

L/I: look at how tectonic
processes have shaped the
landscape in our area

Starter: write a list of ways in which tectonic activity affects any
landscape.

Let's look at our area.....
Write down three points about the
topography of Passage West



The Meadows

County Cork

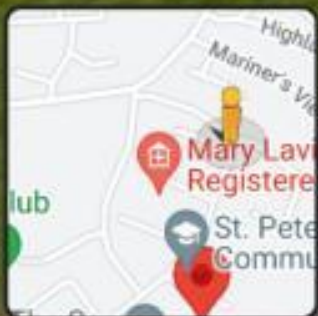


Google



Street View - Apr 2011

The Meadows



Google

5 Church Hill

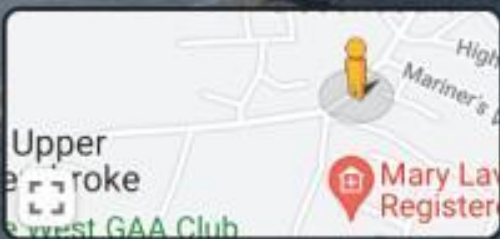
County Cork



Google



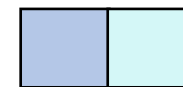
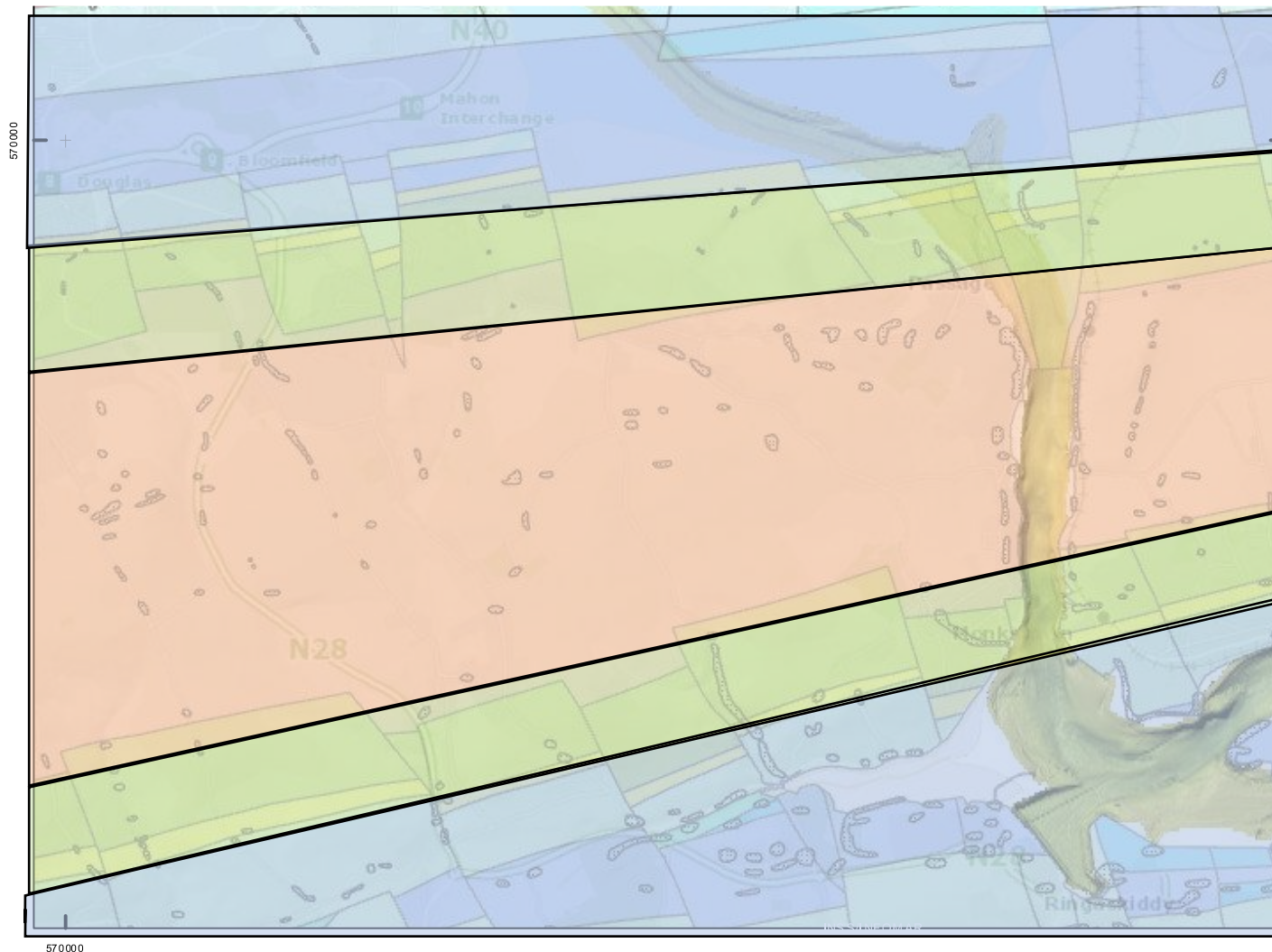
Street View - Sep 2021



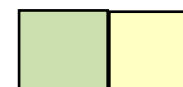
Google



Where are we located on this map?



Carboniferous limestone



Late Devonian/Early Carboniferous mudstone (Cork Beds)



Devonian old red sandstone

Scale: 1:50,000

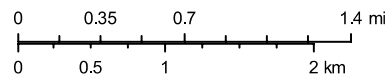
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Map Centre Coordinates (ITM) 574,439 567,861

05/12/2022, 14:50:43

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Write a brief account of how the rocks were formed

Sandstone	Limestone	Mudstone
		Formed when clay particles are deposited in water. Mud is buried at the bottom of lakes, seas and/or rivers and is compacted by the sediment or other rocks on top of it Water is squeezed out by the compression and mudstone is formed.

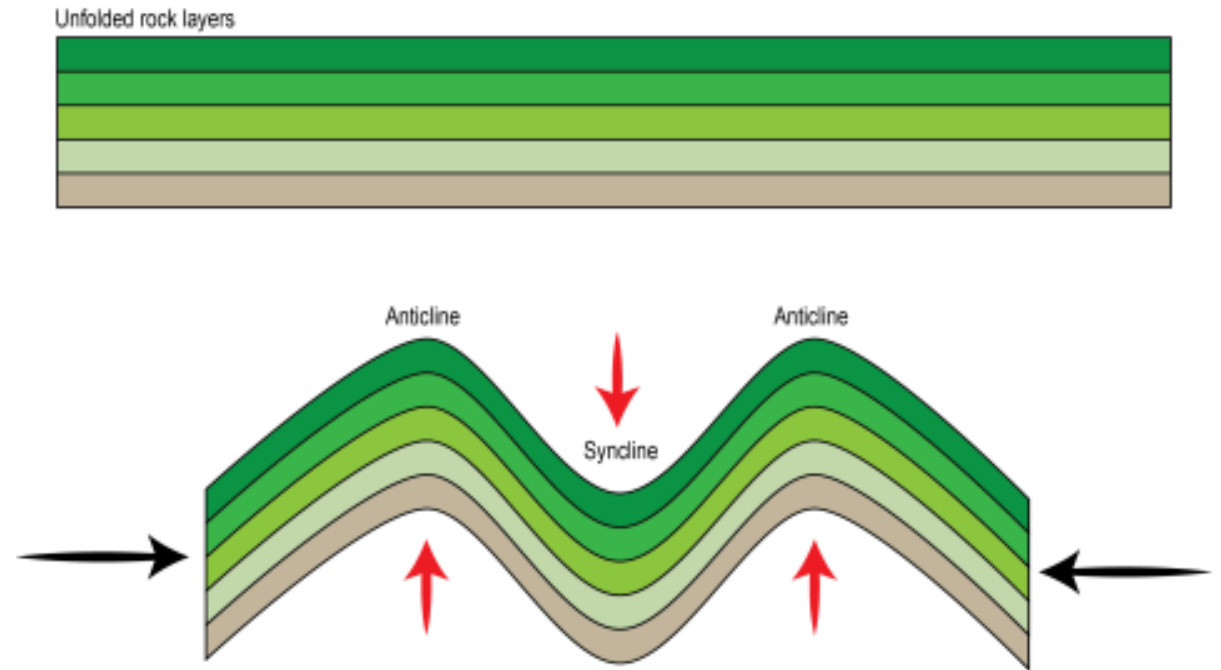
Create your rock layers

- Taking three different colours of play doh build the rock **layers** that are in our area (oldest at base).
- Blue- Carboniferous Limestone
- Green - Late Devonian/Early Carboniferous (Cork Beds) sandstone and mudstone
- Red – Devonian (Old Red) Sandstone



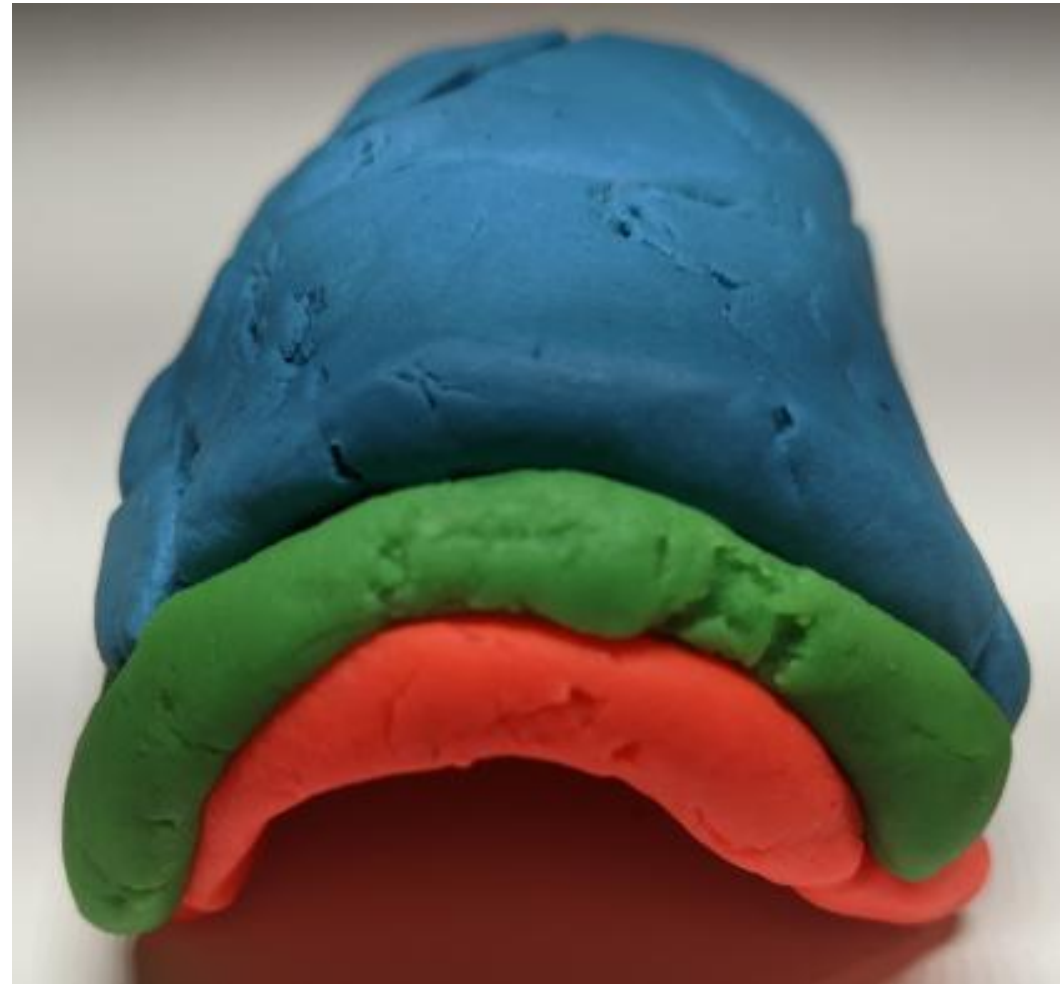
Folds

- Folds form when the layers of rock are compressed by tectonic forces, causing them to bend up wards or downwards
- Rock layers fold upwards (looks like a bump) = anticline
- Rock layers fold downwards (looks like a dip) = syncline
- Mountains are formed by folding

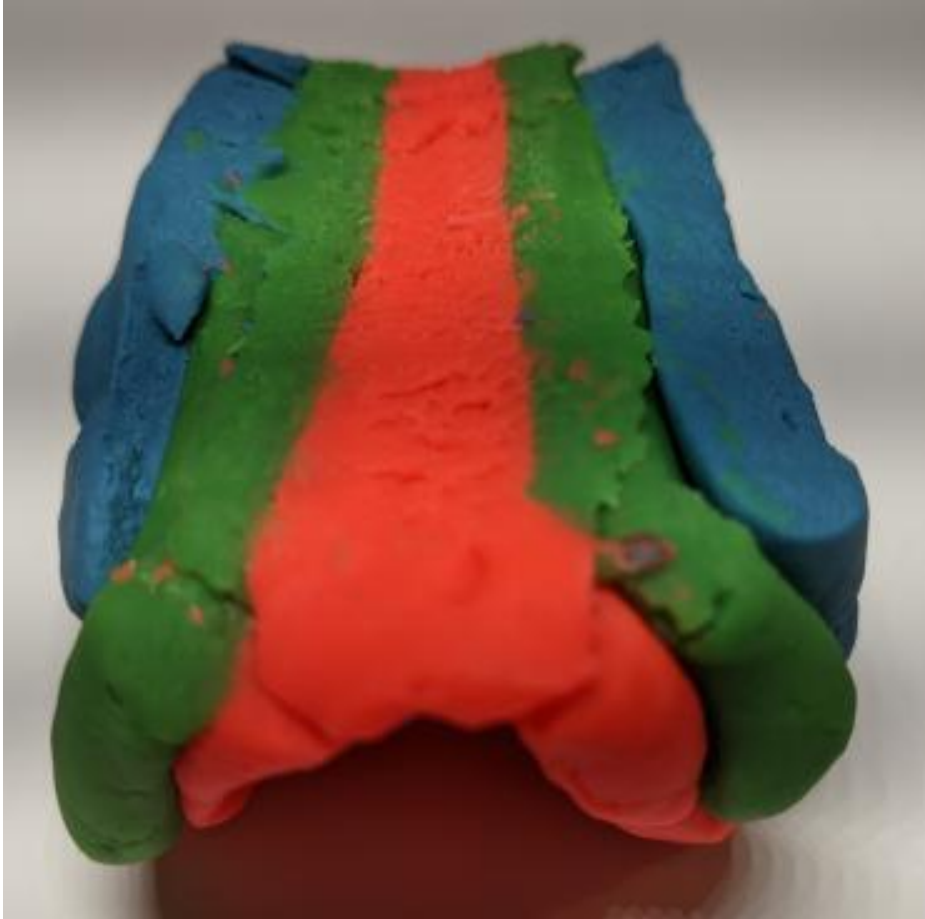


Folds

- Create an anticline and syncline with your play doh



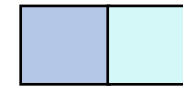
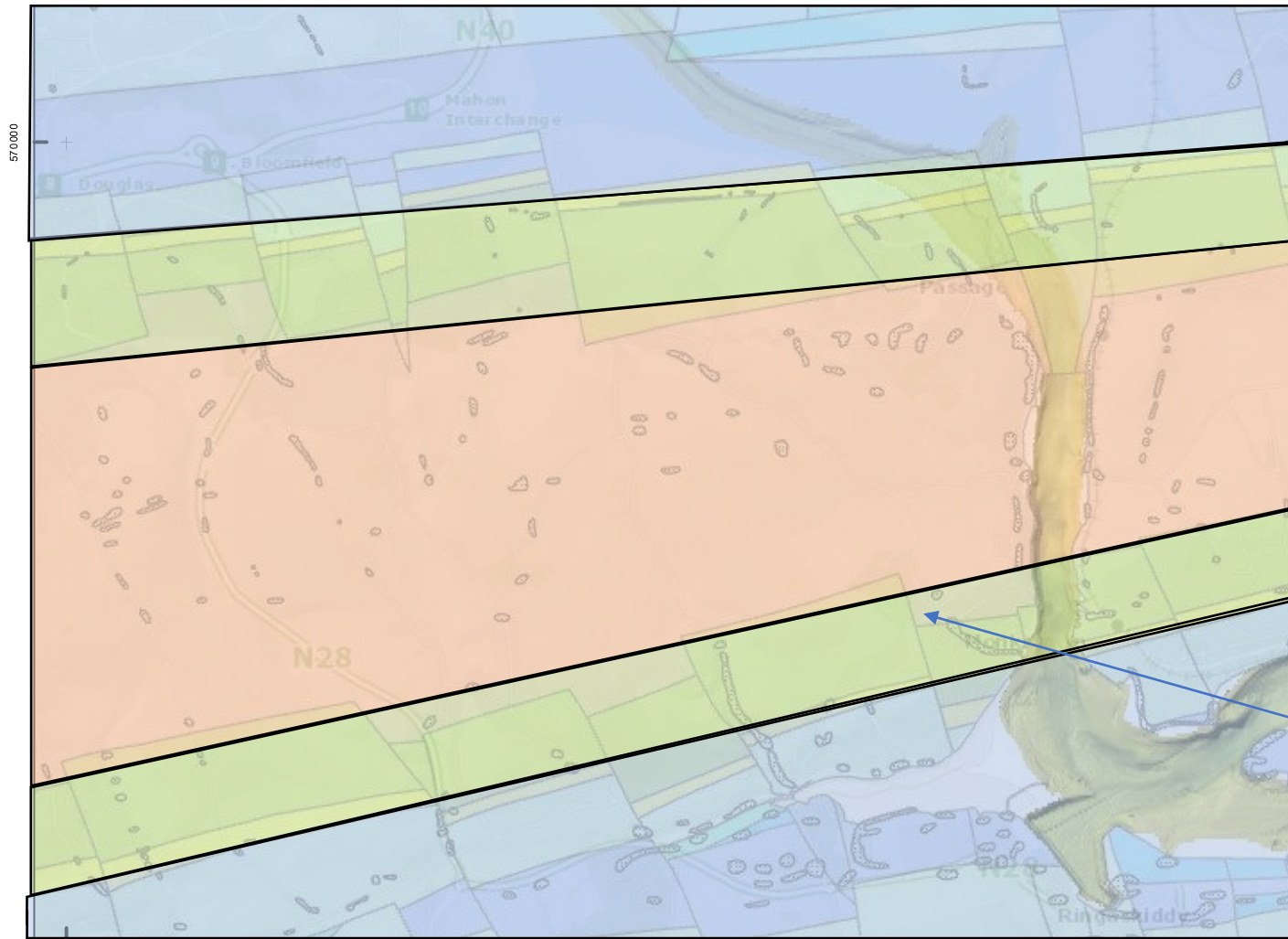
Anticline



Syncline



Which one looks like our area?



Carboniferous limestone



Late Devonian/Early Carboniferous
mudstone (Cork Beds)



Devonian old red sandstone

What are these?

Scale: 1:50,000

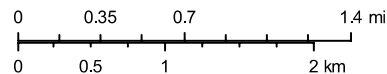
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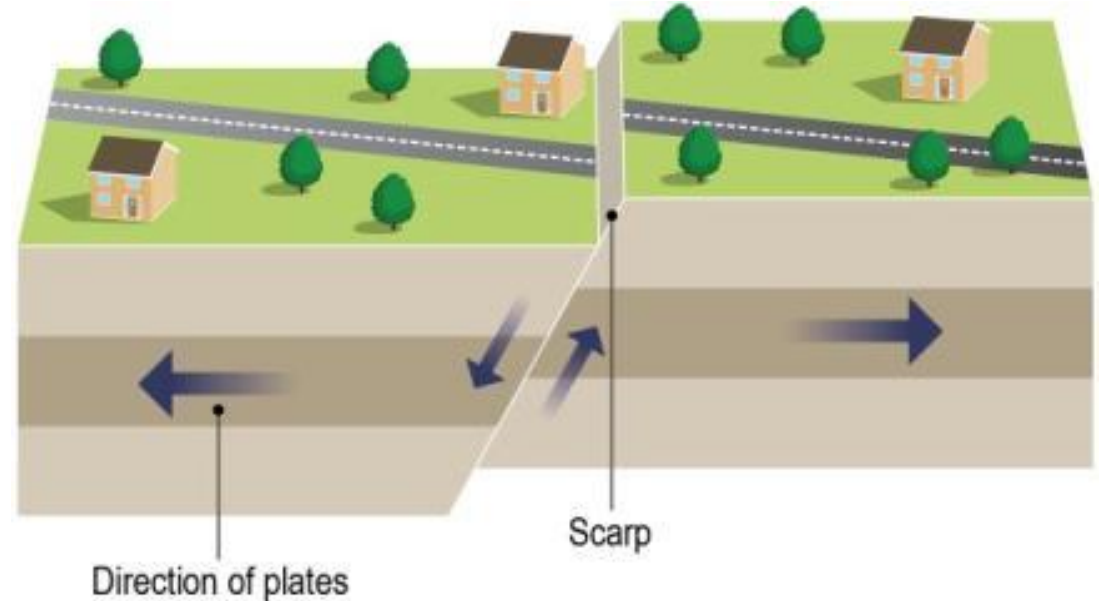
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Try creating the following faults.....

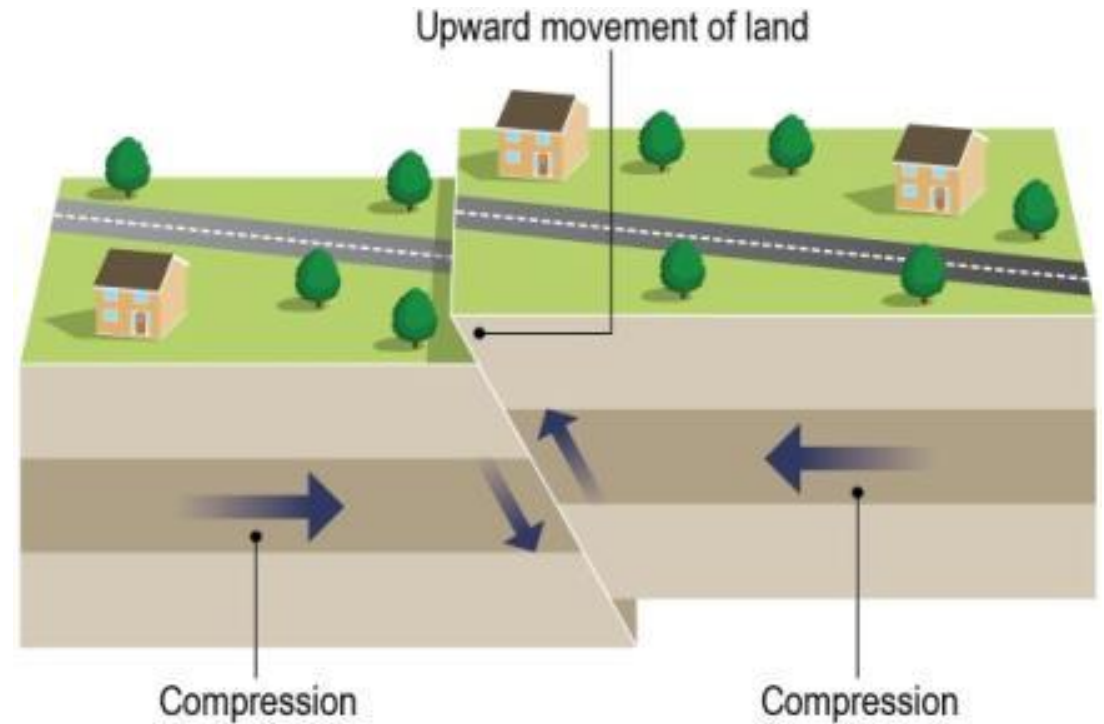
Normal fault

- Formed by tension when the earth's crust pulls apart.
- Note the changes to the crust (play doh)



Reverse Fault

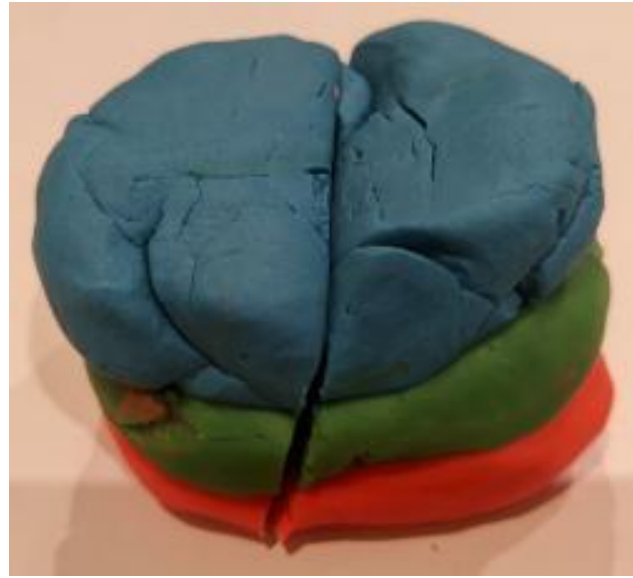
- Formed by compression (when the earth's crust pushes together)
- Note the changes to the crust (play doh)



Create a new set of rock layers

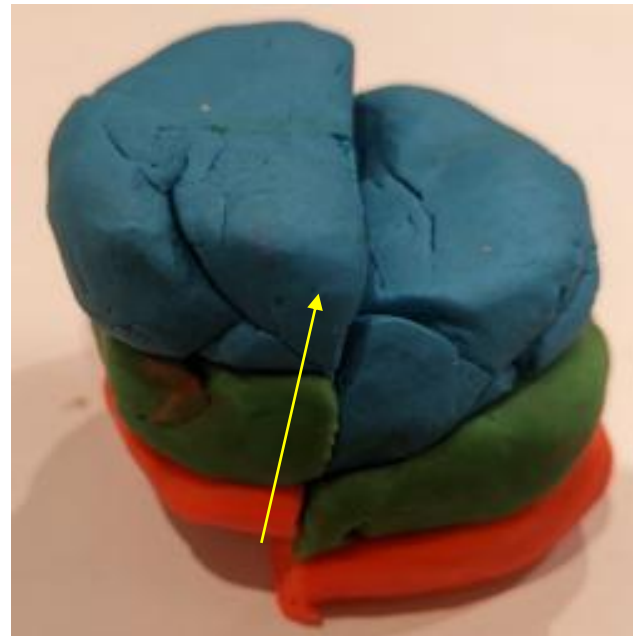
- Taking three different colours of play doh build the rock **layers** that are in our area (oldest at base).
- Blue- Carboniferous Limestone
- Green - Late Devonian/Early Carboniferous (Cork Beds) sandstone and mudstone
- Red – Devonian (Old Red) Sandstone





Faults

- "Fault" this sequence by cutting sub-vertically



- Create a normal or reverse fault by moving upmost half down or up

Faults

- Erode the landscape by slicing off the top of the playdoh





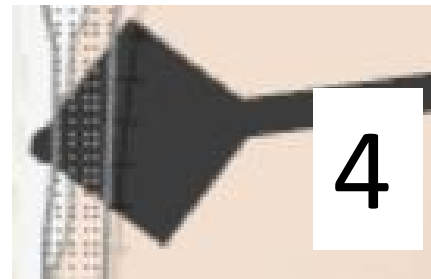
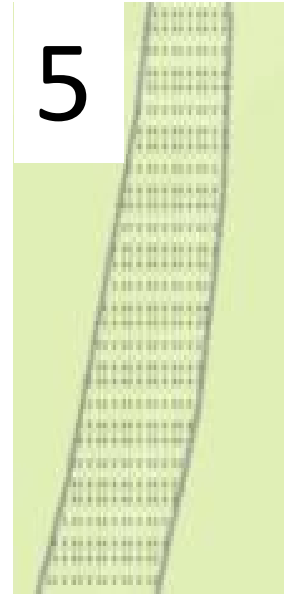
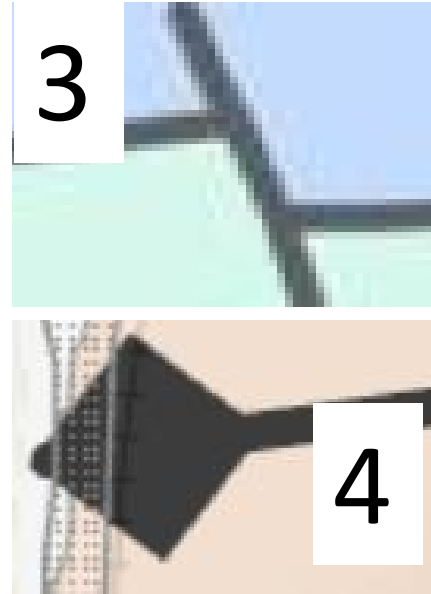
Faults allow different rock layers to appear next to each other

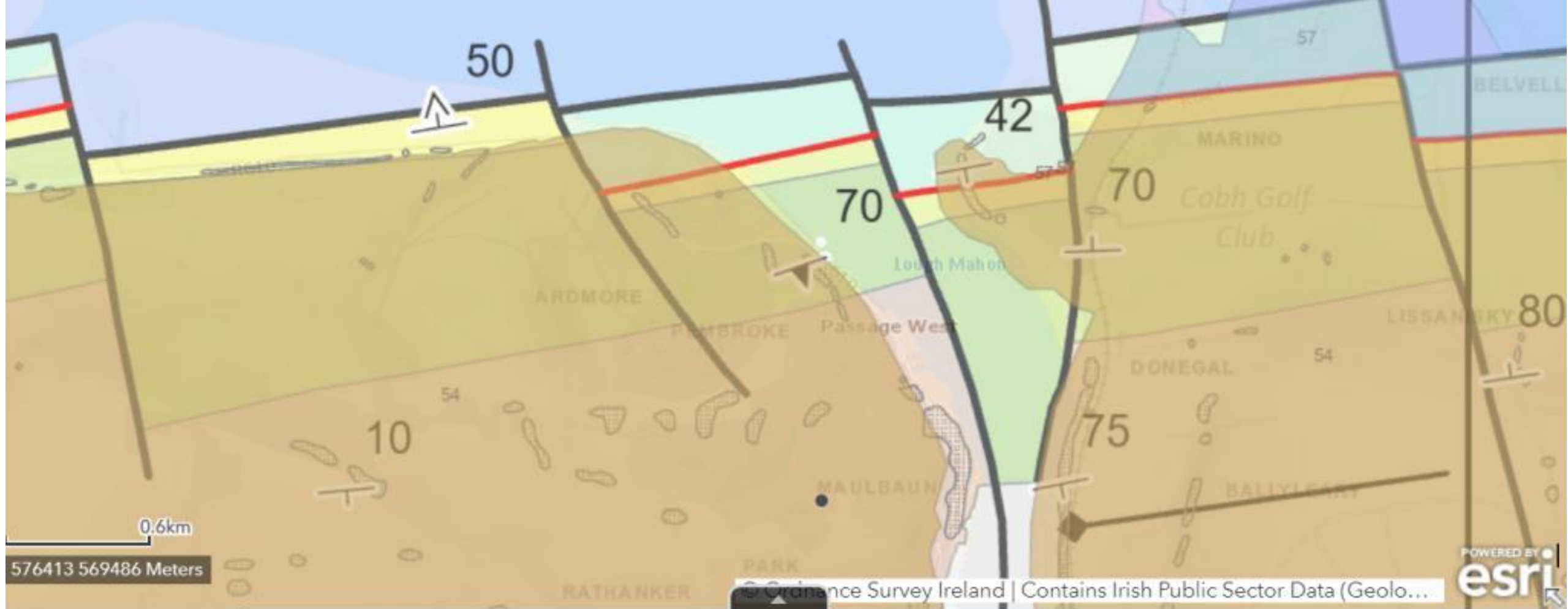
Upthrown side has older rocks (from deeper) at the surface

Let's look at how folding and faulting has affected our landscape
Follow the link and use the legend to distinguish what the lines mean...



Using GSI in your groups, define the following symbols

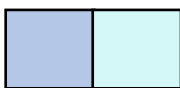
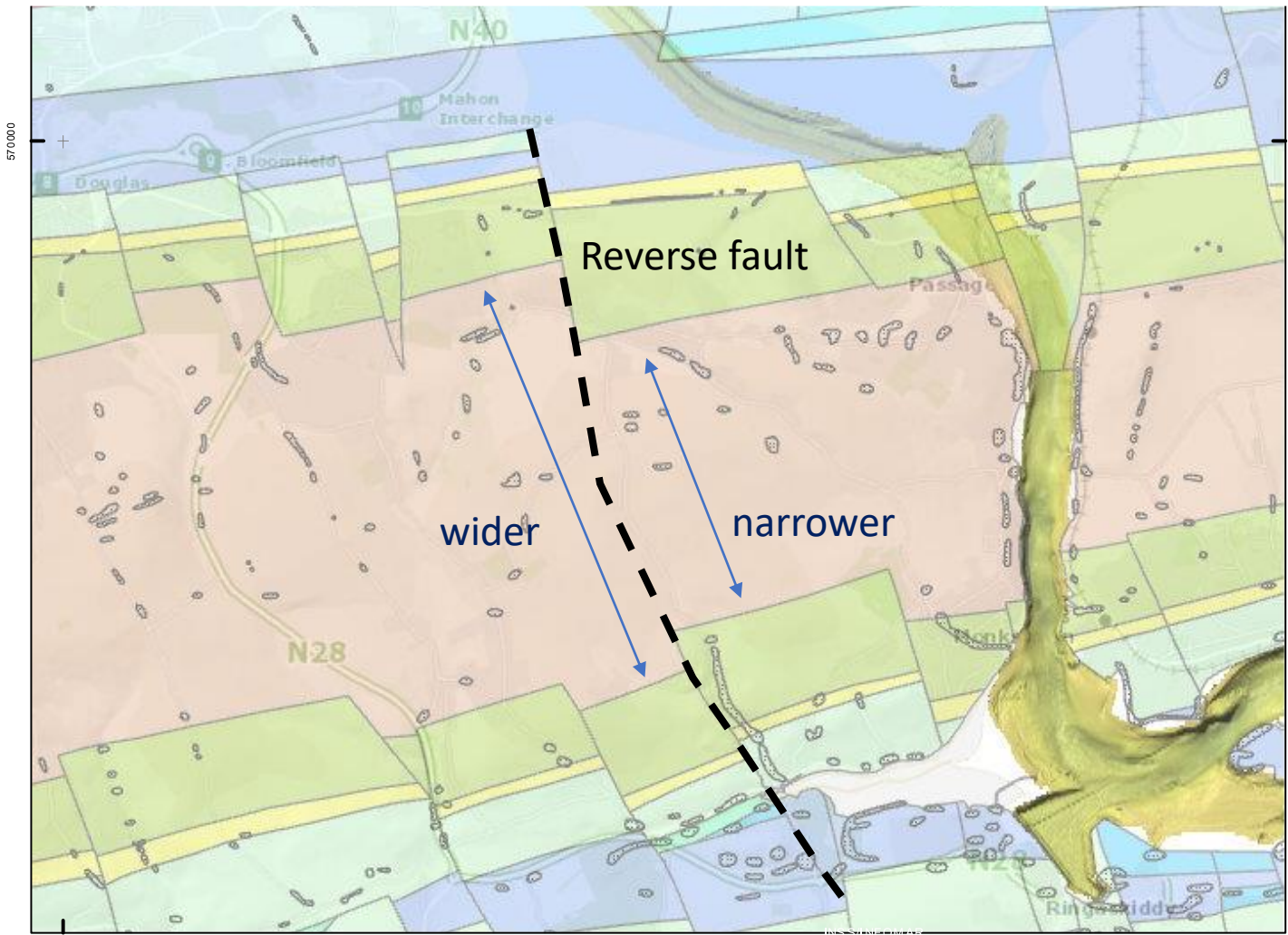




Looking at our area and knowing what each line means can you create our landscape using your play-doh?

Combining the folds with the faults





Carboniferous limestone

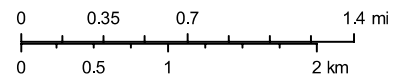


Late Devonian/Early Carboniferous mudstone (Cork Beds)



Devonian old red sandstone

Scale: 1:50,000
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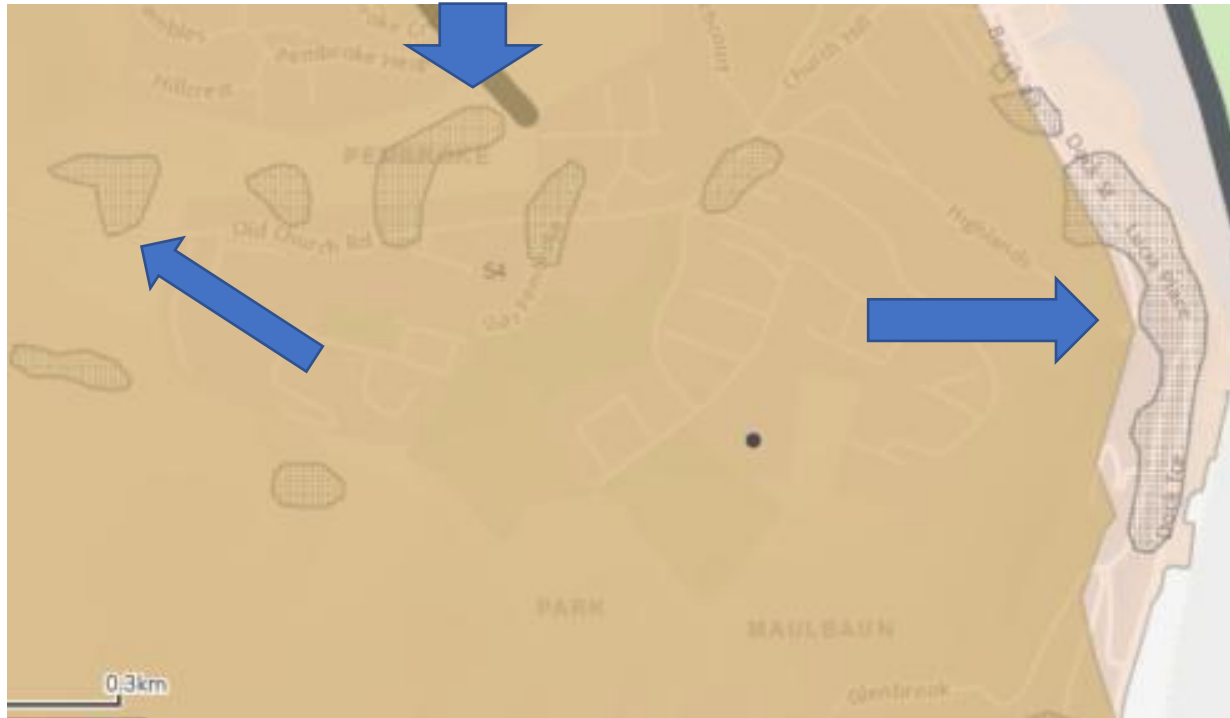


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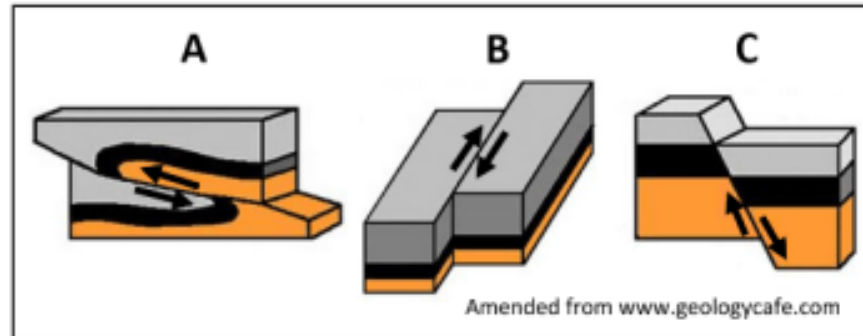
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Homework



Check out your local area on GSI maps look for areas that look like the places the arrows are pointing to. Go explore and try and find where these areas are near you and take a picture.

2. Faulting



Examine the diagrams above which show different types of fault. Answer each of the following questions.

- (i) Match each of the diagrams **A**, **B**, and **C** with the type of fault that best matches it in the table below.
- (ii) Indicate, by ticking (✓) the correct box, whether each of the faults named in the table below is most associated with tension, compression or shearing.

Q.2 (i)		Q.2 (ii)		
Letter	Type of Fault	Tension (✓)	Compression (✓)	Shearing (✓)
	Tear/Transform fault			
	Normal fault			
	Thrust fault			

- (iii) Name **one** landform formed by faulting.

[8m]