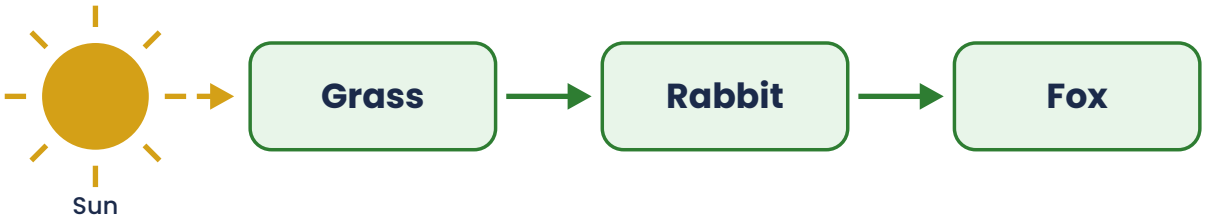
BIOLOGY

Ecology

Food Chains & Energy Transfer

Year 7 • KS3 Science • Homework Worksheet



Name: _____

Class: _____

Date: _____

Instructions

- Answer **all** questions in the spaces provided.
- Write in black or blue pen.
- Show your working in calculations.
- The marks for each question are shown in [brackets].
- Suggested time: **35 minutes**.

Section	Marks	Score
A Key Words	11	
B Food Chains	15	
C Energy Transfer	15	
Total	**41**	

Teacher comment: _____

© Your Science Online | For personal and classroom use only

Section A – Key Words

1 Draw a line to match each **key word** to its correct **definition**. [6 marks]

Ecology	An animal that eats both plants and animals
Food chain	A stage (feeding level) in a food chain
Producer	The study of living organisms and the places they live in
Trophic level	An animal that eats plants only
Herbivore	A list of organisms that shows their feeding relationships
Omnivore	An organism that makes its own food by photosynthesis

2 Complete the sentences using words from the box. Each word can be used **once**. Not all words are needed. [5 marks]

producer energy photosynthesis carnivore algae respiration herbivore

a) Food chains always start with a _____ .

b) This is usually a green plant or _____ .

c) Green plants make their own food by a process called _____ .

d) The arrows in a food chain show the transfer of _____ .

e) An animal that eats only other animals is called a _____ .

Section B – Food Chains

3 Look at the food chain below.



a) On the lines under the food chain, label the **producer**, **primary consumer** and **secondary consumer**. [3 marks]

b) How many **trophic levels** does this food chain have? [1 mark]

c) What do the **arrows** in a food chain show? [1 mark]

d) Where does the grass get its energy from in the first place? [1 mark]

4 Here are four organisms from a woodland habitat:

blue tit | oak leaves | sparrowhawk | caterpillar

a) Write them in the correct order to make a food chain. Remember to draw the arrows. [2 marks]

b) The fourth organism in a food chain is called the **tertiary consumer**. Which organism is the tertiary consumer in your food chain? [1 mark]

5 Tick (a tick) the correct column to show whether each animal is a **herbivore**, **carnivore** or **omnivore**. [6 marks]

Animal	Herbivore	Carnivore	Omnivore
Cow			
Lion			
Bear			
Deer			
Shark			
Human			

Section C – Energy Transfer

REMEMBER: Not all the energy at one trophic level is passed on to the next level.

6 What percentage of energy is usually passed on from one trophic level to the next? [1 mark]

7 In a field, the grass contains **20 000 kJ** of energy. Use the 10% rule to answer the questions below. Show your working.



a) Calculate the energy passed on to the **rabbit**. [2 marks]

Answer = _____ kJ

b) Calculate the energy passed on to the **fox**. [2 marks]

Answer = _____ kJ

8 About 90% of the energy is **lost** at each trophic level. Give **three** ways this energy is lost or used up. [3 marks]

1. _____
2. _____
3. _____

9 Circle **True** or **False** for each statement. [4 marks]

A food chain can start with an animal.	True / False
The arrows point from the food to the feeder.	True / False
About 90% of the energy is passed on to the next trophic level.	True / False
Some energy is lost from animals in faeces and urine.	True / False

CHALLENGE

10 Use your answers above to explain why food chains rarely have more than **four or five** trophic levels. [3 marks]