Ark Pioneer learning at Home

Core Curriculum

Geography

Work to be completed

- ☐ Work 1 – Do Now + Activity 1 (pages 2-3)
- ☐ Work 2 – Activity 2 + Activity 3 (pages 3-4)
- ☐ Work 3 – Activity 4 + Activity 5 (pages 4-5)
- ☐ Work 4 – Stretch Task (page 5) + Copy, cover check 4 key words for Lesson 6 on Page 2
- ☐ Work 5 – Red-Pen Check Week's work (pages 6-7) + **complete Online Quiz before next Tuesday**

Resources / links to help with work:

- ☐ **NEW!**: You could practise some of the skills you have learned this year by going onto Oak National Academy's Digital Lessons. There are different topics. If you want to practise:
- ☐ Knowledge of the world's countries and continents, as well as your map skills, right click **here**.
- ☐ Tectonic plate theory, and earthquakes and volcanoes - right click **here**.

How will this work be checked?

Each week you will be given 'red pen work' to carry out corrections on the learning that you are doing at home. Please make sure this work is done and that you correct all work in your exercise book. You can red-pen check your Geography work using the answers at the bottom of the booklets, after you have finished having a go yourself.

You must also complete the weekly quiz for your core curriculum subjects online and the link to those is on our school website in the 'quizzes' drop-down option from 'Home Learning'.

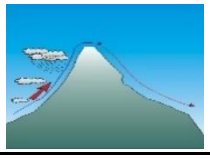
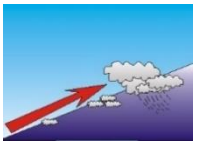
How much time should I be studying and what happens if I don't finish all my work?

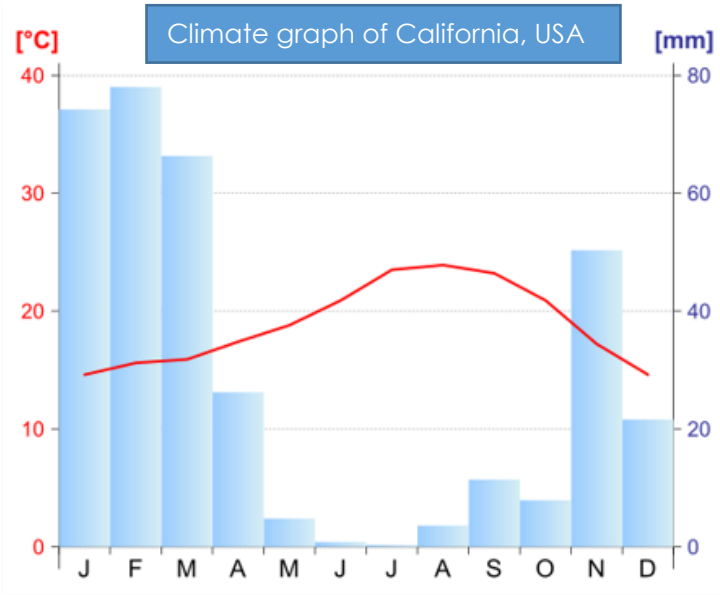
For core curriculum subjects you are expected to do 30min each day as a minimum. Those subjects are English language, English literature, Maths, Science, History and Geography. These subjects all have a weekly quiz and will be checked in on by your form teacher when they call each week.

All other subjects are 'Extended Curriculum' and they should be done after you have finished the Core Curriculum tasks for the day. You should plan to do work in different subjects each day. We recommend that pupils do one hour per week in each of the 'extended curriculum' subjects.

We recognise that it is not possible for all pupils to complete all work given the exceptional circumstance. Please speak with your form tutor about the work if it is becoming unmanageable.

Lesson 6: Why does it always rain on me?

Lesson 6 – Why does it always rain on me?			
Relief rainfall – A type of rainfall caused by water vapour rising above a mountain or large hill.		**Frontal rainfall** – a type of rainfall caused by the collision of warm and cold air masses.	
Cold air mass – A large volume of cold air in the atmosphere that arrives from the Poles.		**Warm air mass** - A large volume of warm air in the atmosphere that arrives from the Tropics.	



Do Now – Answer the questions using the climate graph on the left:

1. In what month is the highest temperature recorded?
2. Which months are the wettest?
3. Which months are the driest?
4. What is the minimum temperature?
5. Which descriptions of winter in California are correct?
   a) Cool and dry
   b) Mild and wet
   c) Cool and wet
   d) Hot and wet

Stretch: Describe the seasonal changes of the climate in California:

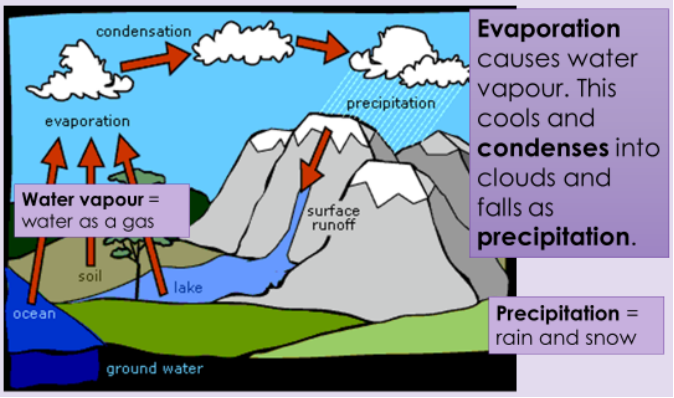
In the winter…

In the spring…

In the summer…

In the autumn…

The UK is well known for its rainy days! As geographers, we are interested in looking at the geographical reasons behind this, rather than just bad luck!



To understand why it rains, we start by looking at the **water cycle**. This shows how water moves between the sea, air and the land. As the sun shines on the ocean, it warms the water. It evaporates and rises as **water vapour** (a gas). It reaches a cool part of the atmosphere and **condenses** (turns to liquid, like water droplets on a cold window pane! The higher in the atmosphere, the colder it is!)It then forms clouds (floating masses of water droplets) and falls as precipitation (rain or snow) as gravity pulls the water droplets down as rain. So **precipitation** is caused by **evaporation** and **condensation**!

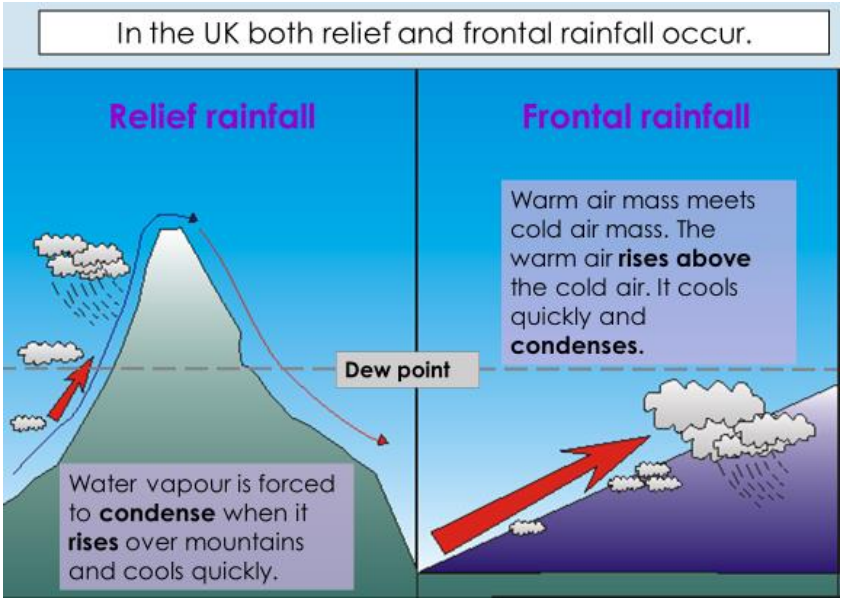
Stretch: Dew point is the point in the atmosphere where it is cold enough for gas to turn back to liquid. In **both types** of rainfall water vapour is forced up so **reaches dew point quickly** and **condenses** to form clouds.

<u>Activity 1</u> - What causes rain in the UK?

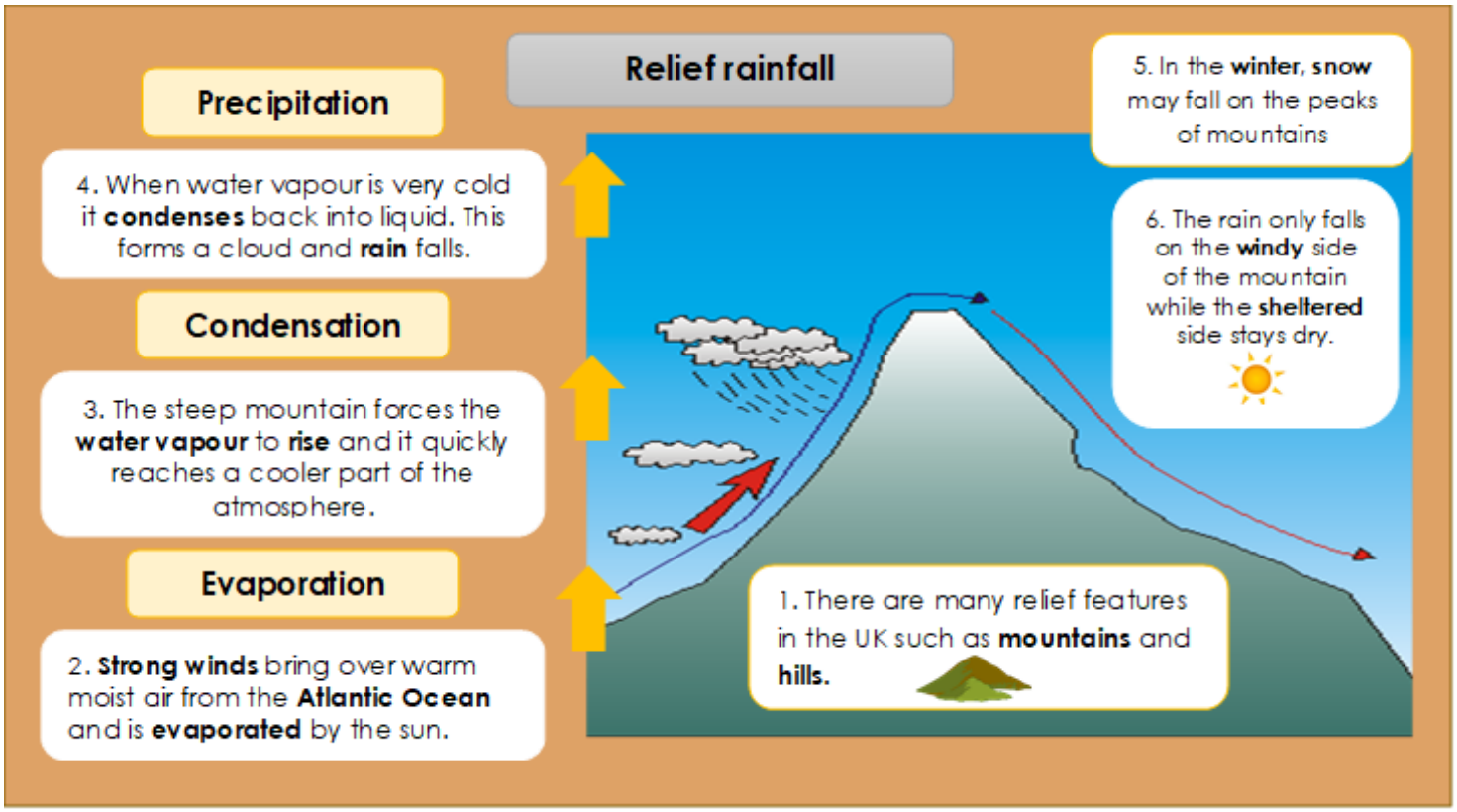
There are two main types of rainfall in the UK – **relief** and **frontal** rainfall. Most rainfall in the UK is due to relief or frontal rainfall. **Frontal rainfall** is caused where hot and cold air masses meet and warm air rises above the cold air mass. **Relief rainfall** is rain over **mountainous regions**, where the **steep relief** of the mountain forces the warm air to rise quickly and it condenses when it does so.

Answer the following questions:

1. What are the main types of rainfall in the UK?
2. When does frontal rainfall form?
3. When does relief rainfall form?



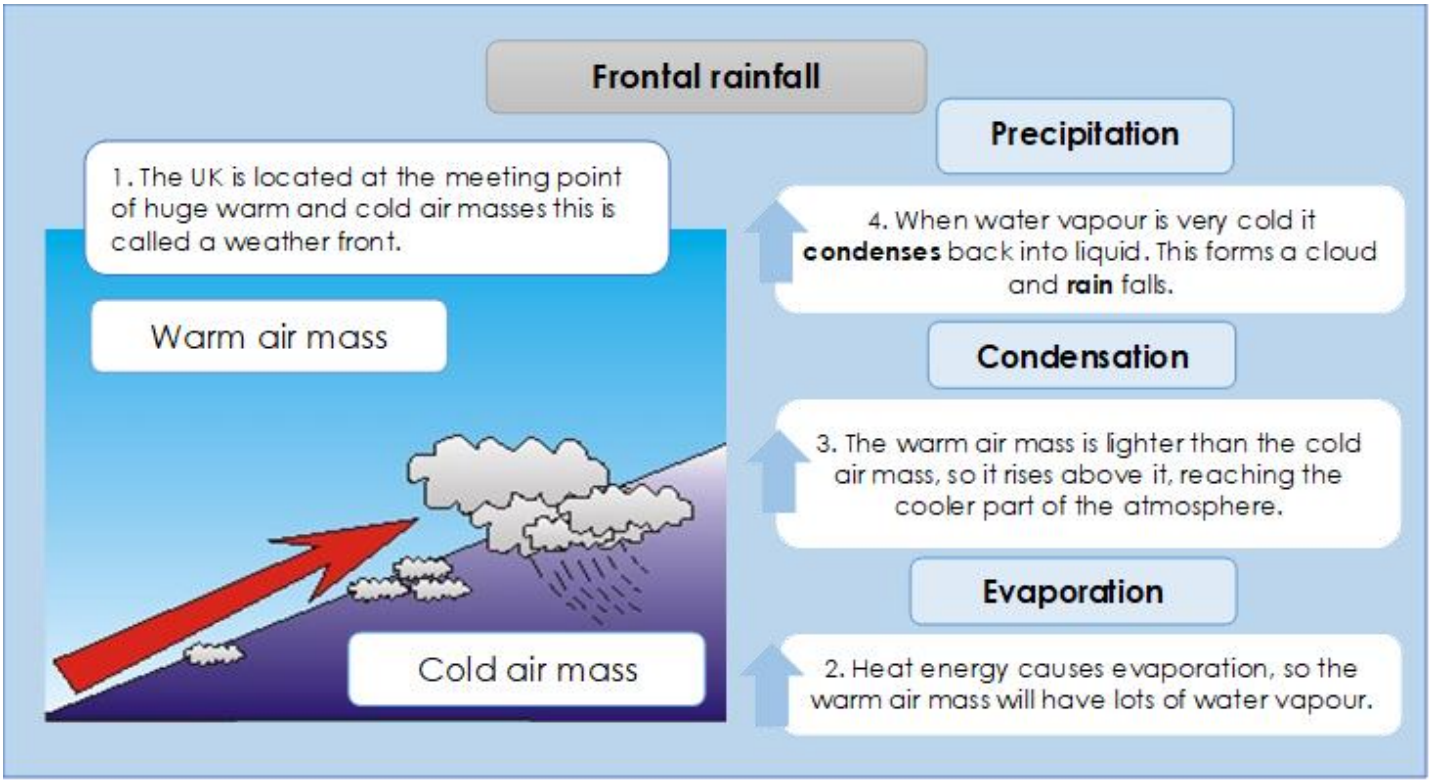
<u>Activity 2</u> - Read the information about relief rainfall. Then answer the questions below:



Relief rainfall questions

1. What physical geography feature is needed for relief rainfall to occur?
2. What brings the warm moist air?
3. Why does the water vapour rise?
4. Why does the water vapour then condense?

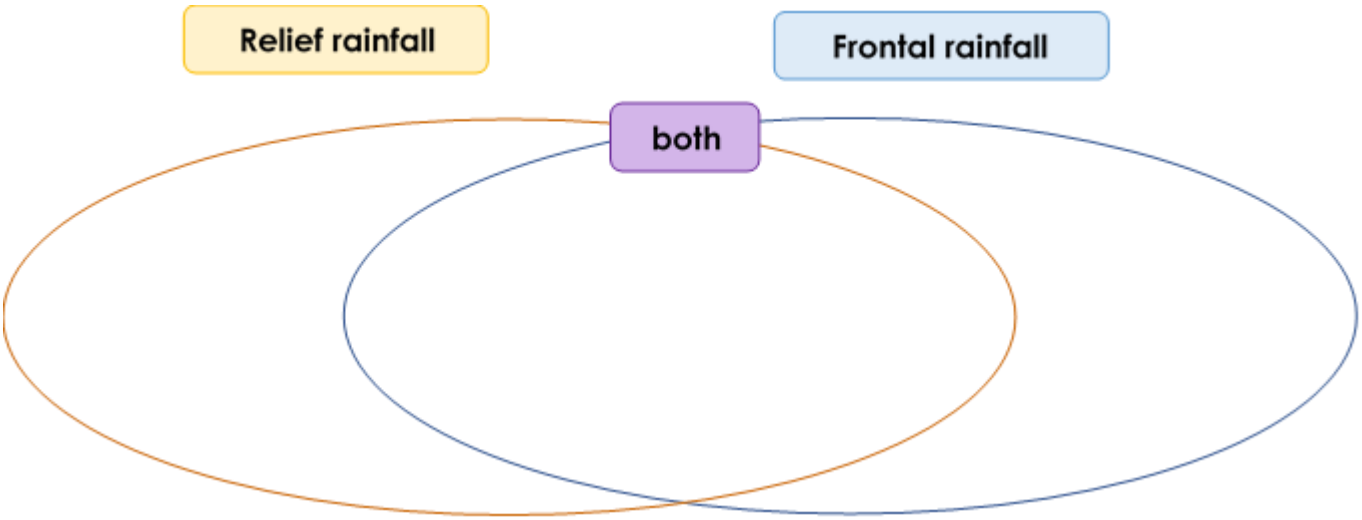
<u>Activity 3</u>- Read the information about frontal rainfall. Then answer the questions below:



Frontal rainfall questions

1. Why does frontal rainfall occur frequently in the UK?
2. Which is lighter – a warm air mass or a cold air mass?
3. Why does the meeting of cold and warm air masses cause rain to fall? (2 sentences)

<u>Activity 4</u> - There are many factors that relief and frontal rainfall have in common and some factors that are unique to each. Read the factors below and sort them into the correct part of the Venn diagram!



Factors to sort into Venn diagram

mountain condensation warm air mass **stretch -** dew point
water vapour forced to rise rainfall relief feature
evaporation cold air mass weather front

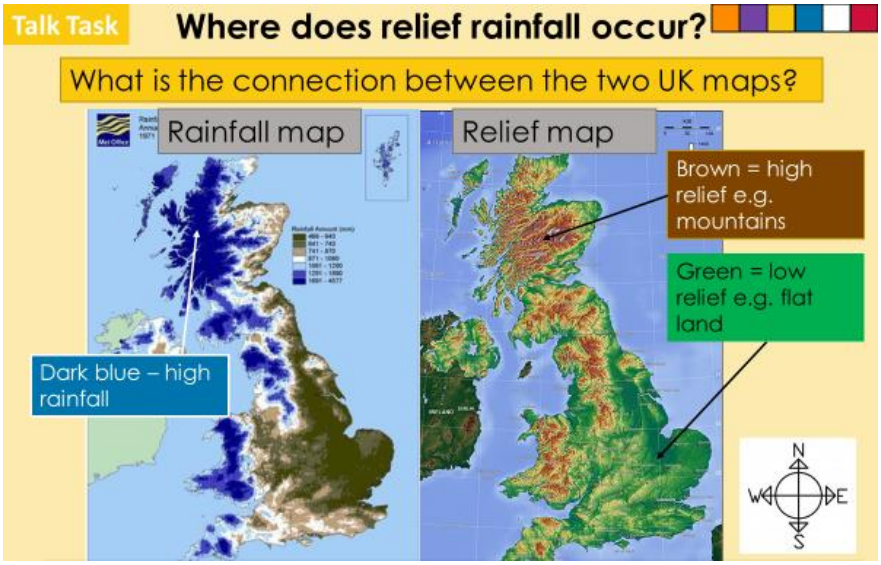
Activity 5 - Answer this question: Why does it frequently rain in the UK?

Use key terms from the Venn diagram in your answer!

Sentence starters:

The first reason why it frequently rains in the UK is…(write at least 3 sentences)

The second reason is...(write at least 3 sentences)



Stretch Task! Look at the rainfall and relief maps and answer the following question:

What is the relationship between the relief and rainfall maps?

Tips: What is the pattern of rainfall in the UK? What is the pattern of relief in the UK? Can you see any similarities and differences?

Factors to sort into Venn diagram

mountain condensation warm air mass **stretch -** dew point

water vapour forced to rise rainfall relief feature

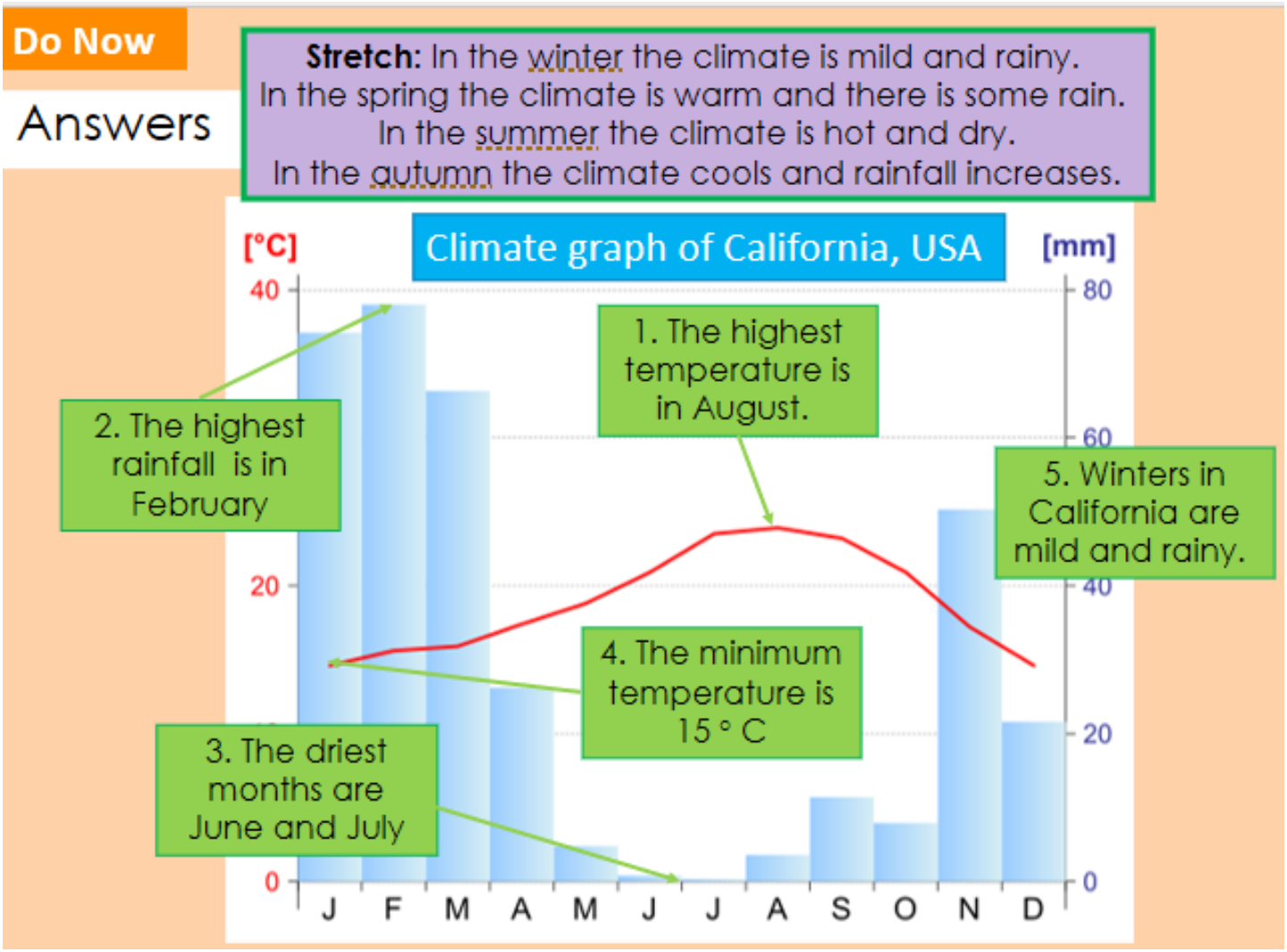
evaporation cold air mass weather front

Apply: Why does it frequently rain in the UK?

The first reason why it frequently rains in the UK is... (3 sentences)
The second reason is… (3 sentences)
Use key terms from the Venn diagram.

Lesson 6: Why does it always rain on me? Answers

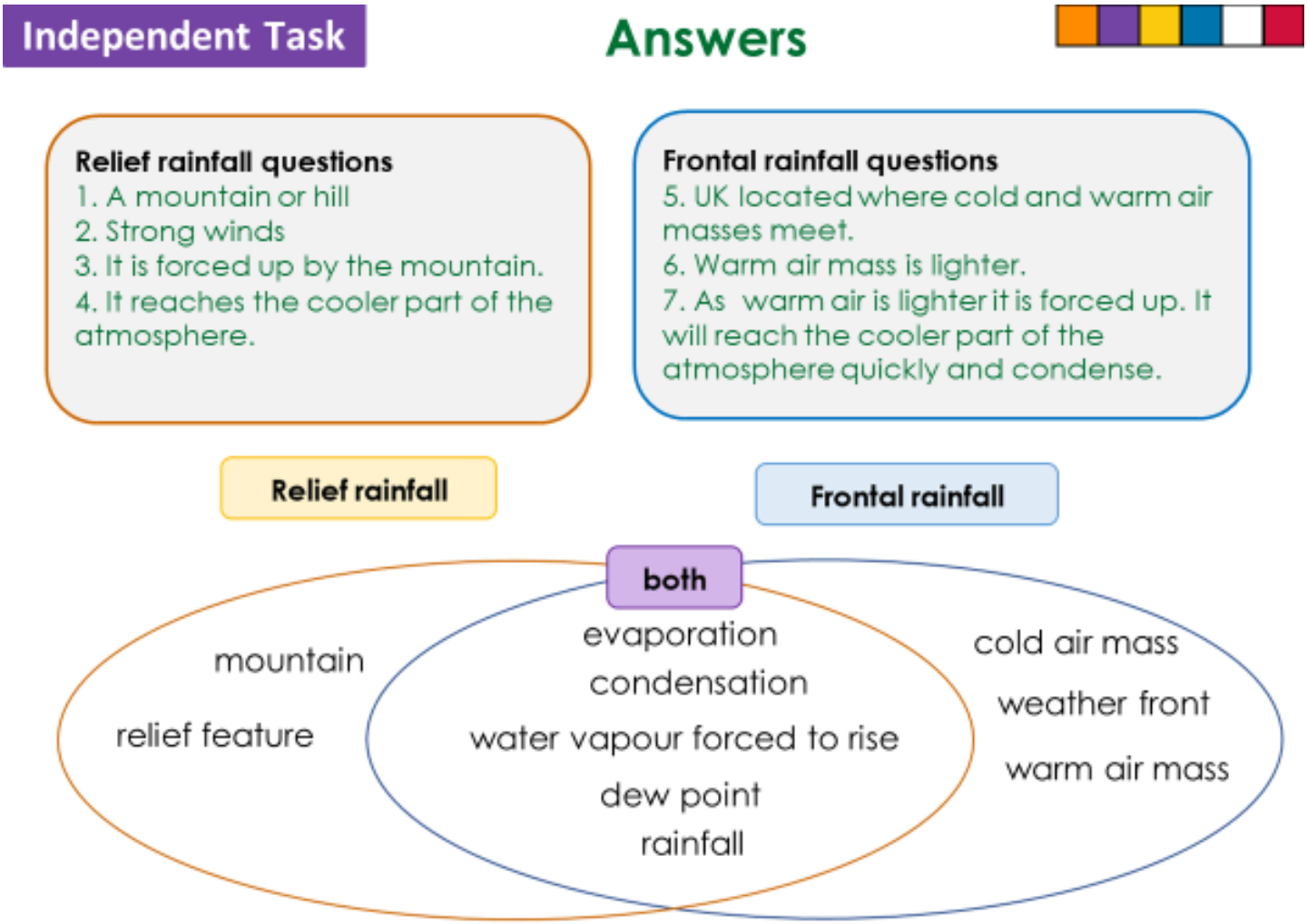
Do Now – Climate graph.



Activity 1 – What causes rain in the UK?

1. Relief and frontal rainfall
2. When hot and cold air masses meet and warm air rises above the cold air mass
3. When rainfall falls over mountainous regions, where warm air rises above the mountains and so condenses as it cools (air is cooler with altitude!)

<u>Activities 2, 3 and 4</u> – relief and frontal rainfall questions and Venn Diagram:



<u>Activity 5</u> – Why does it frequently rain in the UK?

The first reason why it frequently rains in the UK is due to the existence of **relief features** such as **mountains** and hills in places like Scotland and Northern England. When the sun **evaporates** the water, the relief feature forces the water vapour high in the atmosphere. It quickly reaches dew point and **condenses**, forming clouds and then rain. This is called relief rainfall.

The second reason why it frequently rains in the UK is due to the UK's location where **cold and warm air masses** often **meet.** This is called a weather **front.** When cold and warm air meet the **warm air rises** as is lighter than the cold air. The water vapour reaches dew point and **condenses f**orming clouds and rain. This is called frontal rainfall.

<u>Stretch task!</u> – rainfall and relief maps.

Where there is high relief e.g. mountains there is high rainfall. This proves the link between relief and rainfall.