Kenley NATURE

Welcome to Kenley Common

KS/3

The history of Kenley Common

Since medieval times, Kenley Common was used as pasture to graze livestock. The City of London Corporation bought the land in 1883 alongside with other open spaces to form the green belt.

In 1917 the Common and adjacent farmland was requisitioned for an airfield where aircraft were assembled and tested before being flown to the Western Front.

RAF Kenley was built and played a crucial role in helping to defend Britain during WWI and WWII. Winston Churchill used to visit regularly and learnt how to fly on Kenley Airfield.

War damage to the Common was made good in the 1940s and in the early 1950s fields were hay cut and some areas grazed by Jersey cattle and ponies. However, much of the chalk grassland on the steeper slopes where haymaking was difficult, became overgrown with shrubs and trees. It wasn't until grazing was reintroduced in the 1990s that we had an alternative means of managing this area and were able to restore open chalk grassland here.

Nowadays Kenley has two roles:

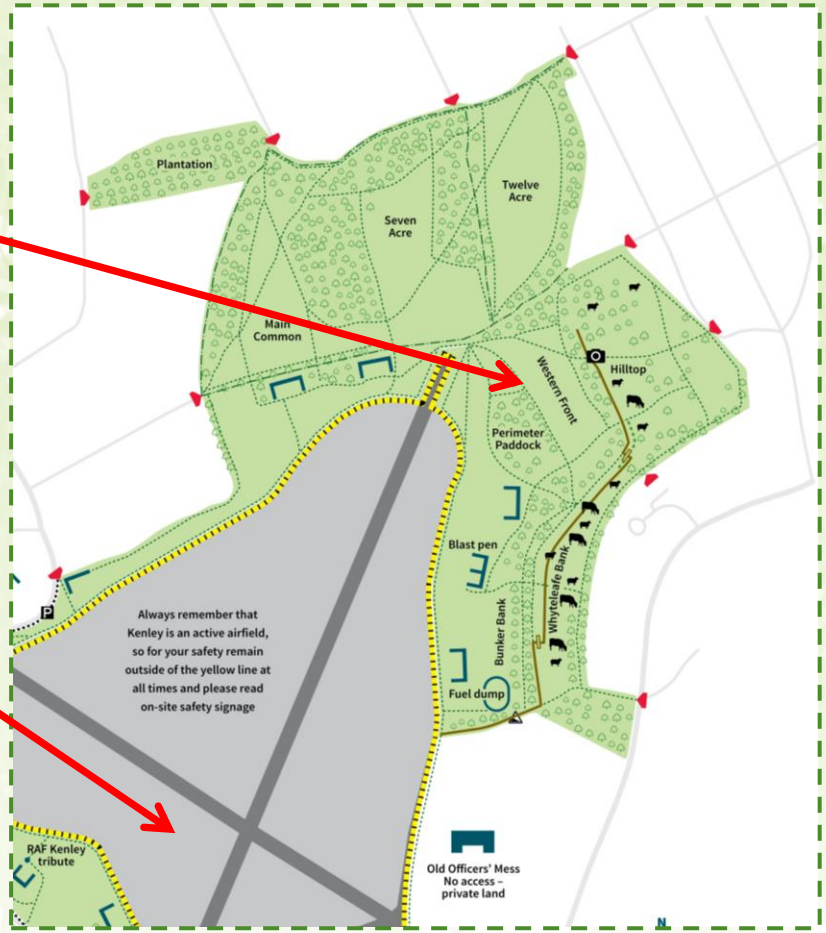
1. As a site for wildlife conservation and people to enjoy

From the clay-with-flint plateau to the steep chalk slopes, the range of soils (acid through to neutral and alkaline) gives Kenley its rich ecology, supporting a diverse and interesting mix of plants and animals.

Sussex cattle and Jacob sheep graze the meadows, maintaining a species-rich grassland.

2. As an RAF Airfield used to fly gliders with a unique habitat itself

Today, the Second World War features of Kenley Airfield are the Common's most valuable historical remains. The surviving blast pens, eight of which lie on the Common, are protected as Scheduled Monuments by Historic England. The airfield continues to be managed by the Ministry of Defence and is used for gliding.



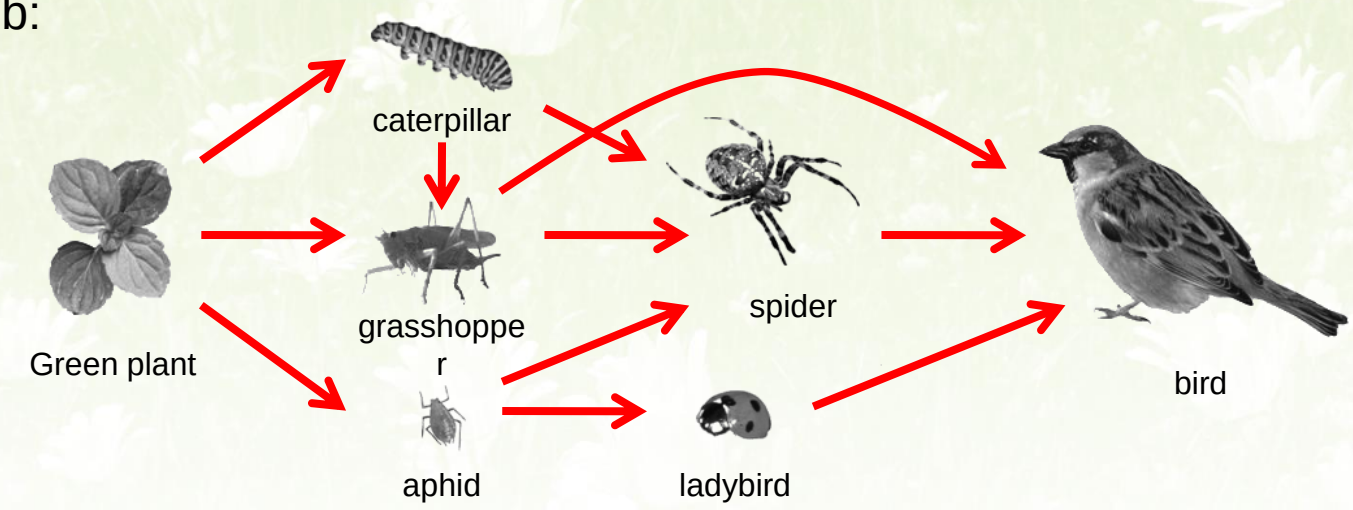
Activity One – food chains and food webs

Using the pictures of these animals found on Kenley Common can you make a food web? There are extra clues in your booklet.

A food chain:

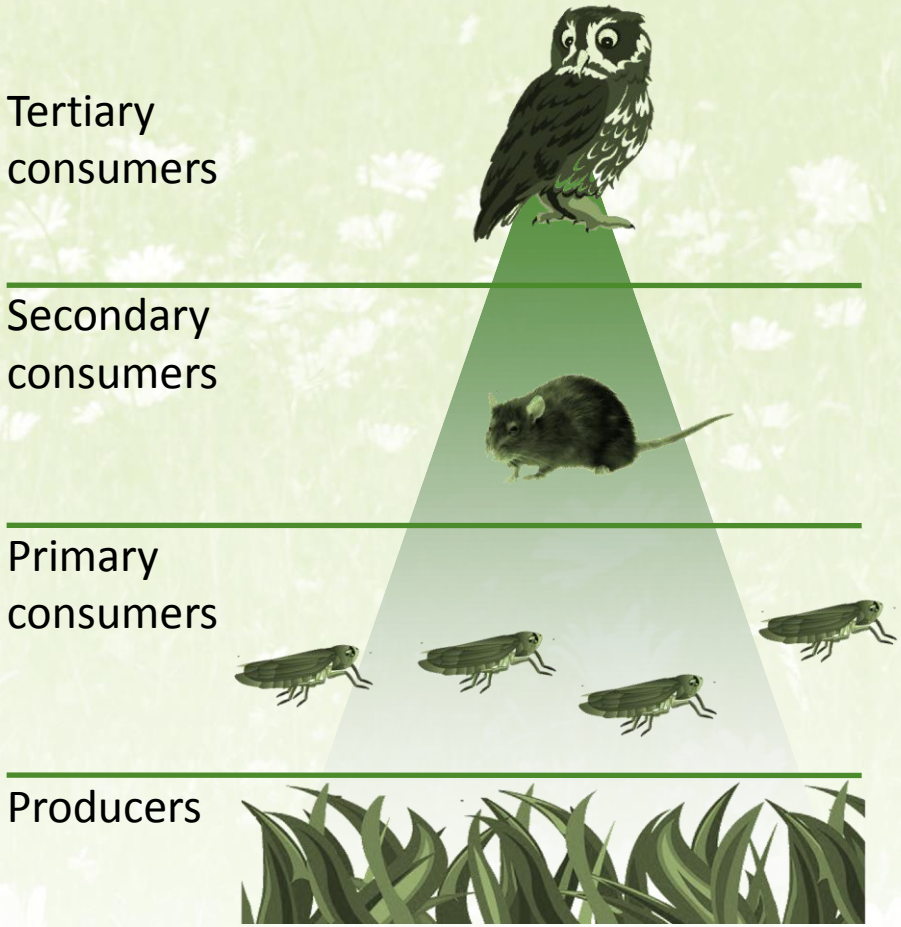
Producer (green plant) → Primary consumer (herbivore) → Secondary consumer (carnivore) → Tertiary consumer (carnivore)

A food web:



Activity Two – food pyramid

A trophic level classifies an organism's position on a food chain. As energy passes through each trophic level becomes reduced (lessened) by 10% because each organism must use some of the energy to live, reproduce, eat, move, etc…



Activity Two – food pyramid

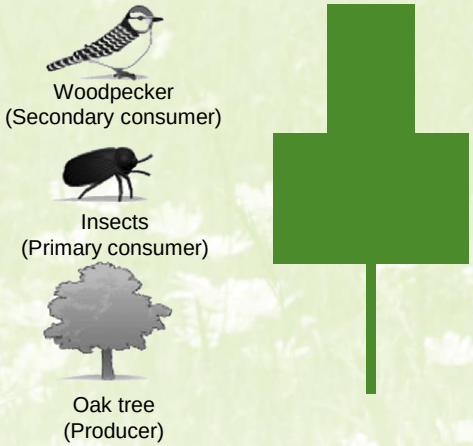
Have a look at the different tins in front of you. Please build a food pyramid and answer the questions in your workbook.

Activity Two – food pyramid

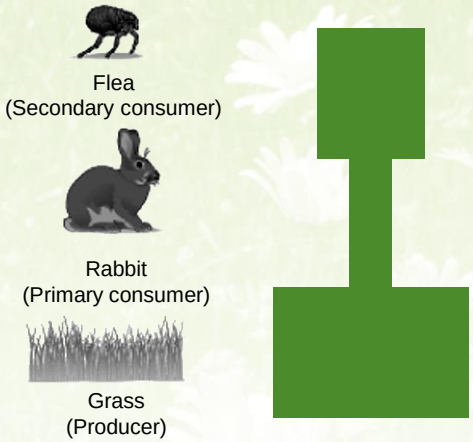
Other pyramid shapes
Sometimes the pyramid of numbers doesn't look like a pyramid at all. This could happen if the producer is a large plant such as a tree, or if one of the animals is very small. Remember, though, that whatever the situation, the producer still goes at the bottom of the pyramid.

Here are two examples of this

A
An oak tree is very large so many insects can feed on it



B
Fleas are very small and lots of them can feed on a rabbit



The path of energy flow

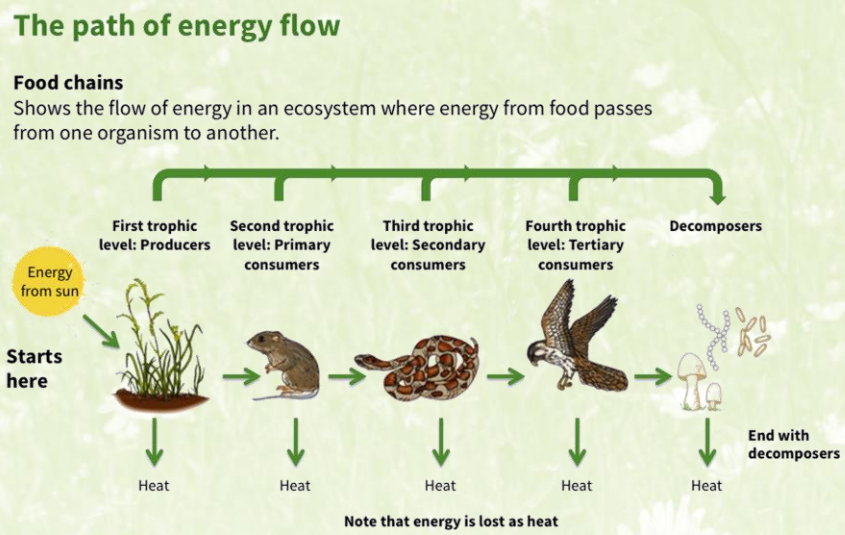
Energy is transferred along food chains from one stage to the next. But not all of the energy available to organisms at one stage can be absorbed by organisms at the next one. The amount of available energy decreases from one stage to the next.

Some of the available energy goes into growth and the production of offspring. This energy becomes available to the next stage, but most of the available energy is used up in other ways:

- energy released by respiration is used for movement and other life processes, and is eventually lost as heat to the surroundings

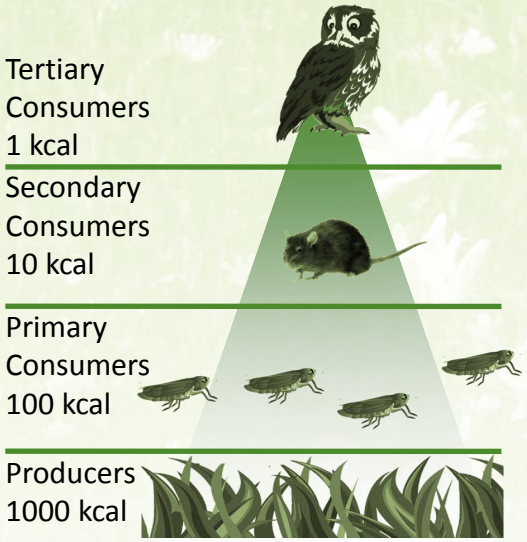
- energy is lost in waste materials, such as faeces

All of the energy used in these ways returns to the environment, and is not available to the next stage.



The percentage efficiency of energy transfer between trophic levels can be calculated using the equation:

Energy transferred to next level / total energy * 100



How much energy gets lost between producer and to consumer (%)?

Why does not get all the energy at one trophic level passed to the next level?

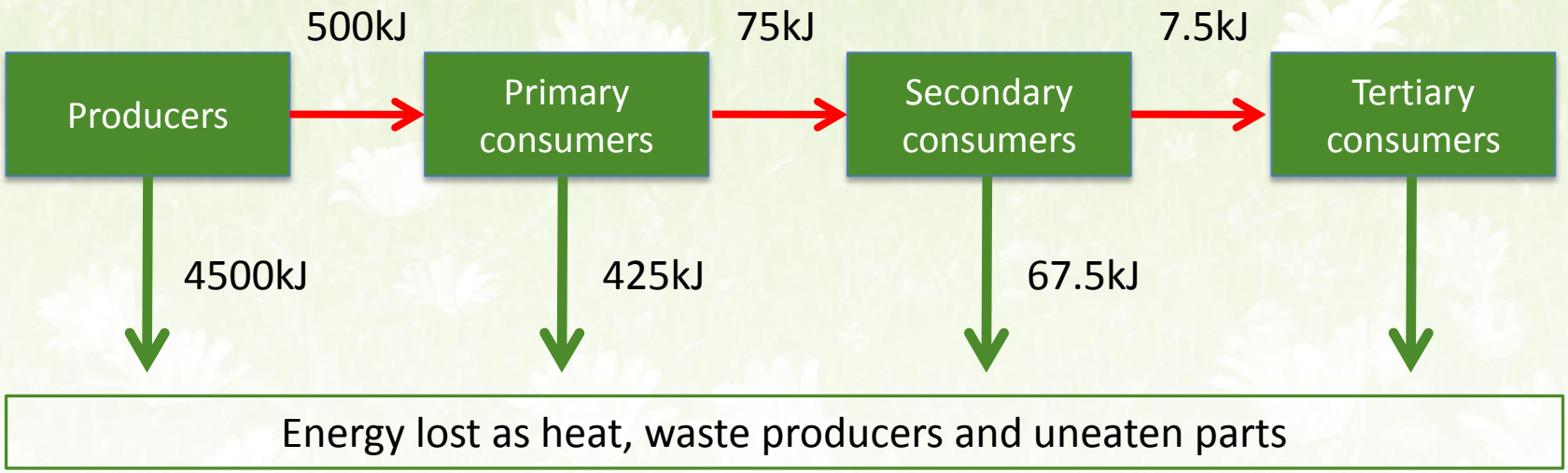
Activity Three

Have a look at your workbook and add the energy levels. The total energy that came into the primary consumer level is 5000kJ.

Work out the percentage efficiency of energy transfer between producers and primary consumers in the example.

Calculate the efficiency of this transfer using the equation:

Energy transferred to next level / total energy * 100



Activity Four – crossword