Year 4 Maths Knowledge Organiser – Autumn 2

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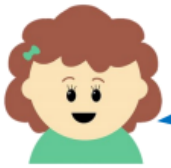
Key Vocabulary

- area
- rectilinear
- shapes
- surface
- multiply
- divide
- calculate
- facts
- times tables
- share

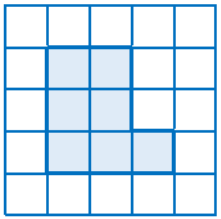
What is area?



Area is the amount of space taken up by a 2D shape or surface.

Counting Squares

We can **count squares** to help us find the **area of rectilinear shapes**.



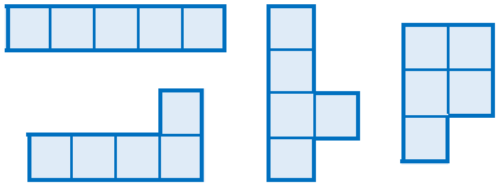
The area of the shape is 7 squares.

Remember to only count the squares **inside** the shape!

Making Shapes

We can use our knowledge of area to **make rectilinear shapes** using a given number of squares.

We can make a variety of shapes with an area of 5 squares. For example...



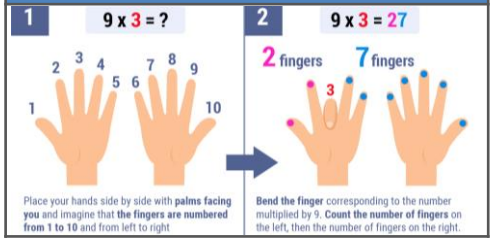
Multiplication Tables

1 x 6 = 6	2 x 6 = 12	3 x 6 = 18	4 x 6 = 24	5 x 6 = 30	6 x 6 = 36
7 x 6 = 42	8 x 6 = 48	9 x 6 = 54	10 x 6 = 60	11 x 6 = 66	12 x 6 = 72
1 x 7 = 7	2 x 7 = 14	3 x 7 = 21	4 x 7 = 28	5 x 7 = 35	6 x 7 = 42
7 x 7 = 49	8 x 7 = 56	9 x 7 = 63	10 x 7 = 70	11 x 7 = 77	12 x 7 = 84
1 x 9 = 9	2 x 9 = 18	3 x 9 = 27	4 x 9 = 36	5 x 9 = 45	6 x 9 = 54
7 x 9 = 63	8 x 9 = 72	9 x 9 = 81	10 x 9 = 90	11 x 9 = 99	12 x 9 = 108
1 x 11 = 11	2 x 11 = 22	3 x 11 = 33	4 x 11 = 44	5 x 11 = 55	6 x 11 = 66
7 x 11 = 77	8 x 11 = 88	9 x 11 = 99	10 x 11 = 110	11 x 11 = 121	12 x 11 = 132
1 x 12 = 12	2 x 12 = 24	3 x 12 = 36	4 x 12 = 48	5 x 12 = 60	6 x 12 = 72
7 x 12 = 84	8 x 12 = 96	9 x 12 = 108	10 x 12 = 120	11 x 12 = 132	12 x 12 = 144

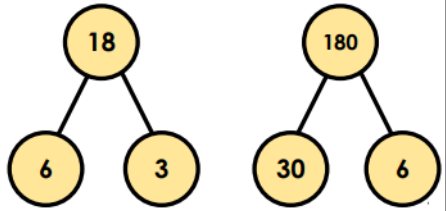
Division Facts

6 ÷ 6 = 1	12 ÷ 6 = 2	18 ÷ 6 = 3	24 ÷ 6 = 4	30 ÷ 6 = 5	36 ÷ 6 = 6
42 ÷ 6 = 7	48 ÷ 6 = 8	54 ÷ 6 = 9	60 ÷ 6 = 10	66 ÷ 6 = 11	72 ÷ 6 = 12
7 ÷ 7 = 1	14 ÷ 7 = 2	21 ÷ 7 = 3	28 ÷ 7 = 4	25 ÷ 7 = 5	42 ÷ 7 = 6
49 ÷ 7 = 7	56 ÷ 7 = 8	63 ÷ 7 = 9	70 ÷ 7 = 10	77 ÷ 7 = 11	84 ÷ 7 = 12
9 ÷ 9 = 1	18 ÷ 9 = 2	27 ÷ 9 = 3	36 ÷ 9 = 4	45 ÷ 9 = 5	54 ÷ 9 = 6
63 ÷ 9 = 7	72 ÷ 9 = 8	81 ÷ 9 = 9	90 ÷ 9 = 10	99 ÷ 9 = 11	108 ÷ 9 = 12
11 ÷ 11 = 1	22 ÷ 11 = 2	33 ÷ 11 = 3	44 ÷ 11 = 4	55 ÷ 11 = 5	66 ÷ 11 = 6
77 ÷ 11 = 7	88 ÷ 11 = 8	99 ÷ 11 = 9	110 ÷ 11 = 10	121 ÷ 11 = 11	132 ÷ 11 = 12
12 ÷ 12 = 1	24 ÷ 12 = 2	36 ÷ 12 = 3	48 ÷ 12 = 4	60 ÷ 12 = 5	72 ÷ 12 = 6
84 ÷ 12 = 7	96 ÷ 12 = 8	108 ÷ 12 = 9	120 ÷ 12 = 10	132 ÷ 12 = 11	144 ÷ 12 = 12

9 Times Tables Trick!



Related Facts from Times Tables



3 x 6 = 18	6 x 3 = 18
18 ÷ 3 = 6	18 ÷ 6 = 3
30 x 6 = 180	60 x 3 = 180
180 ÷ 30 = 6	180 ÷ 60 = 3

Multiply Three Numbers

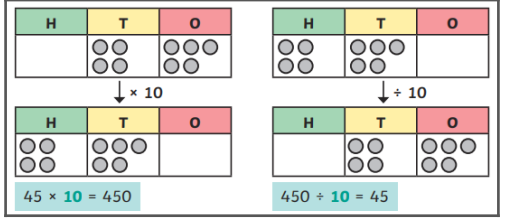
4 x 3 x 6 = 72

"I would solve this by multiplying 4 by 3, which is 12. Then, I multiply 12 by 6, which is 72."

"Because multiplication is commutative, you can multiply the numbers in any order and you will get the same answer."

4 x 3 x 6 = 72	3 x 6 x 4 = 72
4 x 6 x 3 = 72	6 x 4 x 3 = 72
3 x 4 x 6 = 72	6 x 3 x 4 = 72

Multiplying and Diving by 10



Year 4 English Knowledge Organiser – Autumn 2

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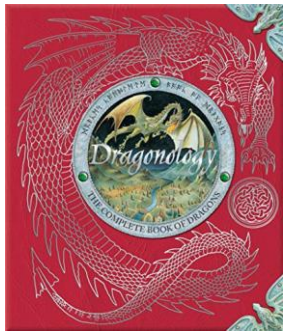
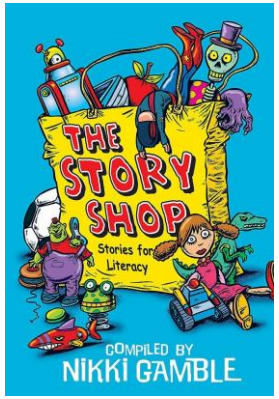
Core Texts



Dragonology: The Complete Book of Dragons
Douglas Steer



The Story Shop: Stories for Literacy
Nikki Gamble

Features of Text Type: Non-Chronological Information Text

Consistent with the purpose to **inform**, the text contains interesting 'facts', supported by the use of **technical vocabulary** specific to the topic.

On each page, an **introductory statement** presents the topic and draws the reader in. Subsequent material is grouped into **paragraphs** written around a theme.

The 'information' on each page is written **non-chronologically** (meaning the text is not time-related and therefore the main body of the text can be written in any order).

Simple layout devices such as **headings** and **sub-headings** organise material and guide the reader through the text. Sensory devices *(such as the use of images, textures and pull-out pages)* help the reader to visualise the information within the text and engage them in the text through interaction.

The text mostly uses a **formal, detached, impersonal viewpoint** to deliver 'facts', occasionally switching to a first-person perspective to recount personal experiences and anecdotes.

The majority of the text is written in the **present tense** (as are most informative texts), with occasional uses of the past tense when recounting events that have already taken place.

Informative description is provided by adding specific detail to nouns using **precise adjectives, nouns** and **prepositional phrases.**

Features of Text Type: Short Stories

Characters

WHO is in the story?

Characters need to be interesting to engage the reader. They might have traits that make them particularly quirky, unique, funny, likeable, unlikeable, etc.

Settings

WHERE AND WHEN does the story take place?

The reader needs to know where and when the narrative is set so they can picture the story in their mind. The setting can add to the atmosphere of the story.

Plot

WHAT happens in the story?

There must be some dramatic or exciting action that takes place so that the reader wants to read on.

Year 4 Science Knowledge Organiser – Autumn 2

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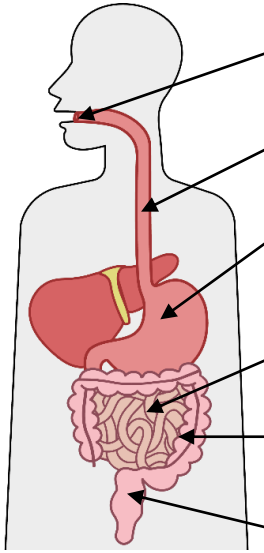
Key Vocabulary

carnivore	a carnivore is an animal that only eats other animals (it only eats meat)
ecosystem	the living and non-living things in an area and how they interact.
food chain	a food chain shows the feeding relationship between organisms in a habitat. The arrows show the transfer of energy.
herbivore	an organism that only eat plants.
nutrients	nutrients are what we need to keep healthy. Carbohydrates, proteins and fats are the main nutrient groups.
omnivore	an omnivore is an organism that eat both plants and animals (meat).
peristalsis	the rippling muscle movement that helps push things along a tube (like the oesophagus).

Digestion

The food that animals eat needs to be broken down into their smallest parts, so that they can be absorbed into the blood and used around the body. The process of breaking food down is called **digestion**.



The **mouth** contains **teeth**, which start to break down the food.

The **oesophagus** is a tube that connects mouth and stomach.

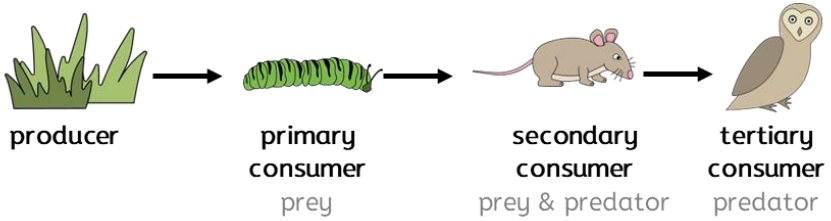
The **stomach** churns food and contains substances that break down the food chemically.

The **small intestine** breaks down food chemically. Here, nutrients are absorbed into the blood.

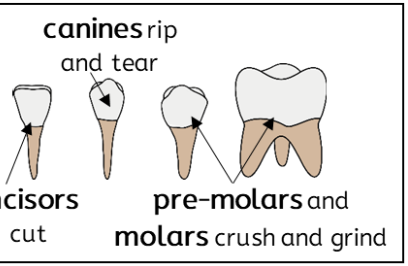
In the **large intestine**, water from undigested food is absorbed into the blood.

Undigested food – **faeces** (poo!) – is stored in the **rectum** until it is ready to be passed through the **anus**.

Feeding Relationships



Teeth



Year 4 History Knowledge Organiser – Autumn 2

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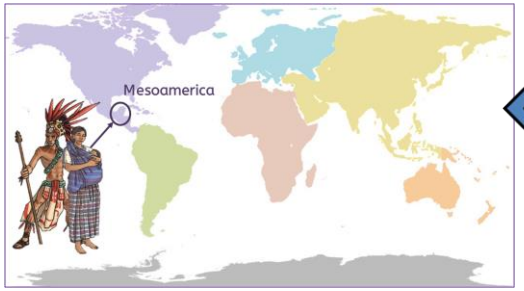
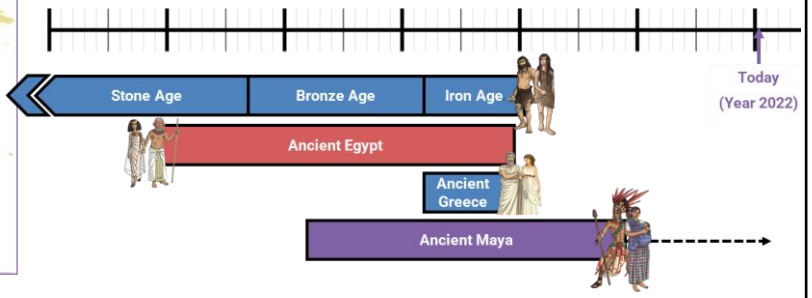
Key Vocabulary	
autocracy	a system of government where one person has all the power
bloodletting	spilling of human's own blood
city-state	a city (with the farmland around it) that that its own system of government and its own identity
hieroglyph	a picture or symbol that represents a sound, syllable or word (**hieroglyphics** is the writing made up of individual hieroglyphs)
Mesoamerica	an area of North America where the Maya (and others) lived
sacrifice	act of giving up something valued for the sake of something else considered to be more important/to give something up
step-pyramid	a pyramid that has been built using steps rather than smooth diagonal lines
temple	a building for worshipping gods in

The Big Picture



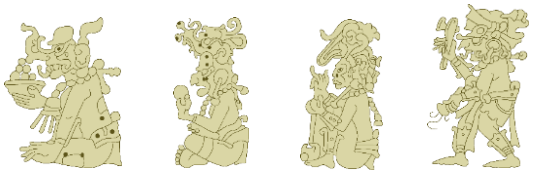


The Ancient Maya…

…lived in **city-states** that were ruled by **kings**.

The king was seen as half-man, half-god.

Their cities had **step-pyramids**, **plazas**, ball courts and some even had an **observatory**.



…believed in multiple gods and worshipped them with blood, animal and human **sacrifices**!

…developed **hieroglyphics**, a number system and a symbol like our 0.