

Year 5 Maths Knowledge Organiser - Spring 1



Whittingham Primary Academy
The best in everyone™
Part of United Learning

Key Vocabulary

multiply

times

divide

share

remainder

factor

multiple

product

numerator

denominator

equivalent

mixed number

improper fraction

integer

Multiplication

$$\begin{array}{r} 67 \\ \times 23 \\ \hline 201 \end{array}$$

1. Multiply by the one's place

$$\begin{array}{r} 67 \\ \times 23 \\ \hline 201 \end{array}$$

2. Put a zero to hold the one's place

$$\begin{array}{r} 67 \\ \times 23 \\ \hline 201 \\ 1340 \\ \hline 1541 \end{array}$$

3. Multiply by the ten's place

$$\begin{array}{r} 67 \\ \times 23 \\ \hline 201 \\ 1340 \\ \hline 1541 \end{array}$$

4. Add the numbers

Short Division

$$186 \div 6 = 31$$

no groups of 6 can be made

$1 \times 6 = 6$

$3 \times 6 = 18$

Short Division with remainders

$432 \div 5$ becomes

$$\begin{array}{r} 86 \text{ r}2 \\ 5 \overline{) 432} \\ \underline{40} \\ 32 \\ \underline{30} \\ 2 \end{array}$$

Answer: 86 remainder 2

Multiply fractions by an integer

To **multiply a fraction by an integer**, we multiply the numerator by the integer.

$$\frac{3}{7} \times 2 = \frac{6}{7}$$

To **multiply a mixed number by an integer**, we can multiply the whole and part separately or convert to an improper fraction.

$$2\frac{4}{9} \times 5$$

$$2 \times 5 = 10$$

$$\frac{4}{9} \times 5 = \frac{20}{9} = 2\frac{2}{9}$$

$$10 + 2\frac{2}{9} = 12\frac{2}{9}$$

$$\frac{22}{9} \times 5 = \frac{110}{9} = 12\frac{2}{9}$$

Converting Fractions

The bar models show $\frac{13}{6}$.

There are 6 parts in the whole.

$$13 \div 6 = 2 \text{ remainder } 1$$

$$\frac{13}{6} = 2\frac{1}{6}$$

The bar models show $3\frac{2}{5}$.

There are 5 parts in the whole.

$$3 \times 5 = 15$$

$$\frac{15}{5} + \frac{2}{5} = \frac{17}{5}$$

Fractions

numerator

$$\frac{3}{5}$$

This is how many equal parts you have.

denominator

This is how many equal parts there are altogether.

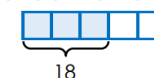
Find the whole

We can find the whole amount using the known value of a fraction.

To do this, we divide the known value by the numerator and multiply this by the denominator.



Jane ate $\frac{3}{5}$ of a box of strawberries.
She ate 18 of them altogether.



$$18 \div 3 = 6 \text{ so } \frac{1}{5} = 6$$

$$6 \times 5 = 30 \text{ so the whole is 30}$$

There were 30 strawberries in Jane's box.

Fractions as operators

We can **multiply fractions by integers** to find **fractions of amounts**.

$$\frac{2}{11} \text{ of } 4 = \frac{2}{11} \times 4 = \frac{8}{11}$$



Fraction of an amount

Find $\frac{2}{5}$ of £35

First find by $\frac{1}{5}$ dividing £35 by 5 to get £7.

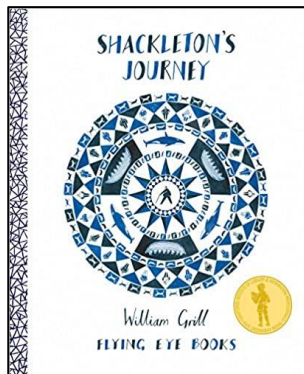
Now to find $\frac{2}{5}$, multiply by 2 to get
£7 \times 2 = £14.

Year 5 English Knowledge Organiser - Spring 1

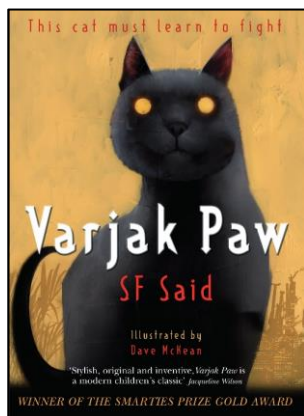


Whittingham Primary Academy
The best in everyone™
Part of United Learning

Core Texts



Shackleton's Journey
William Grill



Varjak Paw
S F Said

Features of Text Type: Recounts

- A recount re-tells events and experiences that have already happened. There are 3 main types of recount:
 - **Personal** (e.g. diary entries, anecdotal re-tellings)
 - **Factual** (e.g. news articles, biographies, science experiments, historical reports)
 - **Fictional** (e.g. character diaries, past tense narrative)
- Common features of recounts include:
 - **Past tense verb forms**
 - **Chronological order**
 - **Descriptive detail**
- However, as recounts come in many different forms and can have different purposes and audiences, the use of specific language and grammar features and content varies accordingly. A news report, for example, focuses on facts and uses a third-person impersonal viewpoint, whereas a diary entry contains thoughts and emotions and uses a first-person perspective.



Features of Text Type: Pace & Tension

Intrigue and atmosphere is developed from the outset of the book, drawing in the reader, for example through the use of:

- Questions to capture the reader's curiosity
- Sequences of short sentences or sentence fragments to build pace and create tension
- Deliberately vague descriptions to create a sense of mystery
- Onomatopoeia to 'show not tell' the reader/ to create visual emphasis of specific words to maximise impact
- Foreshadowing to hint at imminent danger

Strong characters have been created and developed, for example through the use of:

- Dialogue to convey character (*through both the content and the delivery of the words spoken*)
- Repetition of key words and actions to emphasise personality traits
- Behaviours and actions that 'show not tell' the reader character attributes and emotions
- Character thoughts (*both stated and implied*)

Vivid setting descriptions are entwined within the action and dialogue, for example through the use of:

- Nouns expanded in precise detail (e.g. *using other nouns, adjectives and preposition phrases*)
- Simile, metaphor and personification to provide rich imagery
- The characters' viewpoint to 'show not tell' using all the senses
- Powerful, active verbs

Year 5 Science Knowledge Organiser - Spring 1



Whittingham Primary Academy
The best in everyone™
Part of United Learning

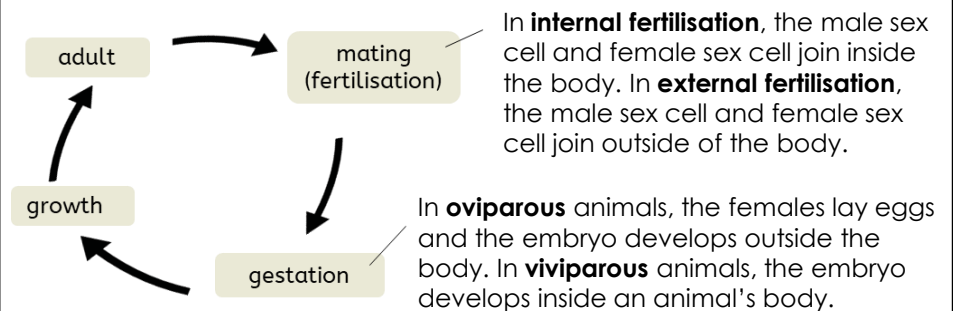
Key Vocabulary

asexual reproduction	The process of spreading out, in this case the process of seeds being spread out by animals and wind.
cell	the smallest building block of all living things.
dispersal	The process of spreading out, in this case the process of seeds being spread out by animals and wind.
embryo	the first stage of development after fertilisation
fertilisation	when the male sex cell and female sex cell join.
genome	the information that controls how an individual organism will develop.
gestation	the period of time between fertilisation and birth.
germination	the process by which a plant develops from a seed.
metamorphosis/ metamorphose	the process where the young of some animals go through physical changes to turn into the adult form.
oviparous	when an embryo develops inside an animal's body.
sexual reproduction	When the offspring (the young) gets their genome from both parents
viviparous	when females lay eggs and the embryo completes their development outside the body.

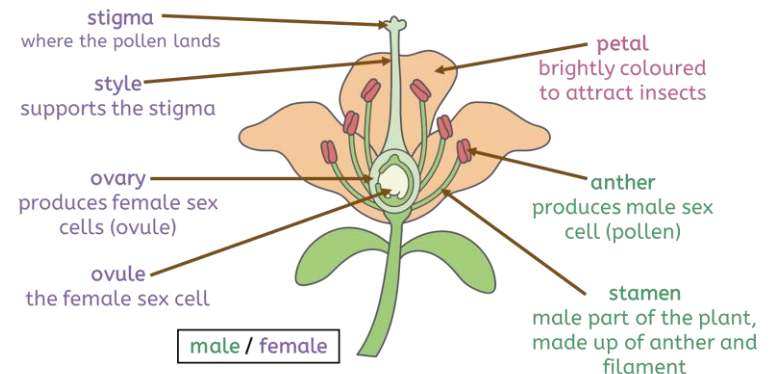
What is a life cycle?

- A life cycle is the series of changes that plants and animals go through during their lifetime.
- Animals and plants all grow, develop and reproduce in a life cycle.
- In a life cycle, reproduction creates new life (offspring), and the life cycle continues.

What is a life cycle?



Sexual reproduction in plants



Year 5 Geography Knowledge Organiser - Spring 1



Whittingham Primary Academy
The best in everyone™
Part of United Learning

Key Vocabulary

erode	to gradually wear away
freshwater	water that has very little salt dissolved in it
floodplain	the flat land either side of a river in the lower course. When the river floods, it deposits nutrients, so it is land that is very good for agriculture.
meander	bend in a river, usually in the middle and lower courses, caused by gradual erosion
source	the place where a river begins, either because of rainfall, melting ice, or at a spring
surface runoff	the flow of water on the Earth's surface. It is faster than throughflow
throughflow	the flow of water underground, beneath the Earth's surface. It is slower than surface runoff
transpiration	the evaporation of water from the soil through plants' and trees' leaves

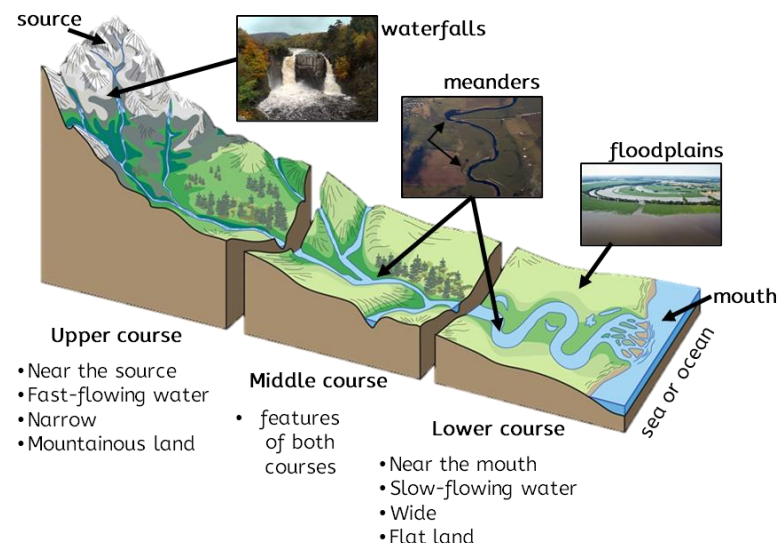
The Importance of Water

There is a fixed amount of water on our planet and we use it for lots of things, from drinking to washing to producing foods and goods.

Most of the water on the Earth is **saltwater**, stored in oceans and seas.

The **freshwater** that we have is mostly stored as ice or underground.

Rivers



Locating rivers in North America

North America has some of the longest rivers in the world. The river systems in North America are responsible for providing almost all the **freshwater** for the continent.

The Missouri River is the longest in North America and flows for 4000km before joining the Mississippi river.

Most of the longest rivers in North America are in the USA and Canada, however the Rio Grande is primarily in Mexico.

