

## Paper 2

### Chapter 7 — Ecology

#### Specialised Cells

Grass → Worm → Chicken → Fox

Name the following

Producer

Primary consumer

Secondary Consumer

Tertiary Consumer

A predator and its prey

What do the arrow represent?

P\_\_\_\_\_ create biomass for all life on earth. They are usually green p\_\_\_\_\_ or a\_\_\_\_\_ that create biomass by p\_\_\_\_\_.

Producers are eaten by p\_\_\_\_\_ consumers, which are eaten by s\_\_\_\_\_ consumers which are eaten by t\_\_\_\_\_ consumers.

Animals that eat other animals are p\_\_\_\_\_. The animals they eat are p\_\_\_\_\_.

What is the mean, median and mode of the number of trees below?

Area	1	2	3	4	5
Number of Trees	8	3	4	3	7

#### Adaptations

All organisms have s\_\_\_\_\_, b\_\_\_\_\_ or f\_\_\_\_\_ adaptations that help them survive in their habitat.

Some organisms live in very extreme conditions e.g. high t\_\_\_\_\_, high p\_\_\_\_\_ or high s\_\_\_\_\_ c\_\_\_\_\_. They are known as e\_\_\_\_\_.

An example of e\_\_\_\_\_ are bacteria living in d\_\_\_\_\_ s\_\_\_\_\_ v\_\_\_\_\_.

#### Biotic Factors

What does biotic mean?

What does abiotic mean?

Name 4 biotic factors that can affect a community

1.

2.

3.

4.

#### Abiotic Factors

Name 7 abiotic factors that can affect a community

1. \_\_\_\_\_ intensity

2. \_\_\_\_\_

3. \_\_\_\_\_

4. Soil \_\_\_\_\_

5. \_\_\_\_\_ speed

6. \_\_\_\_\_ levels (for plants)

7. \_\_\_\_\_ levels (for aquatic organisms)

#### Communities

Name 4 things plants compete for in a habitat.

1.)      2.)      3.)

4.)

Name 3 things animals compete for in a habitat

1.)      2.)      3.)

In a community different species depend on each other for f\_\_\_\_, s\_\_\_\_\_, p\_\_\_\_\_ and s\_\_\_\_\_ dispersal. A change to 1 species can affect all the others, this is i\_\_\_\_\_.

#### Required Practical - Population Size

What is the line called?

What are the squares called that are used to count the daisies?

Why should you not move a quadrat to get an area with many daisies?

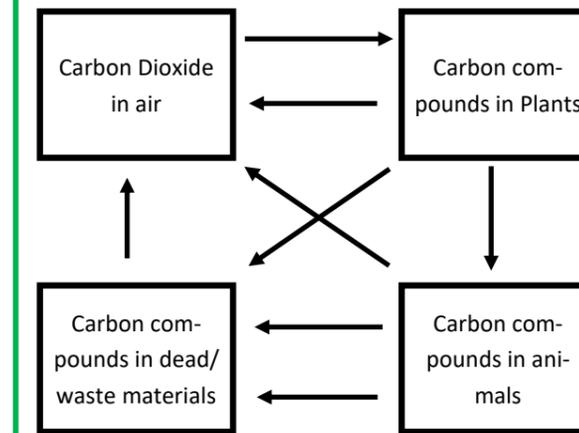
How can you increase the accuracy of a population estimate?

How do you estimate a population size from the quadrat results?

#### The Carbon Cycle

Name all the arrows on the carbon cycle.

What do humans do to increase CO<sub>2</sub> in the air?



#### Waste Management

2 reasons humans are producing more waste

1.)

2.)

Does these pollutants effect Land, Water or Air?

sewage      fertiliser      acidic gases

smoke      landfill      toxic chemicals

#### Land Use

Give 4 reasons why humans use land and take it away from other plants and animals.

1.)      2.)

3.)      4.)

Humans destroy p\_\_\_\_\_ bogs to produce c\_\_\_\_\_. This reduces b\_\_\_\_\_ and releases c\_\_\_\_\_ d\_\_\_\_\_ into the atmosphere causing g\_\_\_\_\_ w\_\_\_\_\_.

#### Deforestation

Forest is cut down to provide land for...

1. Farming c\_\_\_\_\_

2. Growing r\_\_\_\_\_

3. Growing crops for b\_\_\_\_\_



#### Biodiversity

What is biodiversity?

Name 5 things Scientists do to help repair the damage humans have done to biodiversity.

1. B\_\_\_\_\_ p\_\_\_\_\_ to protect endangered species from extinction

2. Protect r\_\_\_\_\_ habitats

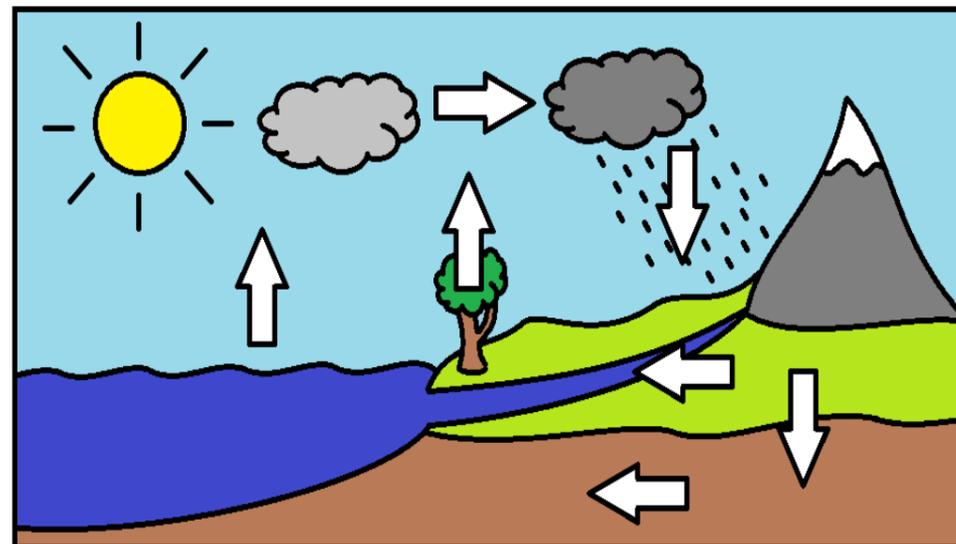
3. Reduce d\_\_\_\_\_

4. Promote r\_\_\_\_\_ to reduce waste

5. Reintroduce f\_\_\_\_\_ m\_\_\_\_\_ in agricultural land.

#### Water Cycle

Label the arrows on the water cycle



#### Global Warming

Which 2 gases in the atmosphere contribute to global warming?

1.

2.

What is currently happening to their levels in the atmosphere?

Increasing/Remaining Constant/Decreasing



## Paper 2

### Chapter 7 — Ecology

#### Specialised Cells

Grass → Worm → Chicken → Fox

Name the following

Producer **Grass**

Primary consumer **Worm**

Secondary Consumer **Chicken**

Tertiary Consumer **Fox**

A predator and its prey e.g. **Fox + Chicken**

What do the arrow represent? **Energy**

**Producers** create biomass for all life on earth. They are usually green **plants** or **algae** that create biomass by **photosynthesis**.

Producers are eaten by **primary** consumers, which are eaten by **secondary** consumers which are eaten by **tertiary** consumers.

Animals that eat other animals are **predators**. The animals they eat are **prey**.

What is the mean, median and mode of the number of trees below? **Mean = 5, Median = 4, Mode = 3**

Area	1	2	3	4	5
Number of Trees	8	3	4	3	7

#### Adaptations

All organisms have **structural**, **behavioural** or **functional** adaptations that help them survive in their habitat.

Some organisms live in very extreme conditions e.g. high **temperature**, high **pressure** or high **salt concentration**. They are known as **extremophiles**.

An example of **extremophiles** are bacteria living in **deep sea vents**.

#### Biotic Factors

What does biotic mean?

Relating to **LIVING organisms**

What does abiotic mean?

**NOT relating to LIVING organisms**

Name 4 biotic factors that can affect a community

- Food availability**
- New predators**
- New pathogens/diseases**
- A new competitor**

#### Abiotic Factors

Name 7 abiotic factors that can affect a community

- Light intensity**
- Temperature**
- Moisture**
- Soil pH**
- Wind speed**
- Carbon dioxide levels (for plants)**
- Oxygen levels (for aquatic organisms)**

#### Communities

Name 4 things plants compete for in a habitat.

- light**
- space**
- water**
- mineral ions**

Name 3 things animals compete for in a habitat

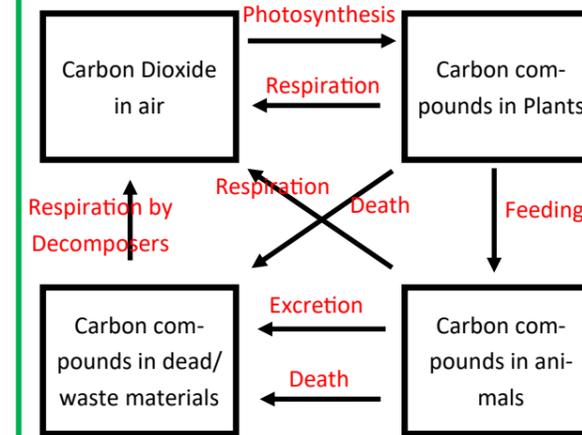
- food**
- mates**
- territory**

In a community different species depend on each other for **food**, **shelter**, **pollination** and **seed dispersal**. A change to 1 species can affect all the others, this is **interdependence**.

#### The Carbon Cycle

Name all the arrows on the carbon cycle.

What do humans do to increase CO<sub>2</sub> in the air? **Burn fossil fuels**



#### Waste Management

2 reasons humans are producing more waste

- Rapid population growth**
- Increased standard of living**

Does these pollutants effect Land, Water or Air?

sewage **W** fertiliser **W** acidic gases **A**  
smoke **A** landfill **L** toxic chemicals **W + L**

#### Land Use

Give 4 reasons why humans use land and take it away from other plants and animals.

- Building**
- Quarrying**
- Farming**
- Dumping Waste**

Humans destroy **peat** bogs to produce **compost**. This reduces **biodiversity** and releases **carbon dioxide** into the atmosphere causing **global warming**.

#### Required Practical - Population Size

What is the line called?

**Transect Line**

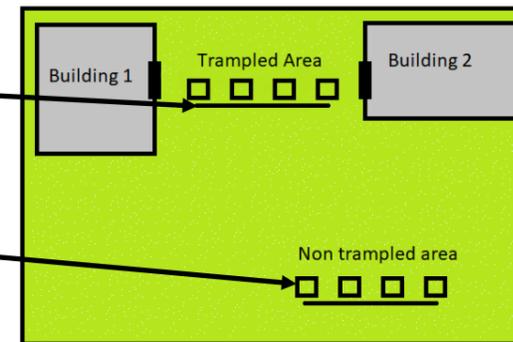
What are the squares called that are used to count the daises?

**Quadrats**

Why should you not move a quadrat to get an area with many daises? **Inaccurate population estimate**

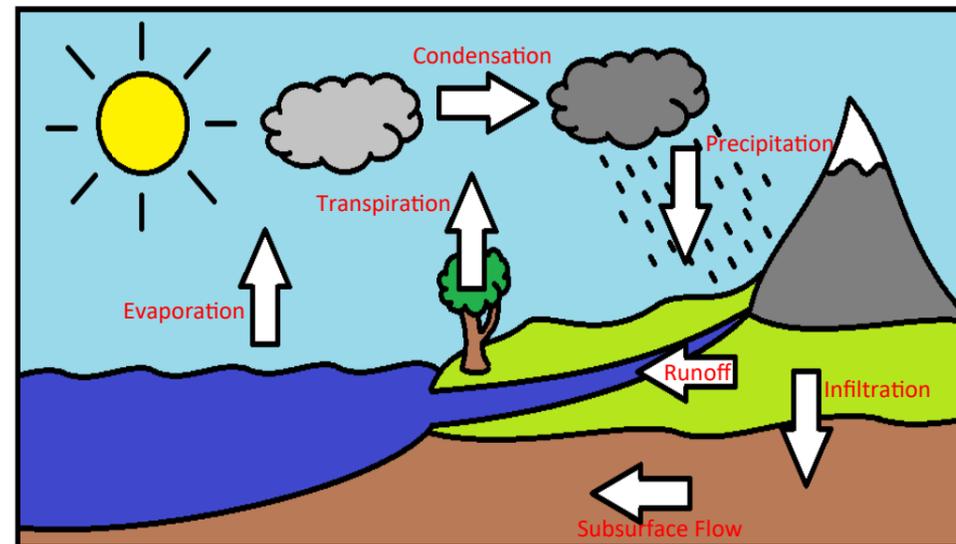
How can you increase the accuracy of a population estimate? **Bigger sample size**

How do you estimate a population size from the quadrat results? **Work out the daises in the area measured e.g. 102 daises in 5m<sup>2</sup>, work out the average for 1m<sup>2</sup> e.g. 102/5 = 20.4, work out the full area e.g. full area 160m<sup>2</sup> so 160 x 20.4 = 3264 daises**



#### Water Cycle

Label the arrows on the water cycle



#### Biodiversity

What is biodiversity? **The variety of all the different species of organisms in an area.**

Name 5 things Scientists do to help repair the damage humans have done to biodiversity.

- Breeding programmes** to protect endangered species from extinction
- Protect **rare** habitats
- Reduce **deforestation**
- Promote **recycling** to reduce waste
- Reintroduce **field margins** in agricultural land

#### Deforestation

Forest is cut down to provide land for...

- Farming **cattle**
- Growing **rice**
- Growing crops for **biofuel**



#### Global Warming

Which 2 gases in the atmosphere contribute to global warming?

- Carbon Dioxide**
- Methane**

What is currently happening to their levels in the atmosphere?

**Increasing/Remaining Constant/Decreasing**

