Y9 Use the slides here to complete your worksheets

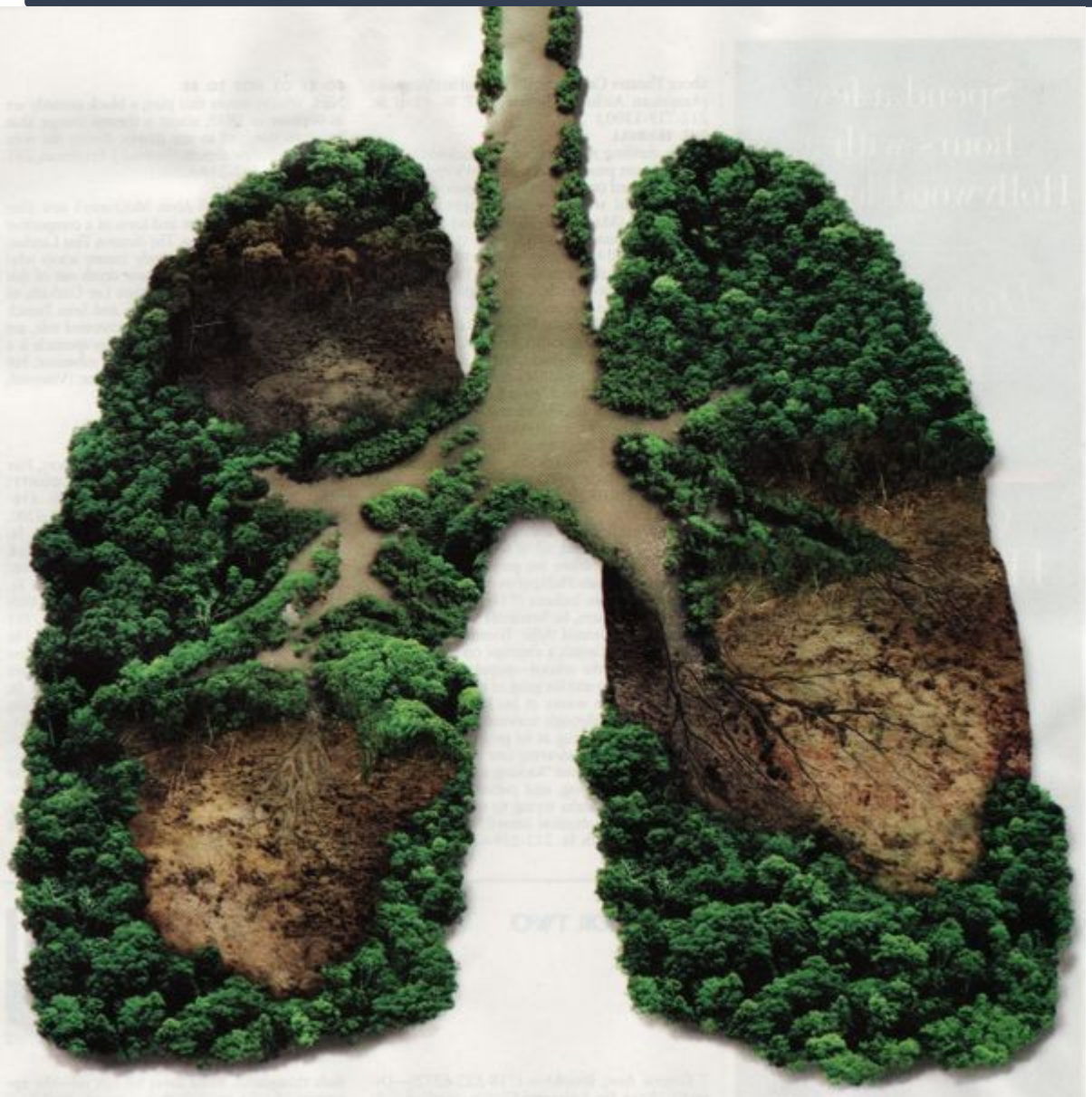
If you can’t print the worksheets don’t worry just complete on lined paper.

C/W

Ecosystems, biodiversity & management 3.5 B

26/03/2020

Threats to the rainforest



L.O: To describe the threats to the rainforest caused by humans.
To rank the threats to the rainforest

Starter: What is the image suggesting?

Why is this relevant to our topic?

C/W

Ecosystems, biodiversity & management 3.5B

26/03/2020

How does climate change present a threat to the structure, function and biodiversity of forest ecosystems?

Tropical rainforests

1. The **structure** and **function** rely on the climate. Less rainfall and warmer temperature will cause the forest to die.

2. The **resilience** of the forest has been weakened by human activity (deforestation)

3. Climate change could cause the Eastern Amazon to receive **20% less rainfall** by 2030. Less rainfall = greater chance of drought which can lead to forest fires.

4. Biodiversity will be threatened by less rainfall and higher temperatures because links in the food chain will be broken.

5. Fewer trees mean less **transpiration** which results in less water in the atmosphere. There would then be less rainfall.

Threats to the rainforest

Which do you think is the largest threat to tropical rainforests?

Explain your answer

Sustainable Development (being sustainable)

A quick reminder…

Understanding how to meet the needs of the present without compromising the needs of future generations to meet their own needs.

So in terms of a *forest*

- *How can it be protected so that it is there for future?*
- *How can we stop it from being deforested?*
- *How can we ensure that people understanding why the forest should protected?*

Using the information here and your work in phase 1 complete the Costa Rica ranking + the previous slide.

The government set up national parks which protect 18% of the country and privately owned reserves make up another 13%.

Direct government action—tax deductions and grants to owners of rainforest if they conserved their forest area and used it to benefit society. $50 annually for each hectare of forest they protect.

Areas previously deforested are being used to economically support the country e.g. farming banana crops.

The certificate for sustainable tourism for businesses proves their commitment to sustainable (eco) tourism.

Rank these schemes... Complete your essay sheet.

Essay help sheet - ASSESS = weigh it up – which option is best?

INTRO: In Costa Rica, there are many methods used to try to protect the rainforest.

P1: The most effective method that is used to protect the rainforest in Costa Rica is _____.

P2: Another method used to protect the rainforest in Costa Rica is _____.

P3: The least effective method to protect the rainforest in Costa Rica is _____.

CONCLUSION: There are many methods used to protect the rainforest by the government in Costa Rica. Overall, the most effective is _____ (then your reason why)

C/W

Ecosystems, biodiversity & management 3.6 A

26/03/2020

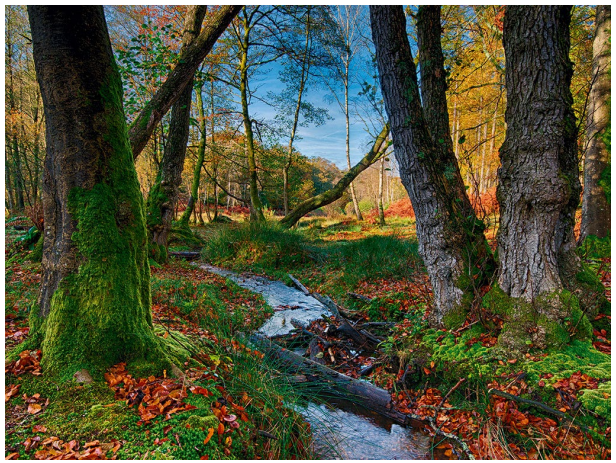
LO

To be able to describe and explain the features associated with deciduous rainforests

Starter – list the biotic and abiotic factors in the images

Biotic factors- The living organisms found in an area

Abiotic factors- the physical, non- living environment



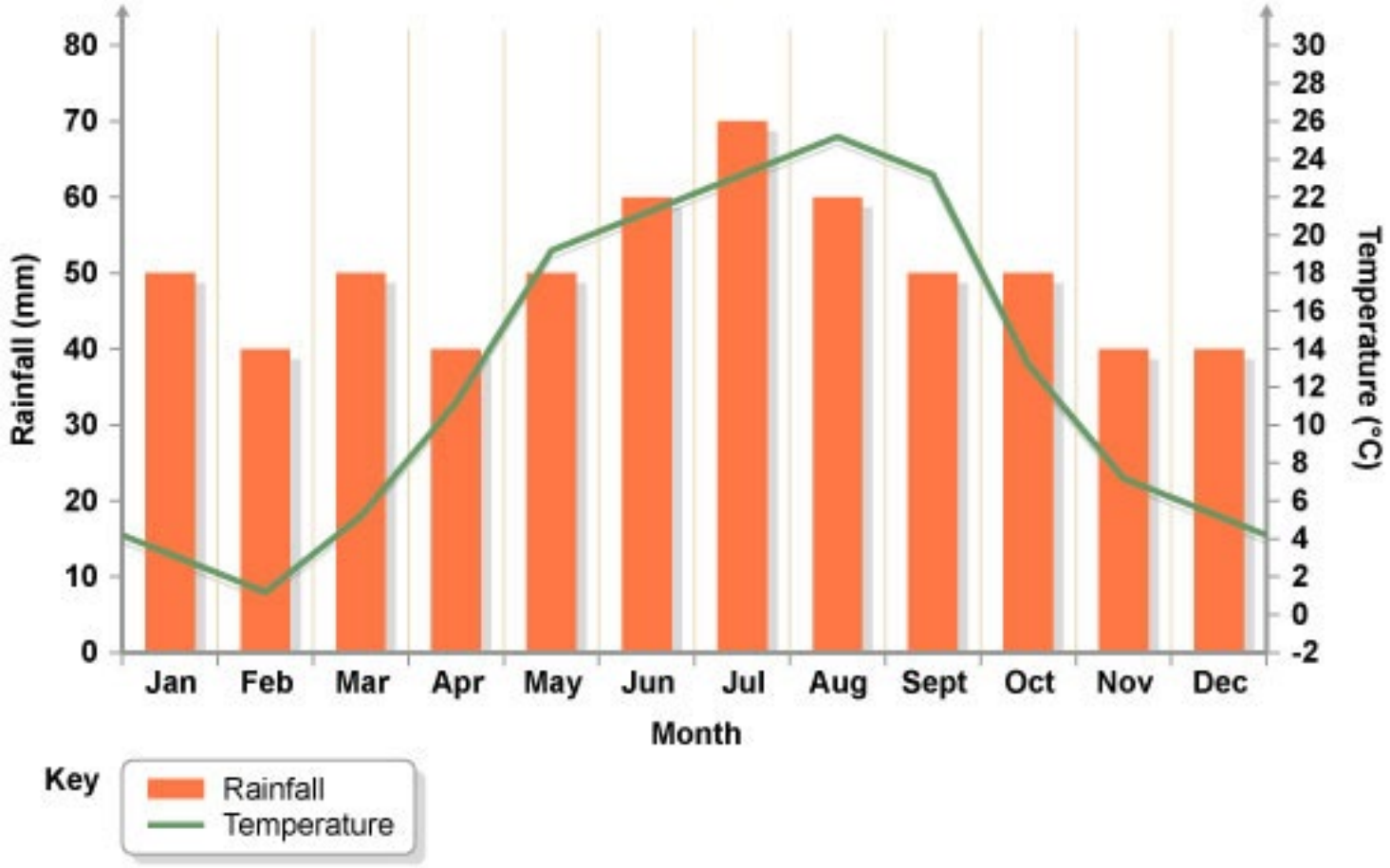
C/W

Ecosystems, biodiversity & management 3.6A

26/03/2020

The distinguishing features of a deciduous woodland

Deciduous woodland climate graph



Describe what the graph shows

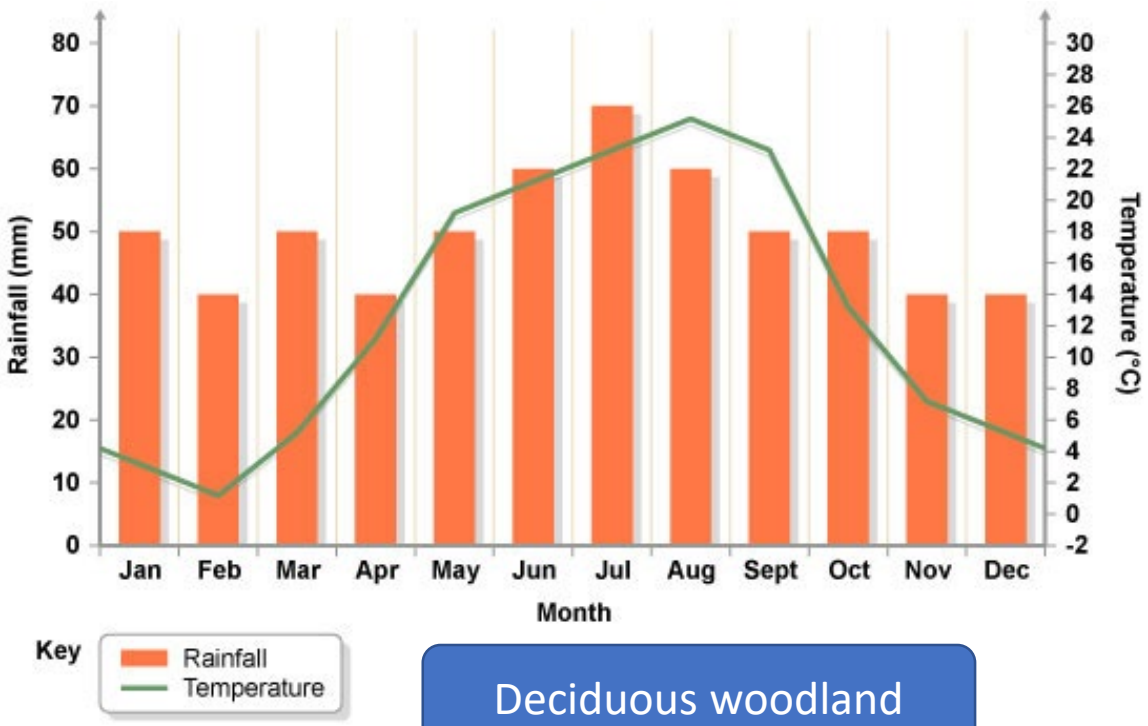
Extension- how could this change in the future (think of climate change)

C/W

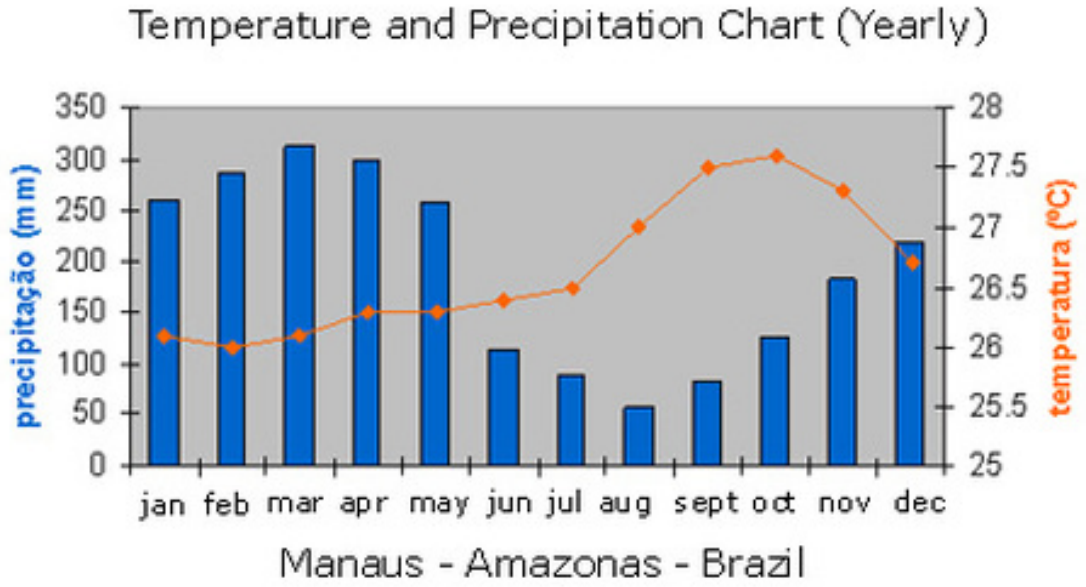
Ecosystems, biodiversity & management 3.6A

26/03/2020

The distinguishing features of a deciduous woodland



Deciduous woodland



Tropical rainforest

Describe the differences between the two climate graphs (4)

C/W

Ecosystems, biodiversity & management 3.6 C

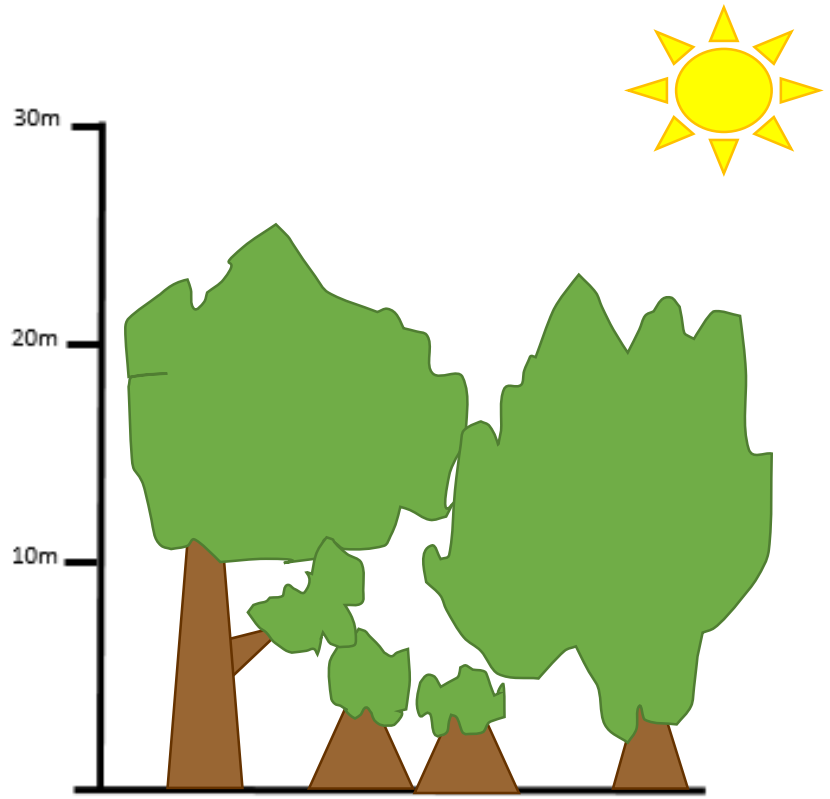
26/03/2020

The distinguishing features of a deciduous woodland

2 animal adaptations

Description of vegetation

Description of soil



Climate conditions description

Labelled diagrams to the trees in the forest

1. Complete your own annotated woodland using the following slides and watching the video below.
https://www.youtube.com/watch?v=MKQKvSbvIcE
2. Compare your rainforest annotated diagram with your rainforest diagram (you completed in class) Bullet point at least four differences.

The nightingale migrates to Africa in September, returning to the UK in April, to avoid the cold months when the woodlands offer little food.

In spring, deciduous trees grow thin, broad, lightweight leaves. These leaves capture the sunlight easily and allow the tree to grow quickly as the temperature warms and the days grow longer. However, these leaves have too much exposed surface area for the cold winter months and, therefore, the tree loses its leaves as the weather becomes colder and daylight hours shorter.

Temperature range between 4 °C and 17 °C. Long periods of light in the summer, approximately 18 hours, contrasting with short days in the winter of about 8 hours of light.

Total annual rainfall 1,000 mm.

Canopy layer – trees such as oak and ash.

Sub-canopy layer – trees such as rowans and dogwoods, and shrubs such as rhododendrons.

Field or herb layer – plants in this layer flower early in the year before the trees in the canopy have grown their leaves, which block out the light.

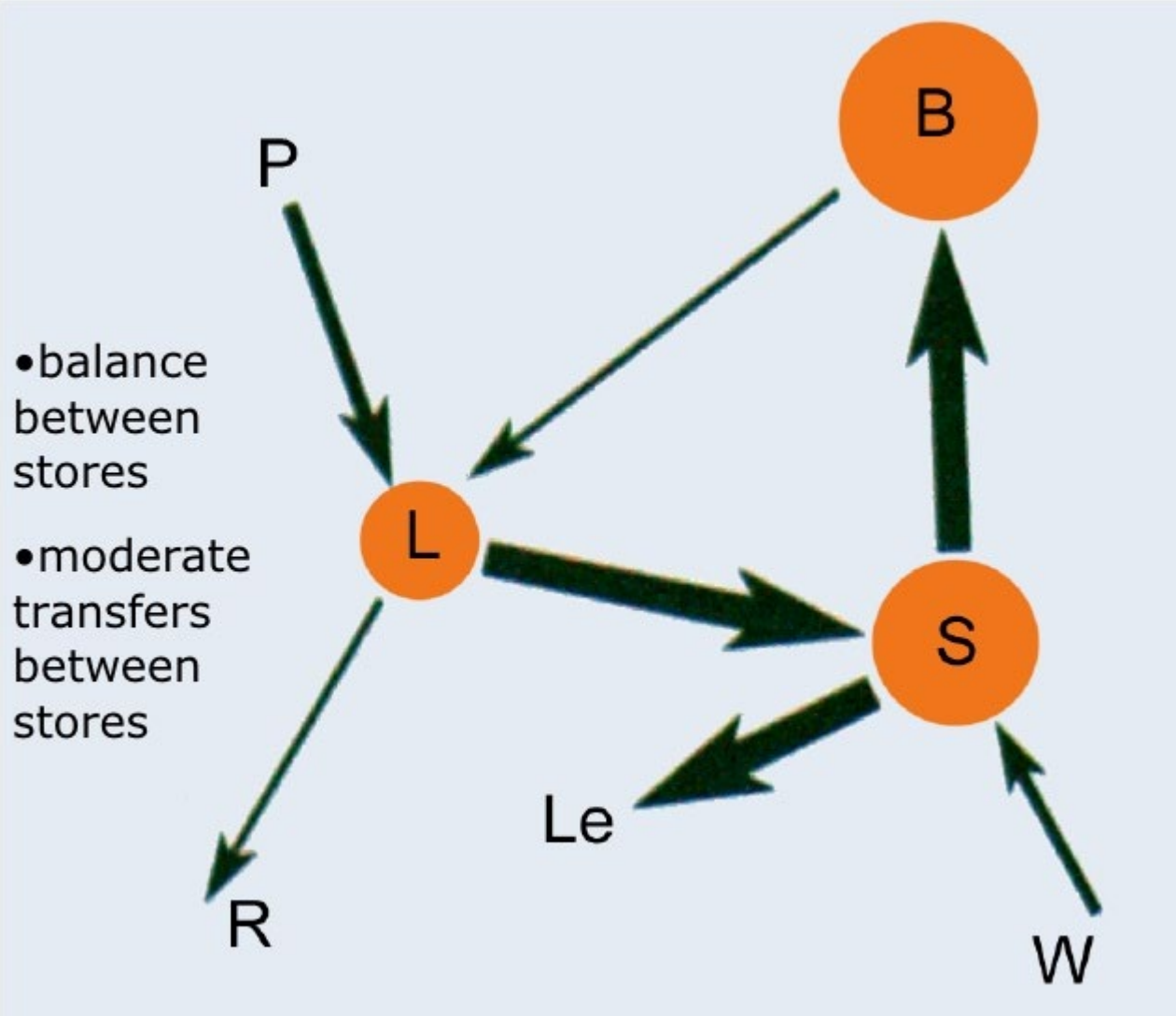
Ground layer – this area is dark and damp; mosses and lichens grow here.

The soil is fertile. The autumn leaf fall means that there are plenty of nutrients. Earthworms in the soil help to mix the nutrients. The tree roots are deep and therefore help to break up the rock below, which gives the soil more nutrients.

Hedgehogs hibernate during the cold winter months from about November to April.

Squirrels store food in the ground under fallen leaves so that they have food in the colder months.

Temperate deciduous forest



Use the key here to label your own diagram.
Compare the the tropical rainforest model on your sheet.

Gersmehl Model (nutrient cycle)

Key: Green=store Blue=flow

B – Biomass – the trees and plants in a deciduous forest.

L – Leaf litter – all the leaves that fall to the ground – mostly in autumn

S – Soil

P – Precipitation (added to the cycle).

R – Runoff – water and nutrients washed off of the forest floor.

Le – Leaching – nutrients that seep out of the soil

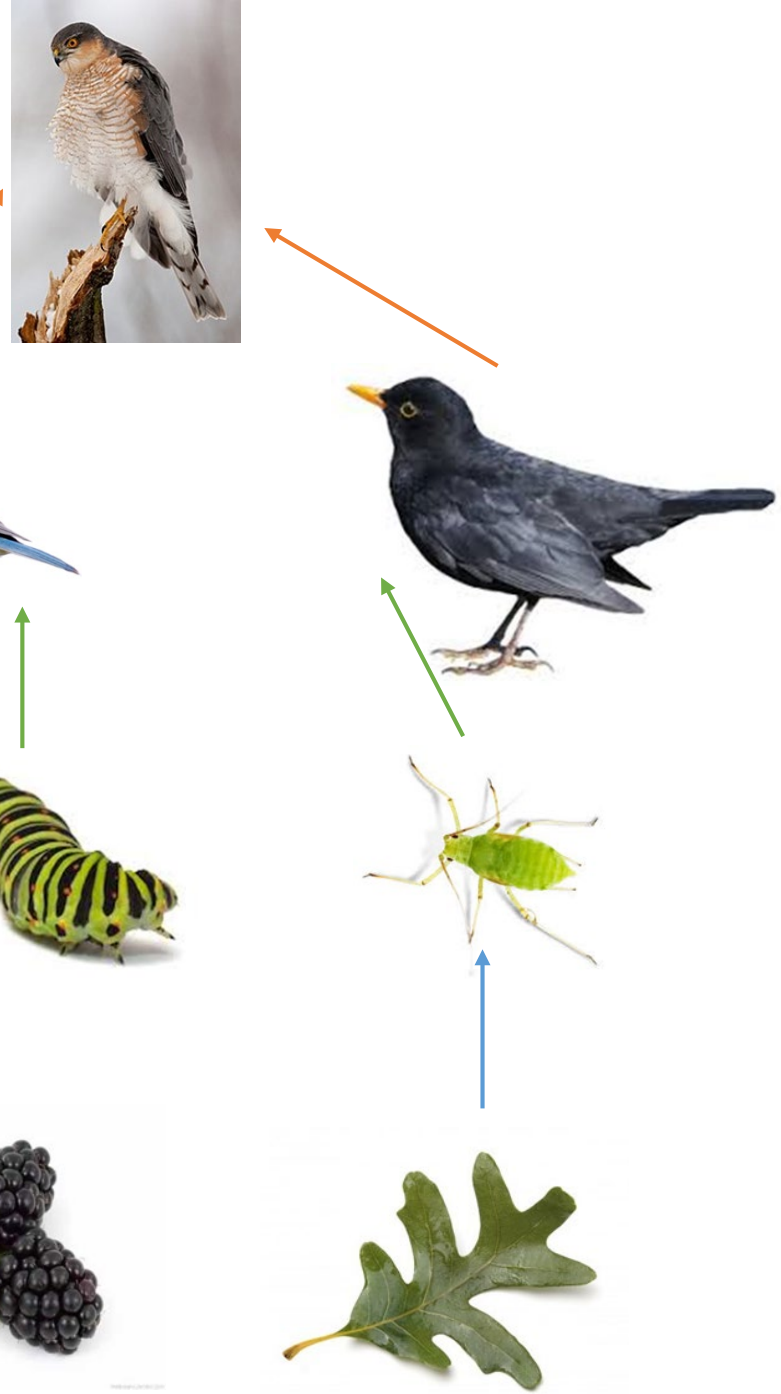
W – Weathered material (soil+rocks) added to the soil store

Tertiary Consumer

Secondary Consumer

Primary Consumer

Producer



Label your own version of this food web.

Answer the following questions

1. What would happen to the ecosystem if the number of caterpillars decreased?

2. What would happen to the ecosystem if the amount of oak leaves increased?