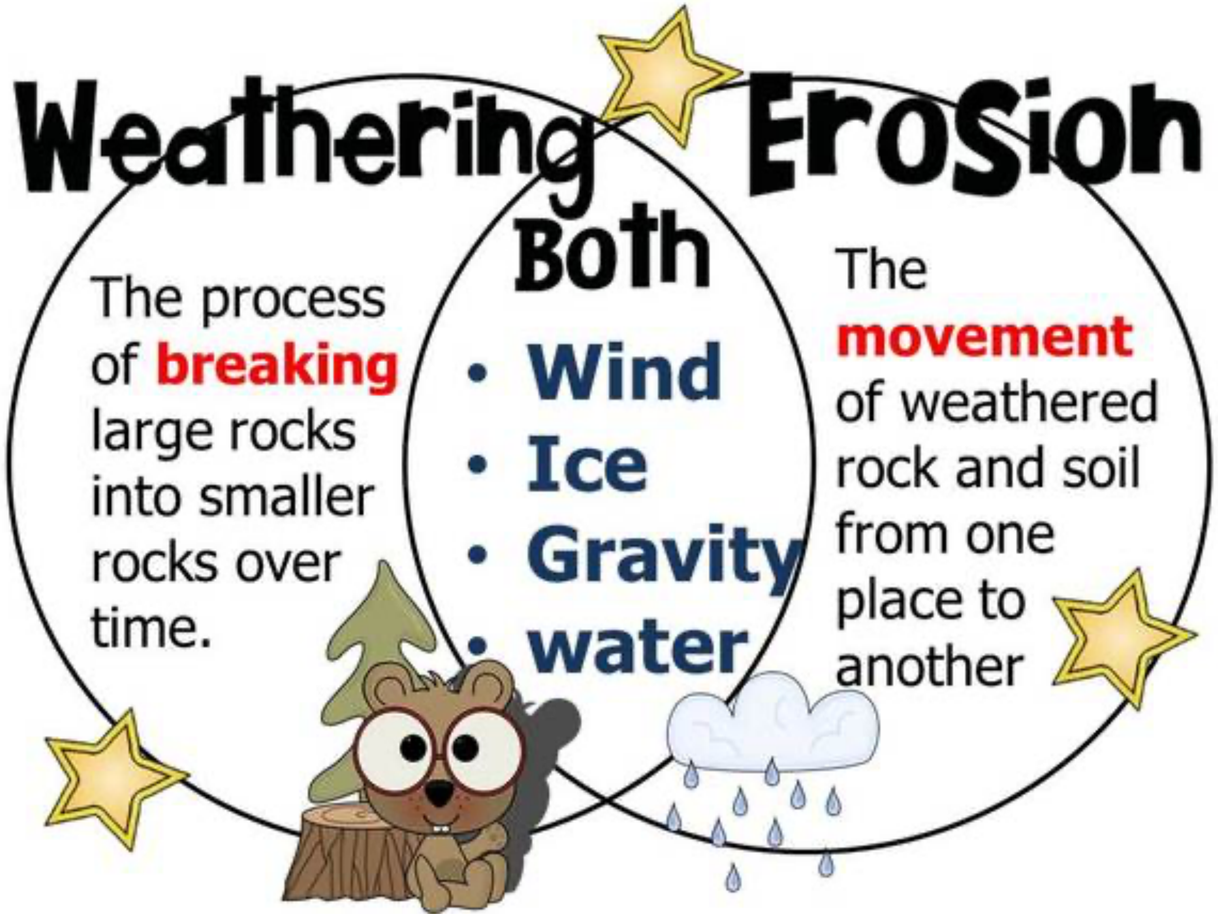
You should record your results in a table like this to show your observations and conclusions.

Type of Weathering	Observation after 1 minute (Describe what happened and draw a picture)
Air: wind	
Toothpick: Animals and plants	
Water: rain	

Conclusion:

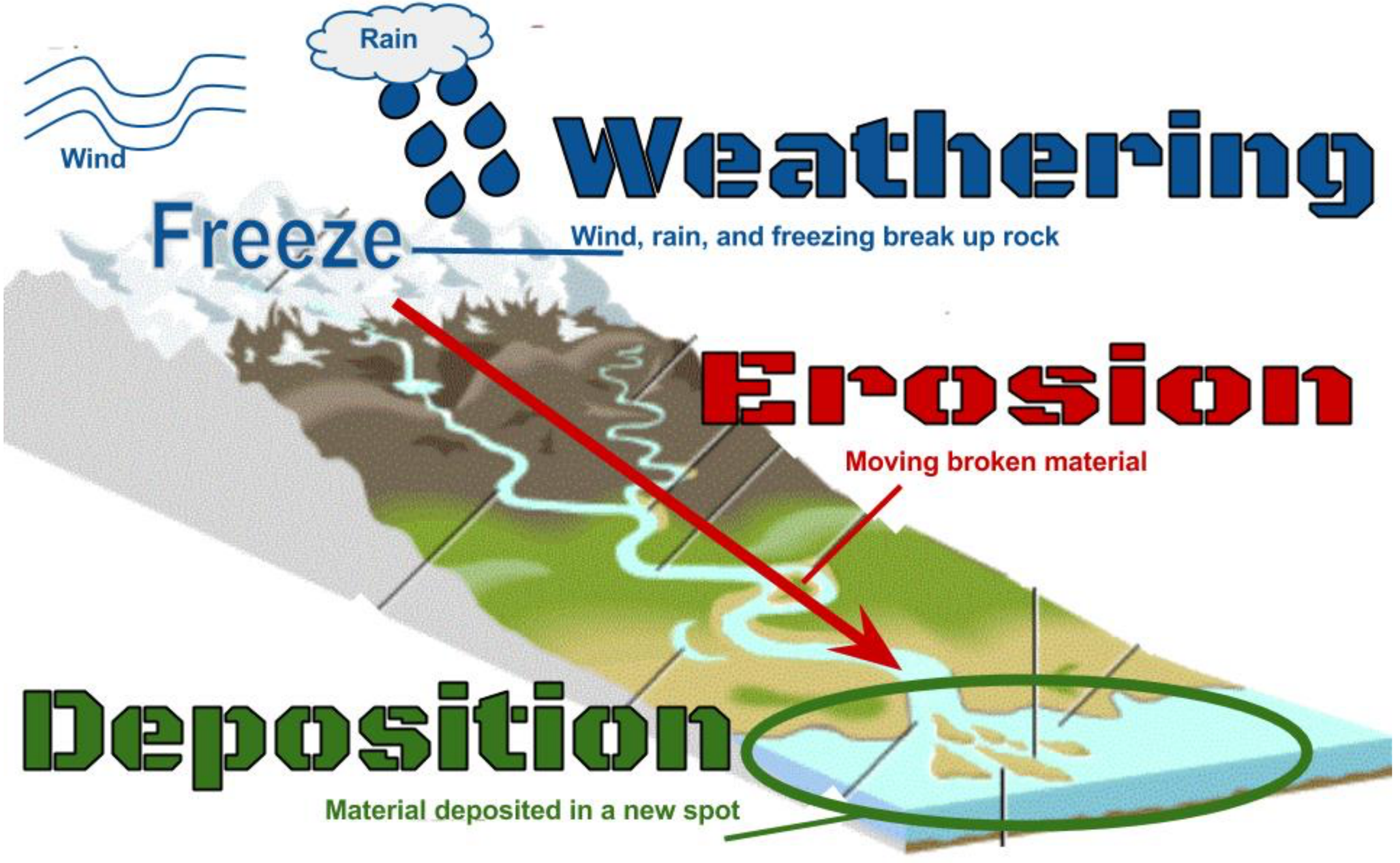
Which type of weathering caused the greatest amount of erosion? How do you know?

Here is some information to get you started with your research:



Weathering is like the hammer.

Erosion is like the truck.


Rain
Wind
Weathering
Freeze
Wind, rain, and freezing break up rock
Erosion
Moving broken material
Deposition
Material deposited in a new spot

Our Ever-Changing Earth

W. E. D.

Weathering

The BREAKING DOWN of rock. Weathering agents include:

Water *Ice*
Wind *Animals*
Growing Plants

Erosion

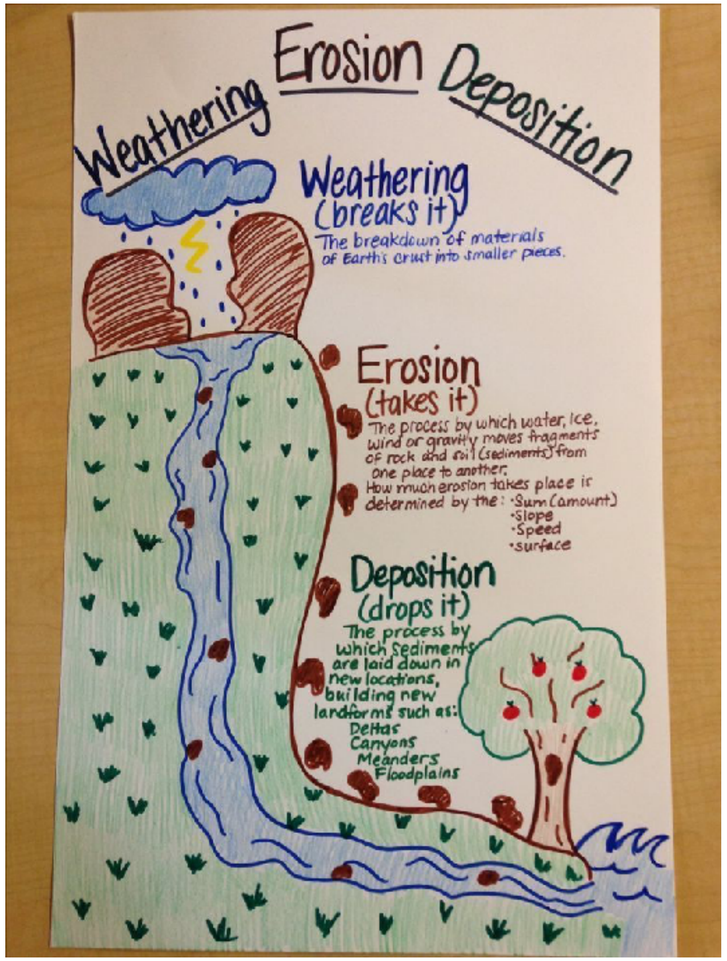
The MOVEMENT of sediment from broken rock. Erosion agents include:

Water *Ice*
Wind *Gravity*

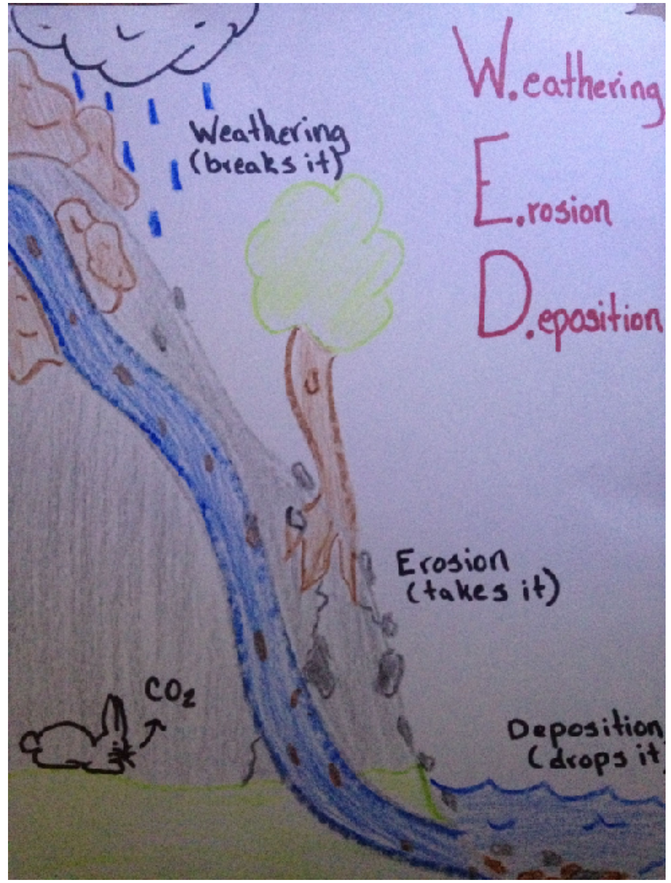
Deposition

The DROPPING of sediment in a NEW place. Examples of deposition are:

Formation of an island
Sand dunes


Weathering Erosion Deposition
Weathering (breaks it)
The breakdown of materials of Earth's crust into smaller pieces.
Erosion (takes it)
The process by which water, ice, wind or gravity moves fragments of rock and soil (sediments) from one place to another.
How much erosion takes place is determined by the: ·Sum (amount) ·Slope ·Speed ·surface
Deposition (drops it)
The process by which sediments are laid down in new locations, building new landforms such as: Deltas Canyons Meanders Floodplains

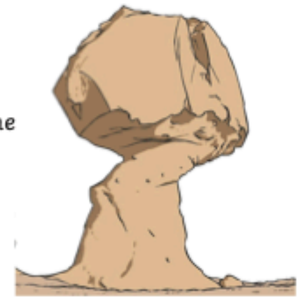

WEATHERING
EROSION
DEPOSITION


W.eathering
E.rosion
D.eposition
Weathering (breaks it)
Erosion (takes it)
CO_2
Deposition (drops it)

Earth and Space Sciences

Weathering, Erosion and Deposition
Remember WED!

Weathering



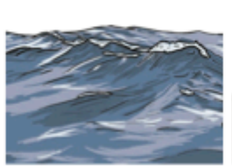
breaks it

Breaking down of rocks, minerals or other parts of the earth's crust into smaller pieces called sediment.

Erosion

takes it

Movement of sediment from one place to another by...




water wind ice gravity

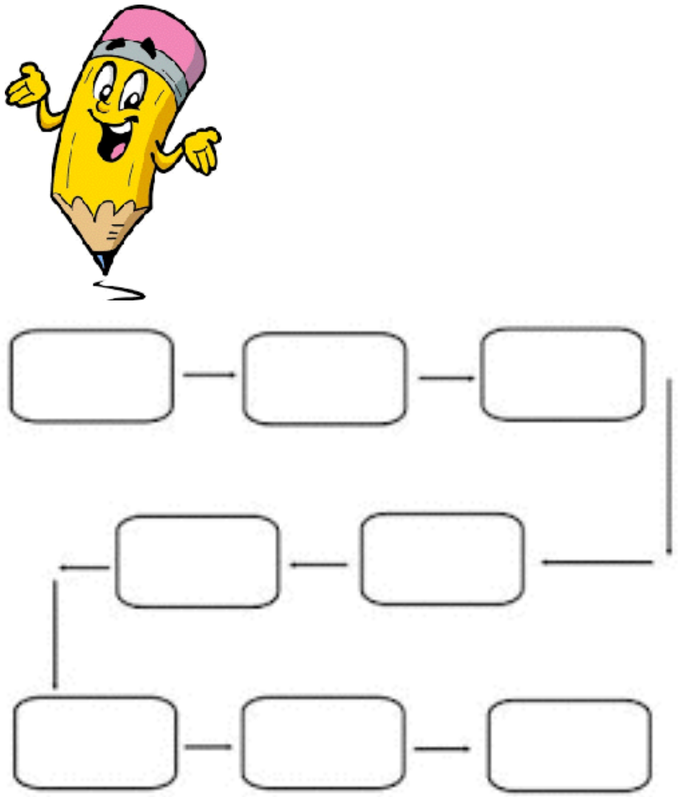
Deposition

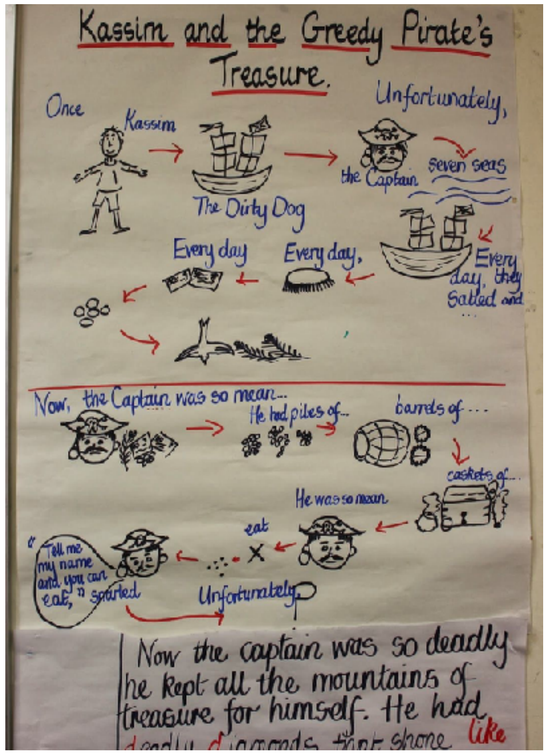
drops it

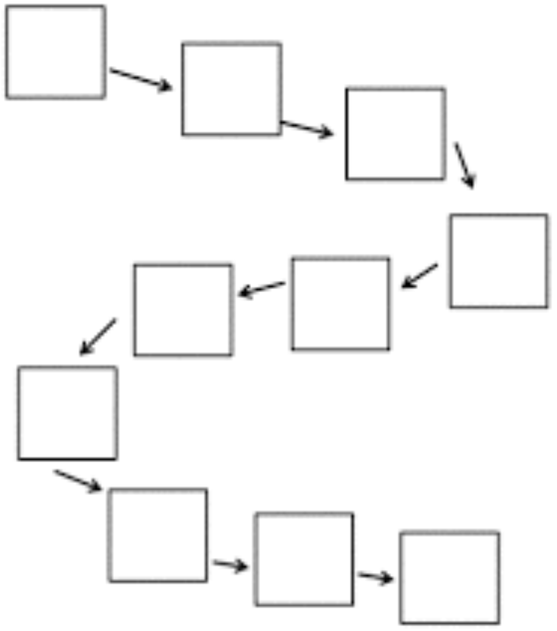
Dropping off the sediment in a new place that can create new landforms such as deltas. Wind can drop sand to create sand dunes.

Story map! Summarise the pebble's journey so far.

A story map has lots of pictures that help you to retell what has happened so far in a piece of text. You can also include any key words or phrases that will help you to remember the text. A 'good' story map helps you to retell the story orally, in full sentences and all in your own words. Can you remember the maps we made for The Heavenly Garden or The Singing Ringing Tree earlier this year? This story map should be like the ones you did in school. Here are some examples in case you've forgotten:







Practise retelling the story using your story map.

- Does your listener understand the process?
- Have you used specific nouns, appropriate adjectives to describe where the pebble is and verbs to show what happens?

Now give your story map a title!
(eg. 'The Pebble's First Journey' or 'From Mountain to Sea'.

Now use your story map to publish your work as a short piece of writing on paper, using ICT or even make it into your own book! You could even video yourself retelling the pebble's journey.

Remember to use your key words and sentence openers to make it really clear. Email us your finished work - we can't wait to see it!