

Year 10

Biology booklet

Topic 3 - Ecology

Name: _____

Ecology

Give a definition for each of these key words:

Classification	
Ecosystem	
Community	
Habitat	
Interdependence	
Species	
Biotic	
Abiotic	
Sampling	
Quadrat	
Population	
Adaptation	
Food chain	
Biodiversity	
Greenhouse effect	

Classification

Vertebrate class	Body covering	movement	reproduction	Sense organs	Other details	examples
Fish			Jelly-covered eggs	Eyes Lateral line in body detects vibrations in water		Herring Perch Shark
Amphibians		Four limbs Webbed feet				
Reptiles	Dry, scales		Eggs with rubbery waterproof shell. – laid on land		Cold blooded Lungs for breathing	
Birds						Flamingo Pigeon
Mammals	Fur					

Group	Class	Example	External features
Arthropods Waterproof exoskeleton Segmented bodies Jointed limbs	Insects		
	Arachnids		
	Crustaceans		
	Myriapods		
Annelids			
Nematodes			
Molluscs			

Find these words in the wordsearch and then use those words to fill in the gaps
in the sentences below:

L P H C V H E F R A Y W R W B
F S F F L F A O J S D I M U H
F A E C F F T B B M P W E T E
O R W C A A N K I P L C Q S R
T L X O D R C K H T T B H N B
A U P E B P N R K W A Q K E I
R G R M R Y I I B U O T K C V
C P E E K D V F V K U R V O O
A F Y G L Y R D N O C K I S R
F O O D C H A I N A R Q Q Y E
D Z D O S X E V Q R X E T S X
K D E J D E W Y C T W L Y T T
E P Z B Y W H J S M J W B E A
E M F Y Z I E H P Y K G O M Z
S O X L A D K B G E Z H O U V

**ecosystem habitat predator prey carnivore herbivore foodchain
foodweb dry wet humid**

An _____ is where animals and plants live along with the conditions there. A small part of an ecosystem where certain animals and plants live is called a _____. We can use words to describe ecosystems, for example: _____, _____ and _____. Some animals eat other animals, they are the _____. Some animals are eaten by other animals, they are called the _____. We can show simply how animals eat other animals using a _____. A _____ is lots of food chains joined together. A _____ eats only other animals. A _____ eats only other plants.

Feeding types

How do **producers** in an ecosystem gain energy? Give an example of a **producer**.

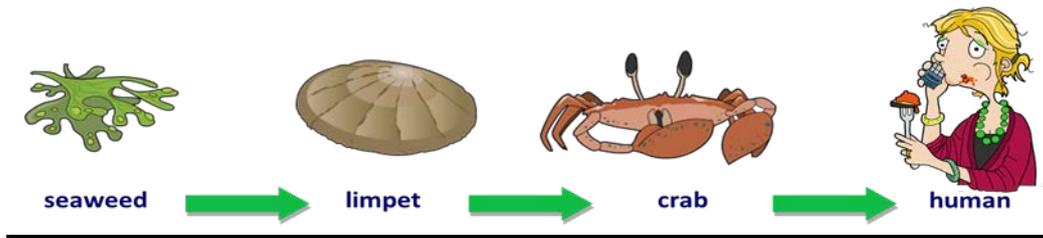
How do **consumers** in an ecosystem gain energy? Give an example of a **consumer**.

Consumers

Key word	Definition	Example
	Eats only producers	
	Eats only other consumers	
	Eats both consumers and producers	

Food Chains

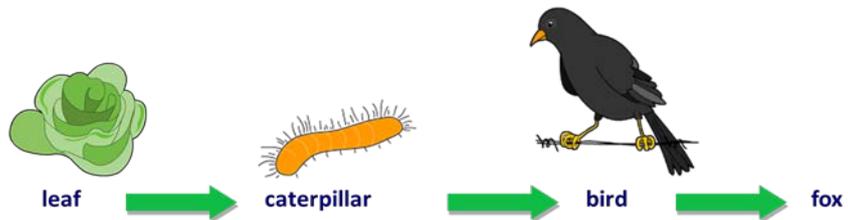
A food chain is a sequence which shows how each individual _____ on the organism below it in the chain. Each _____ means _____.



In this food chain a _____ is eaten by a _____, which is then eaten by a _____, which is then eaten by a _____.

Energy is _____ from one organism to another in the direction of the arrow, showing the _____.

Ranking consumers



Producer	
Primary consumer	
Secondary consumer	
Tertiary consumer	

Human Population Growth

Use the data to **plot a graph** showing how human population has changed over time.

Explain what pattern your graph shows.

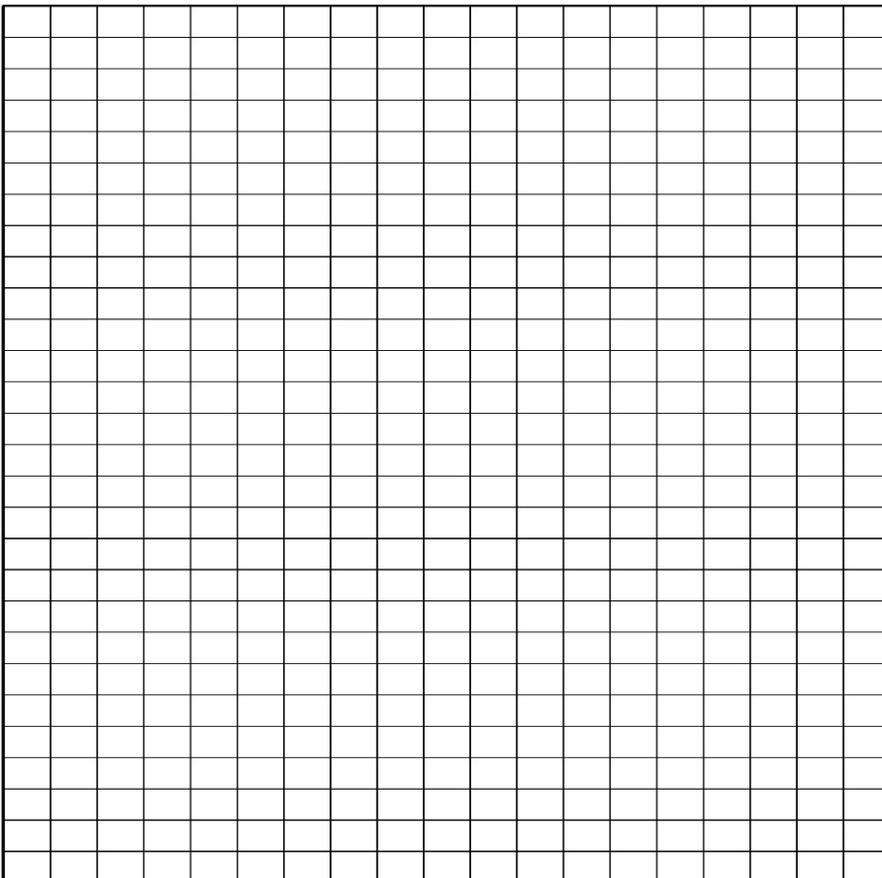
What does this tell us about how the population size has changed?

Why do you think the graph is the shape it is?

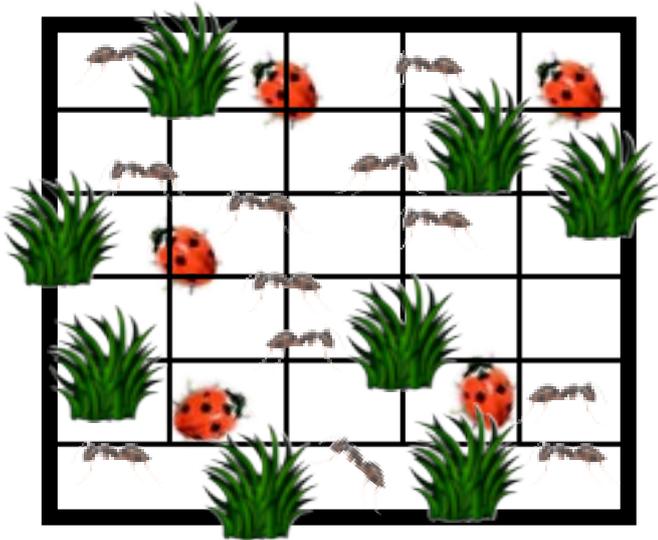
What factors would cause the population size to increase rapidly?

What factors could cause the population to decrease in size?

Year	Population (millions)
-1000	50
-500	100
1	400
500	206
1000	345
1200	450
1400	350
1600	545
1800	813
1900	1,550
1920	1,860
1940	2,300
1950	2,555
1960	3,040
1970	3,707
1980	4,453
1990	5,282
2000	6,080

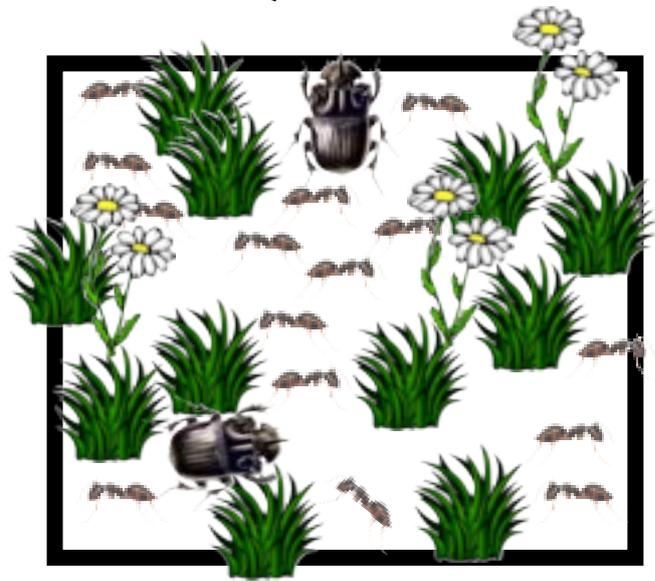


Quadrat 1



← 1m →

Quadrat 2



← 1m →

What are the differences between these two quadrats?

-
-
-

Pick one of the differences and explain a possible reason for this difference

Investigating the effect of **amount of light** on the **number of daisies**

Reliable results =

How can we make sure our results are reliable?

- 1.
- 2.



Valid results =

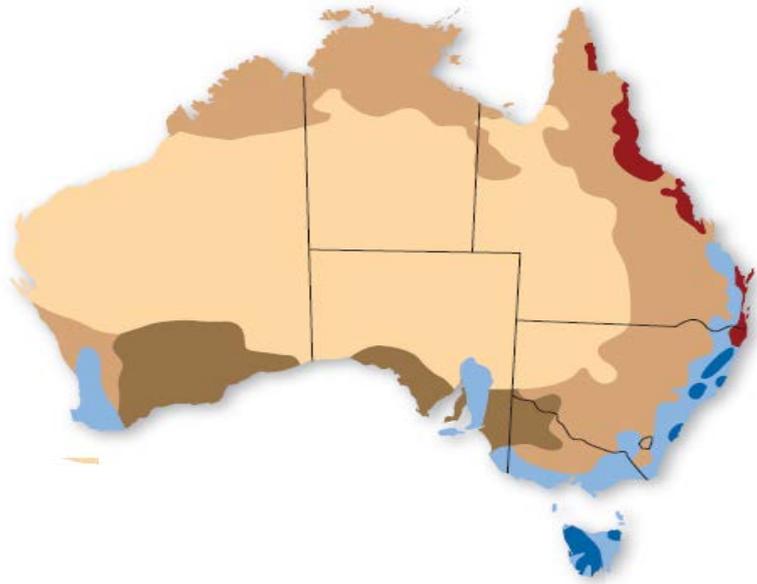
Data must...

- 1.
- 2.

Independent variable:

Dependent variable:

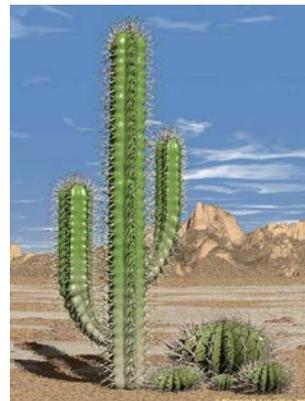
The distribution of Australian terrestrial ecosystems



If you were a rabbit, living in Australia, what sort of **abiotic** and **biotic** factors would affect where you live? (label the factors as abiotic or biotic)

1. _____
2. _____
3. _____
4. _____
5. _____

Label the following with ways that they are adapted to their environment:



Human impacts on the environment

Pollutant	Source	Effect on environment
Untreated sewage		
Fertilisers		
Toxic chemicals		
Pesticides and herbicides		
Oil spills		
Smoke		
Sulphur dioxide		
Methane		
CFC's		
Carbon dioxide		