

Title: Interdependence and food webs

Date: 19/11/2020

**Underline
date and
title!**

DO NOW:

1. Finish your test.
2. Word search.
3. Check book presentation.

Challenge:



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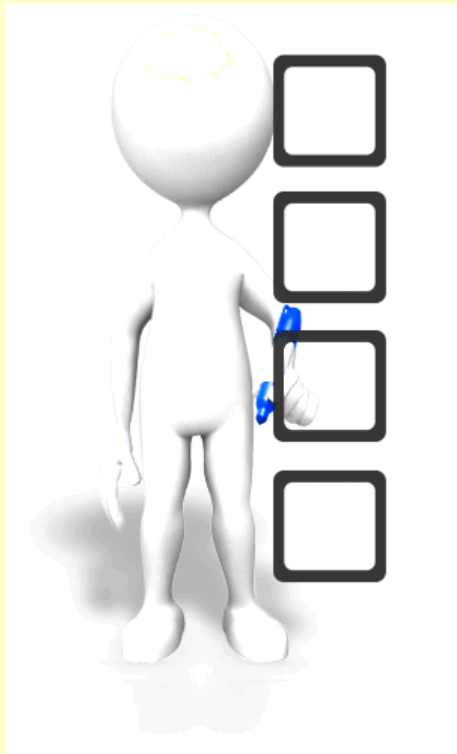


**STOCKSBRIDGE
HIGH SCHOOL**
— This is Just the Start —

Learning Intent

Understand the transfer of energy within food webs and food chains.

Success Criteria

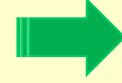


Recall knowledge of food webs and food chains.

Apply knowledge of trophic levels and energy transfer to food webs.

Draw pyramids of biomass based on given data.

DO NOW Task food chains.



1)Name of this organism

2)This description is related to how the organism gets its energy (food)

3)This description is related to the type of food the organism eats

Herbivore

Secondary consumer

Producer

Carnivore

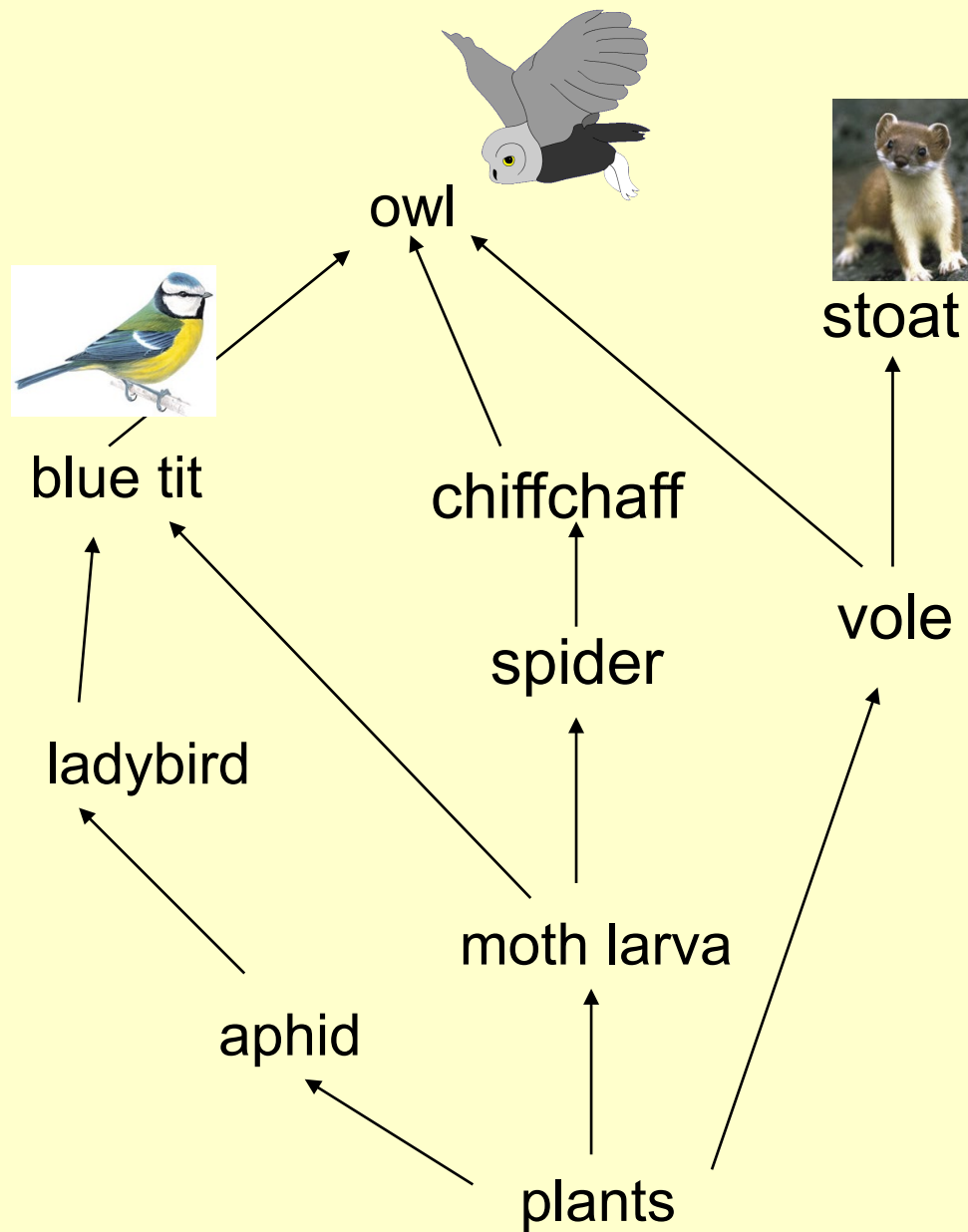
Primary consumer

ACTIVITY 1 : MAKE A FOOD CHAIN!

Read the following story about who eats whom in the Antarctic. After you have read the story draw a food chain that shows the feeding relationships in this habitat. Don't forget that your food chain must start with a producer!

Killer whales or orca's range around Antarctica hunting for their food. One of the species that they eat are the Weddell Seal. Weddell seals are large mammals that stay in Antarctica all year round. One of the many things that they eat are squid. Squid are very fast hunters who often poison their prey. They feed on many different organisms including shrimp. Shrimp are small animals that live on the ocean floor. There are over 2,000 different species of shrimp all over the world. They are omnivores but phytoplankton makes up a large part of their diet.

ACTIVITY 2 : ANALYSE A FOOD WEB



Which of these are not herbivores? Moth larvae, stoat, aphid.

Which secondary consumers are also top carnivores?

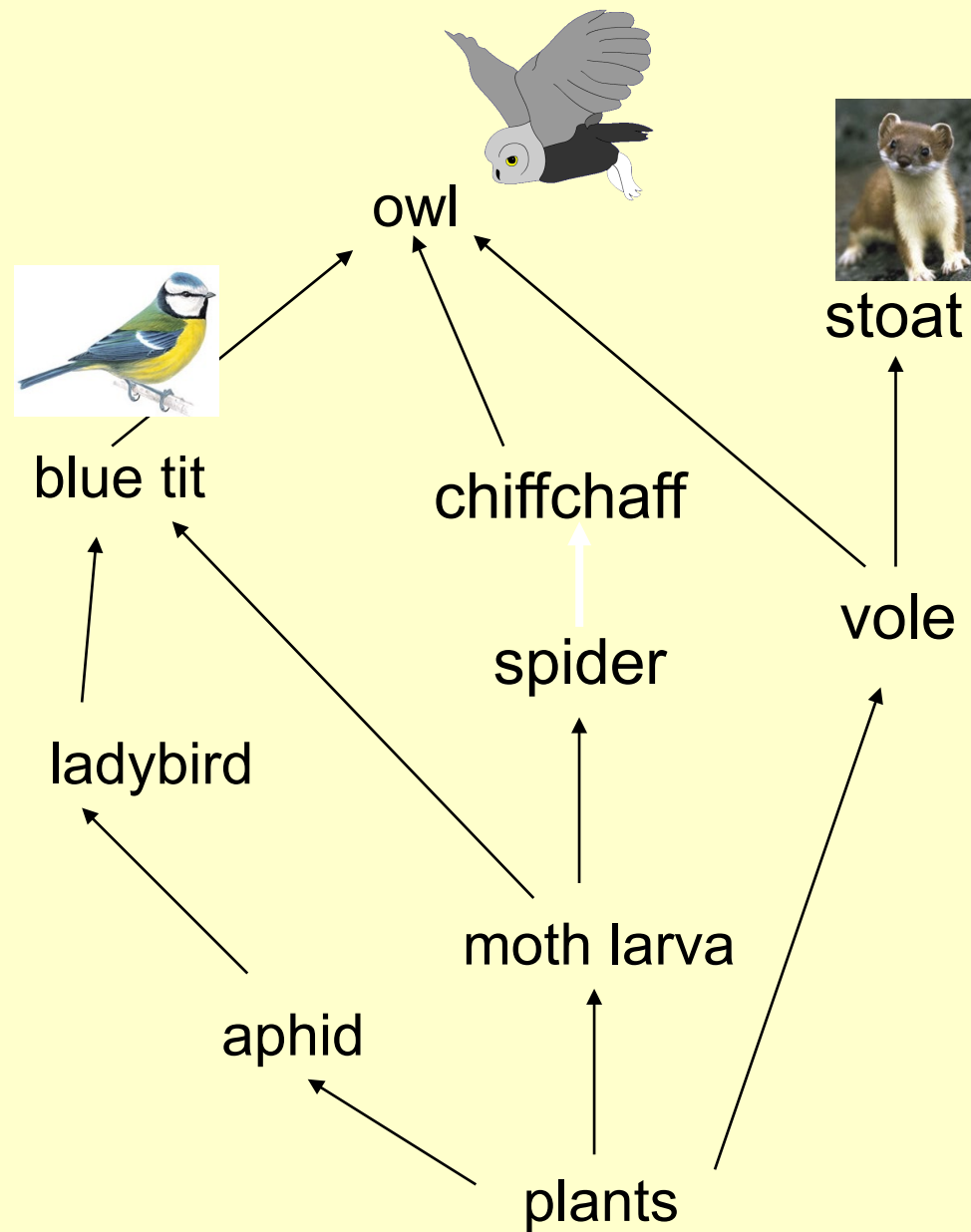
Name two species that are eaten by owls.

If the ladybirds were removed, what would happen to the population of aphids and spiders?

Aphids _____

Spiders _____

ACTIVITY 2 : ANALYSE A FOOD WEB



Which of these are not herbivores? Moth larvae, stoat, aphid.

stoat

Which secondary consumers are also top carnivores?

Owl & stoat

Name two species that are eaten by owls.

Blue tit, chiffchaff, vole

If the ladybirds were removed, what would happen to the population of aphids and spiders?

Aphids: increase because they don't get eaten by the ladybirds

Spiders: decrease because the blue tit would have to eat the moth larvae, so spiders would have less food (moth larvae)

ACTIVITY 3 - DISCUSS

What gives you more energy?



or



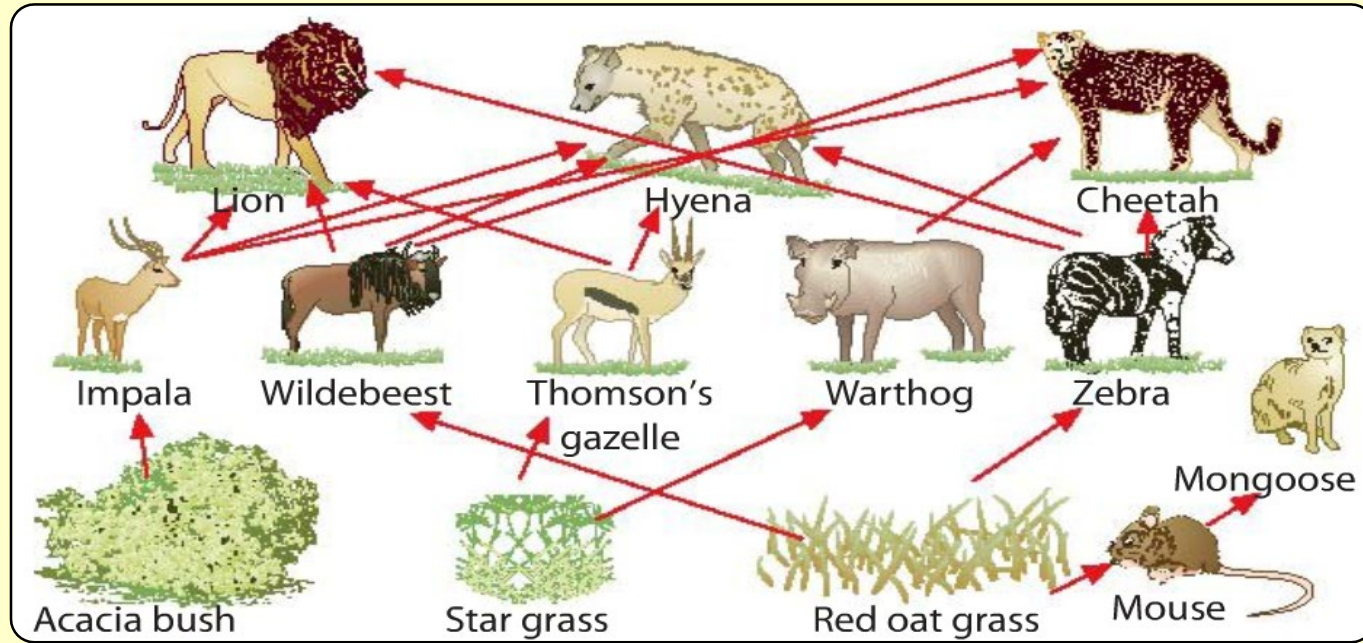
Meat or Wheat?

Match the definition to the correct term.

Producer	=		An organism that only eats other consumers
Omnivore	=		An organism that eats only producers
Herbivore	=		An organism that cannot make its own food
Consumer	=		An organism that eats both consumers and producers
Carnivore	=		An organism that produces its own food



How many food chains are in this food web?



13 food chains

Acacia → impala → lion

Acacia → impala → hyena

Acacia → impala → cheetah

Star grass → thomsons gazelle → lion

Star grass → thomsons gazelle → hyena

Star grass → warthog → cheetah

Red oat grass → wildbeest → lion

Red oat grass → wildbeest → hyena

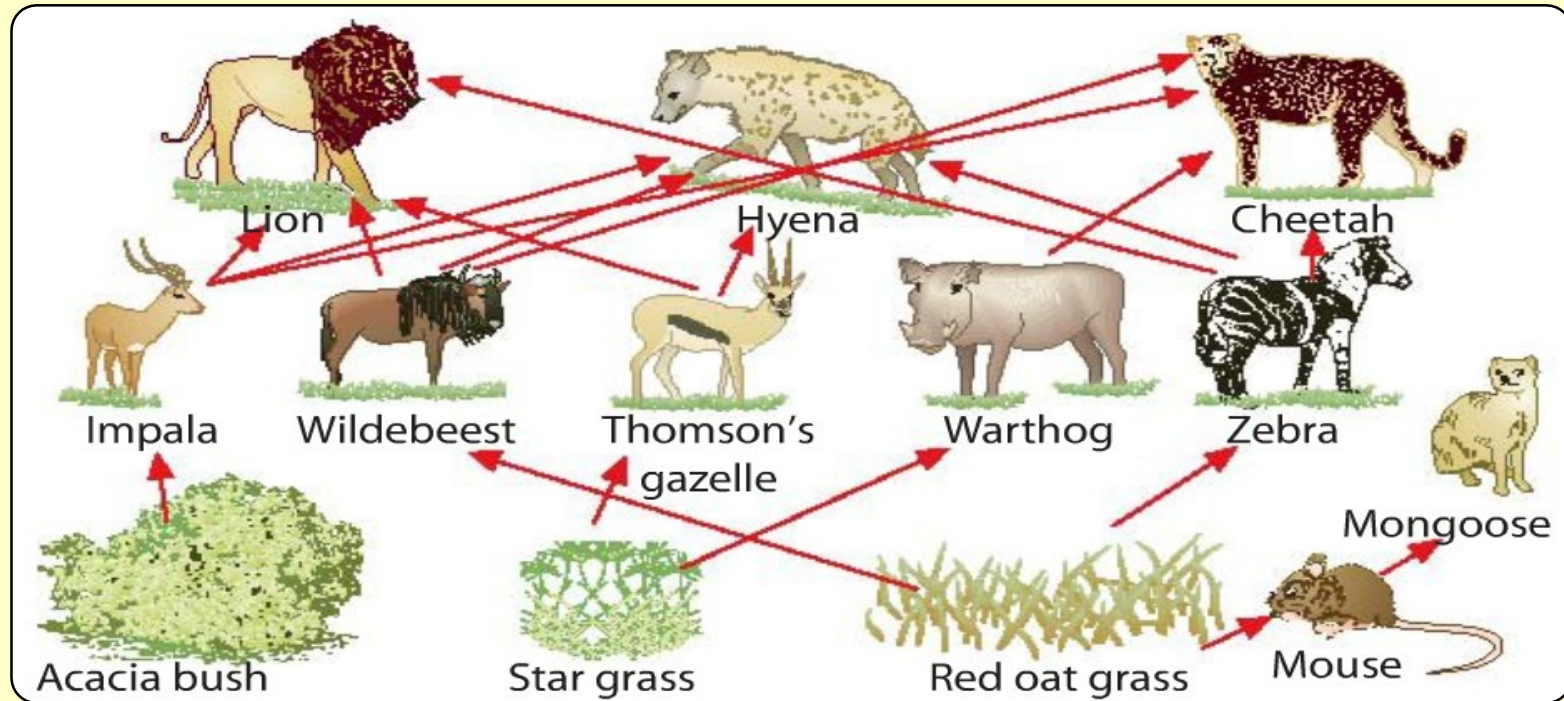
Red oat grass → wildbeest → cheetah

Red oat grass → zebra → lion

Red oat grass → zebra → hyena

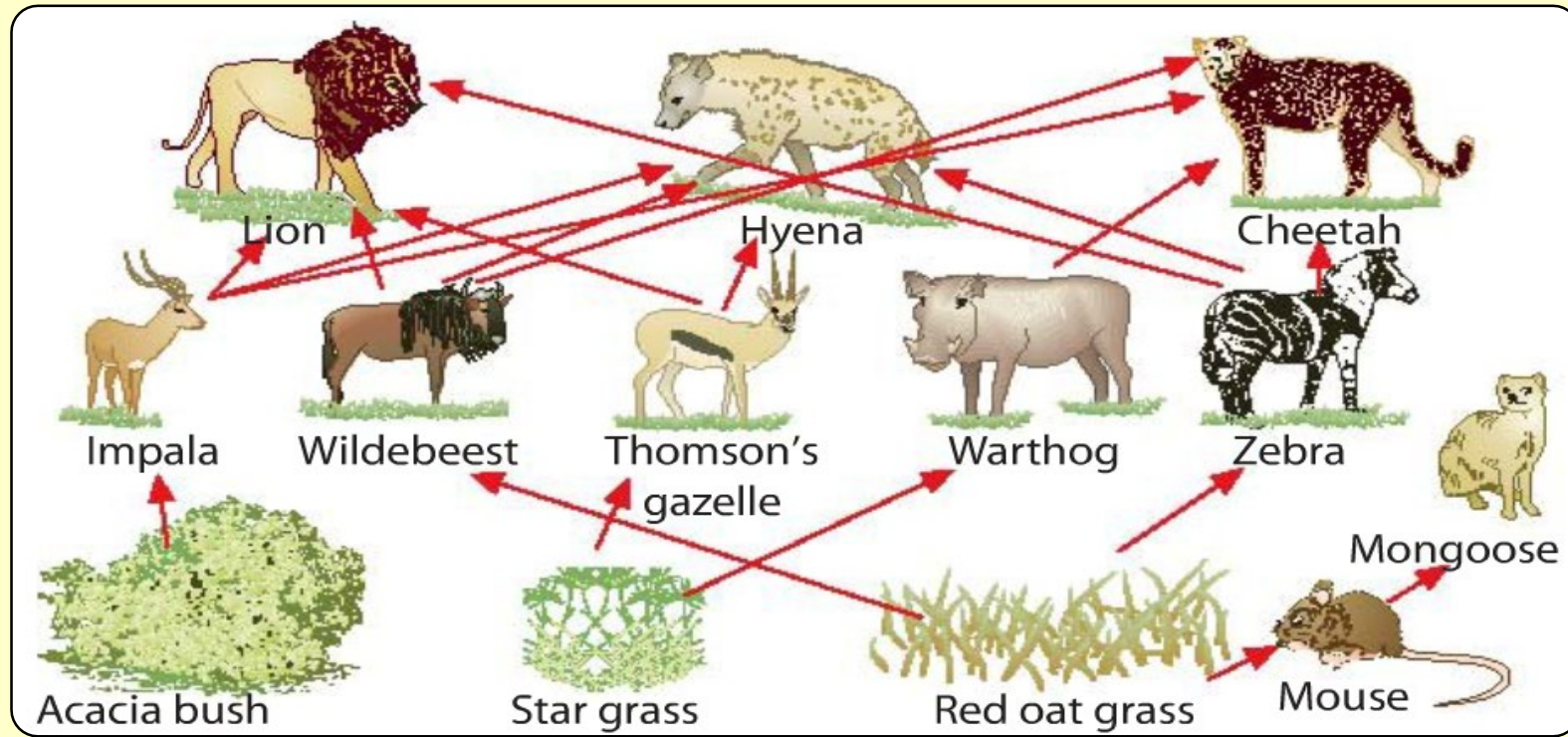
Red oat grass → zebra → cheetah

Red oat grass → mouse → mongoose



How many organisms are in competition for red oat grass?

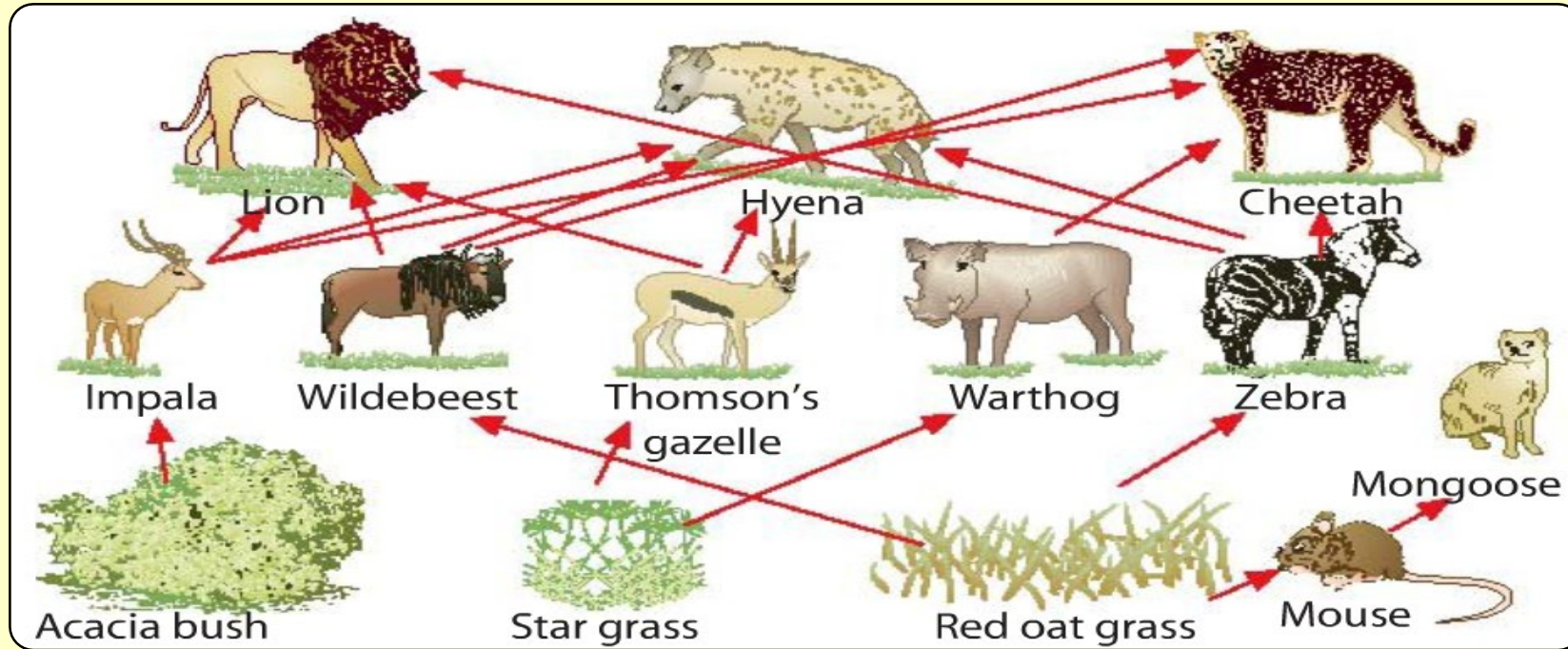
Three (Wildebeeste, Zebra and Mouse)



From the food web name the producers and secondary consumers

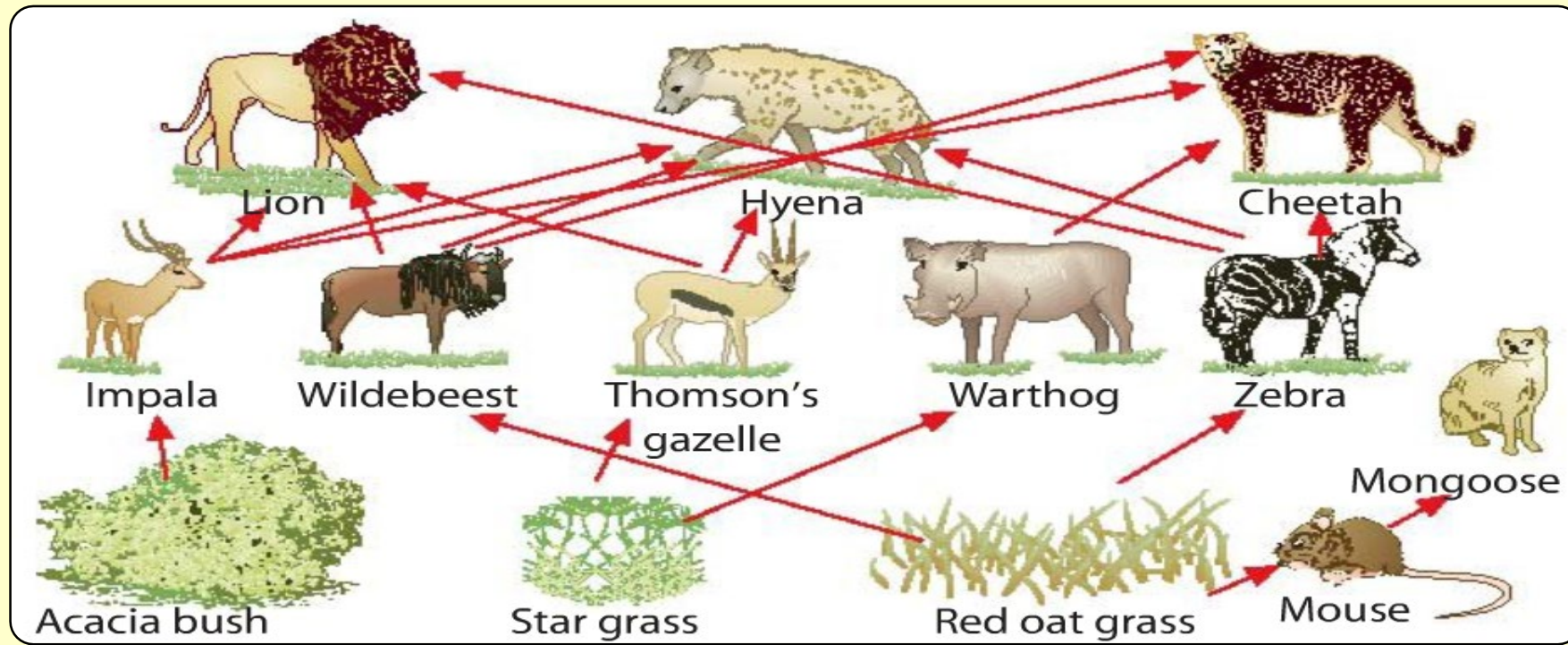
Producer: acacia bush, star grass, red oat grass

Secondary consumer: lion, hyena, cheetah, mongoose



What would happen if you remove all the impala?

The predators for impala would have to eat gazelle, wildebeest... This could lead to a drop in other animal populations.



The cheetah is an endangered species. If the number of lions increases this could affect the cheetah population. Why?

There is inter-specific competition between the lions and cheetahs for resources since both are competing for Wildebeest, Thomson's gazelle.....

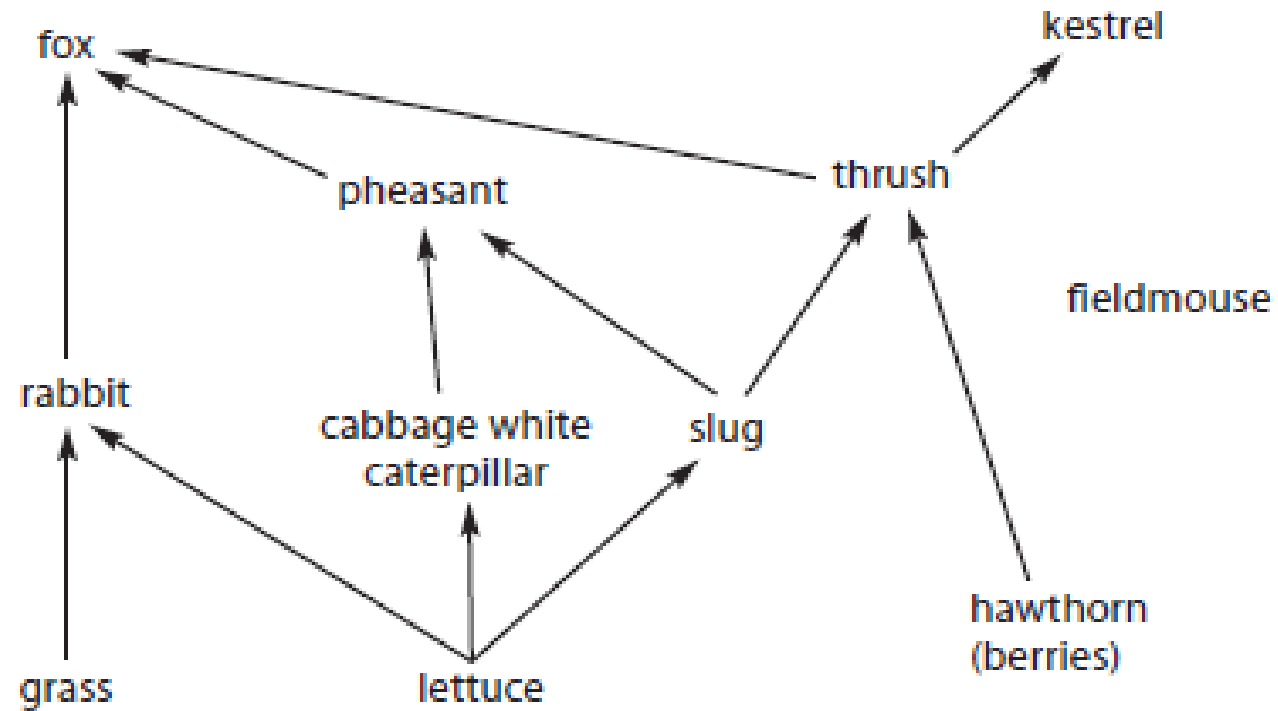
What is the difference between a food chain and a food pyramid?

- A food chain only shows who eats what.**
- A food pyramids gives more detail e.g. what mass of organisms eaten.**

Producer	Primary consumer	Secondary consumer
600 grass	12 zebra	1lion
1 star grass	900 warthog	20 cheetah

Draw a pyramid of biomass for the food chain with the warthog

A hedgerow beside a field of lettuces provides shelter for many species. These species are linked in a food web.



A farmer decides to spray the lettuces with pesticides to kill the caterpillars. What effect might this have on the slugs?

Will get more food (because of less competition)

Ecosystems consist of plants and animals that are linked together by _____ chains. _____ of number and pyramids of _____ are other ways of showing information about food chains. Pyramids of _____ show how many individuals are found at each level of the food chain. Pyramids of _____ show how much living matter there is at each level.

Pyramids biomass food biomass number

Ecosystems consist of plants and animals that are linked together by Pyramids chains. food of number and pyramids of biomass are other ways of showing information about food chains. Pyramids of number show how many individuals are found at each level of the food chain. Pyramids of biomass show how much living matter there is at each level.

Ecology bingo

predator

prey

herbivore

omnivore

carnivore

energy

sun

community

species

ecosystem

habitat

natural selection

Charles Darwin

producer

consumer

decomposer

scavenger

interdependence

competition

abiotic

biotic

photosynthesis

Answers

These are organisms which kill for food. They are secondary or tertiary consumers.	predator
These are the animals which are eaten by the predators.	prey
A consumer which feeds on plant material only.	herbivore
A consumer which feeds on plants and meat.	omnivore
A consumer which feeds on meat only.	carnivore
What is transferred between living things in a food chain.	energy
The source of all energy in a food chain.	sun
The populations of different species living in a habitat.	community
A group of living things which can interbreed and produce fertile offspring.	species
The interaction between the living organisms and the different factors of the environment.	ecosystem
The place where a living thing lives.	habitat
The most popular theory of evolution.	natural selection

Answers

The scientist who proposed the theory of natural selection.	Charles Darwin
Converts the sun's energy into useful compounds through photosynthesis. They are green plants or algae.	producer
These living organisms eat other living things for energy.	consumer
These organisms feed on dead and decaying organisms. They break down the biomass and release nutrients into the soil.	decomposer
These organisms feed on dead animals.	scavenger
The interaction between two or more organisms, where it is mutually beneficial.	interdependence
The negative interaction between two or more organisms which require the same limited resource.	competition
The non-living factors of an environment.	abiotic
The living factors of an environment.	biotic
The process by which green plants convert sunlight into biomass.	photosynthesis