

Knowledge Organisers in SRS



مدرسة البحث العلمي
School of Research Science

Dear Parents/Guardians,

We are currently in the process of reviewing the content of our curriculum to ensure there is a much greater emphasis on the **'sticky knowledge'** (knowledge that we want children to remember) that children need in order to not only truly understand concepts, but also to enable them to apply the knowledge, offer informed explanations, make links and spot patterns.

We have looked at each subject and identified the essential knowledge that we feel the children need to know. Following this we have produced **'Knowledge Organisers'** which are 'go-to' documents outlining the essential knowledge that teachers will be covering across a unit of work; including dates, key vocabulary, definitions, diagrams and other key information.

These **'Knowledge Organisers'** will be shared with pupils and parents with the aim that everyone knows exactly what is being taught, and what the children need to learn.

Attached to this letter is the **'Knowledge Organiser'** for the Autumn 1 scheme of work for Topic, Maths and Science which the Year 3 pupils are covering this term. If you are a parent of a child in Year 3, please feel free to use these as reference guides for what your child is learning, and as an opportunity to discuss the facts about the topics and how much they have learned. They can also be used to see if they are able to start making links or offer explanations about the world around them.

We will continue to develop the use of **'Knowledge Organisers'** and the plan is to produce them for all of our subjects (2 per term). We welcome your views and any suggestions you may have on this initiative.

Kind Regards,

The Year 3 Team

أولياء الأمور الأعزاء،

نحن الآن بصدد مراجعة محتوى مناهجنا الدراسية للتأكد من وجود تركيز أكبر على "المعرفة اللاصقة" (المعرفة التي نريد أن يتذكرها الأطفال) والتي يحتاجها الأطفال ليس فقط لفهم المفاهيم حقًا ، ولكن أيضًا لتمكينهم من تطبيق المعرفة وتقديم تفسيرات مستنيرة وإنشاء روابط وأنماط موضوعية.

لقد بحثنا في كل موضوع وحددنا المعرفة الأساسية التي نشعر أن الأطفال بحاجة إلى معرفتها. بعد ذلك ، أصدرنا "منظمات المعرفة" وهي عبارة عن مستندات "مختصرة" توضح المعرفة الأساسية التي سيغطيها المعلمون عبر وحدة العمل ؛ بما في ذلك التواريخ والمفردات الرئيسية ، والتعاريف ، والرسوم البيانية وغيرها من المعلومات الأساسية.

سيتم مشاركة "منظمات المعرفة" مع التلاميذ وأولياء الأمور بهدف أن يعرف الجميع بالضبط ما يتم تدريسه وما يحتاج الأطفال إلى تعلمه.

مرفق بهذه الرسالة "منظمات المعرفة" لمخطط العمل لفصل الخريف (1) لموضوعي "الرياضيات" و "العلوم" الذي يغطيه تلاميذ الصف الثالث من هذا المصطلح. إذا كان طفلك في السنة الثالثة، فلا تتردد في استخدام هذه كدليل مرجعي لما يتعلمه طفلك ، وكفرصة لمناقشة الحقائق المتعلقة بالموضوعات وكم تعلموه. يمكن أيضًا استخدامها لمعرفة ما إذا كان بإمكانهم بدء إنشاء روابط أو تقديم توضيحات حول العالم من حولهم.

سوف نستمر في تطوير استخدام منظمات المعرفة والخطة هي الانتاج لجميع المواد الدراسية (2 لكل فصل). نرحب بآرائكم وأي اقتراحات قد تكون لديكم بشأن هذه المبادرة.

تفضلو بقبول فائق الاحترام،،

Top Tips on how to use your Knowledge Organisers to help you learn!

Look



I look at the word I want to learn and its meaning.

Say



I say that word in my head or out loud.

Cover



I cover the meaning of the word I'm learning.

Write



I write the word down or even try it in a sentence.

Check



I check the spelling and the meaning of the word to see if I'm correct.

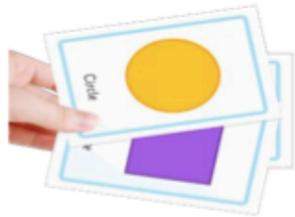


Get out your knowledge organiser when completing your homework. The key words and information will help you! Check out the homework website:

<https://year3homework.weebly.com/>



For videos, tips and flash card templates, please scan me.



Flash cards



Use small pieces of card to write or draw your information or words.

Write the answers or definition on the back.

Ask a parent, friend to test you or even test yourself by reading and looking at your cards.

Screenshot

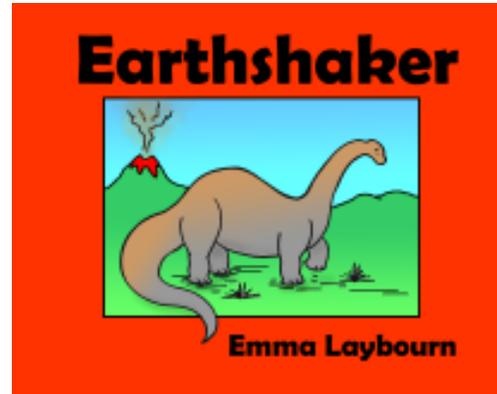
Year 3 Knowledge Organiser – Earthshaker

What can the book teach us?

That you should not judge someone by first impressions.

That you should give everyone a chance.

That everyone deserves kindness and respect.



Characters

Sizo – A very large Seismosaurus who makes the ground shake when he walks because he is so large.

Brenda – A very wise dinosaur who agrees to let Sizo live with them.

George – An old Triceratops who does not like being disturbed by Sizo.

Key Vocabulary

Enormous	Something that is very large
Erupting	The lava from a volcano erupts when it spills out of the top
Plodded	To walk slowly with heavy steps
Stormed	To walk angrily with quick steps
Grateful	When you are thankful for something

Sticky Knowledge

- Adjectives describe a noun and make your writing more interesting and descriptive for the reader
- The name of a character always has a capital letter at the start
- “ ” Speech marks (inverted commas) are used to show when someone is talking.
- A story has a beginning, middle and end
- There is usually a problem that needs solving in a story

Setting

The dinosaurs live in a forest with a large active volcano nearby.

Plot Summary

Sizo is a lonely dinosaur who wants to have friends and live with other dinosaurs but struggles because he is so large and he disturbs everyone. One day he is able to use his size to rescue the other dinosaurs from a devastating volcanic eruption.



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Topic Knowledge Organiser

Autumn 1

Year 3 Knowledge Organiser – Dinosaurs

Key Vocabulary

Reptile	A vertebrate animal with dry scaly skin which lays soft-shelled eggs on land. Examples include snakes, lizards, crocodiles and tortoises.
Fossil	The remains of a prehistoric plant or animal embedded in a rock.
Extinct	A species that no longer exists.
Archaeologist	A person who studies history through the excavation of sites and the analysis of physical remains.
Paleontologist	A scientist who studies fossils.
Pre-historic	Referring to any period before written notes.

Types of dinosaurs

Tyrannosaurs Rex (T Rex)



Triceratops



Brachiosaurus



Stegosaurus



Pterodactyl



Diplodocus



Sticky Knowledge

- Dinosaurs lived on Earth for around 160 million years.
- Dinosaurs became extinct around 65 million years ago.
- The dinosaur era is divided into three periods of time: Triassic period, Jurassic period, Cretaceous period.
- Some dinosaurs were meat-eaters (carnivores) and some dinosaurs were plant-eaters (herbivores).
- The largest type of dinosaur was the Diplodocus.
- The name dinosaur is a Greek word which translates to 'big lizard'.

The Seven Continents

- Asia
- Europe
- Africa
- Australia
- Antarctica
- North America
- South America





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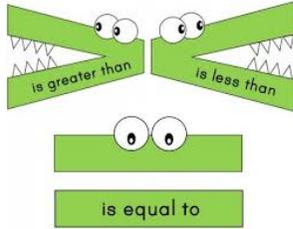
Maths Knowledge Organiser

Autumn 1

Year 3 Knowledge Organiser – Numbers to 1000

Comparing

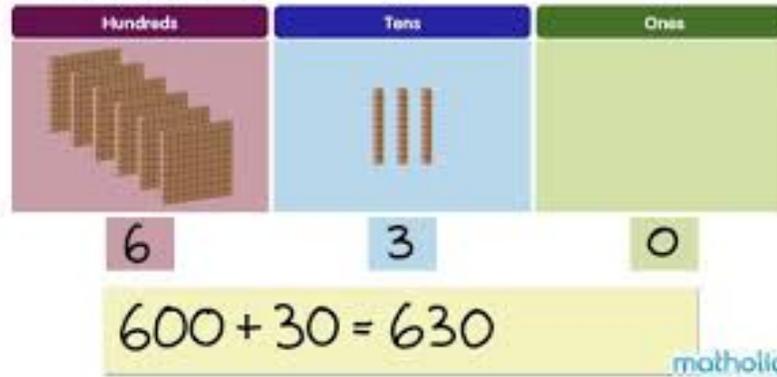
When comparing numbers, these symbols can be used to show which number is greater than, less than or equal to.



Key Vocabulary

compare	To examine the difference between numbers
altogether	All individual things counted as one
Greater than	More than
Less than	Less than
order	To place numbers from the lowest to the highest
Partition	Splitting numbers into smaller units.

How many blocks?



Sticky Knowledge

- There are 10 hundreds in 1 Thousand, 10 Tens in 100 and 10 Ones in 1 Ten.
- There are 4 digits in a thousands number. Ones, Tens, Hundreds and Thousands.
- When putting numbers in order we need to compare the value of their digits.
- When comparing 3 digit numbers, the value of the Hundreds column is worth more than that of the Tens column.
- When you multiply a number by 10 it gets bigger, when you divide a number by 10 it gets smaller.

Place Value Chart

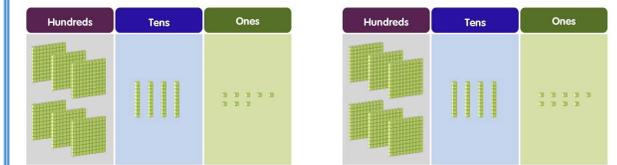
hundreds	tens	ones

100's	10's	1's

Ordering

648, 649, _____, 651 .

Find the smaller number.



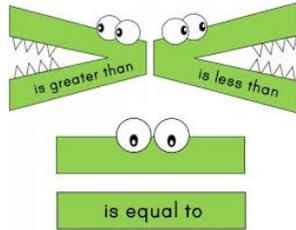
648 649

648 is smaller than 649

Year 3 Knowledge Organiser – Addition and Subtraction

Comparing

When comparing numbers, these symbols can be used to show which number is greater than, less than or equal to.



Key Vocabulary

Addition	Combining two or more numbers together.
Subtraction	Finding the difference between two numbers.
altogether	All individual things counted as one
Greater than	More than
Less than	Less than
Renaming	When place value columns need to be rearranged as they are too big.

Column Addition (no exchange)

Check you answer

	H	T	O	Start here
+	3	5	1	↓
+	6	3	4	↓
<hr/>				
9	8	5		

Add the hundreds Add the ones

Add the tens

Column Subtraction (no exchange)

Check you answer

	H	T	O	Start here
-	7	6	3	↓
-	3	4	1	↓
<hr/>				
4	2	2		

Subtract the hundreds Subtract the ones

Subtract the tens

Sticky Knowledge

- When using column addition or subtraction, you should always start at the ones.
- When subtracting the biggest number should come first.
- When counting on in hundreds it is the hundreds column that changes, when counting on in tens it is the tens that change and when counting in ones it is the ones that change.
- 10 ones = 1 ten, if you have 10 or more ones in the ones column you must rename them and place into the tens column.
- When using the column method make sure each number has it's own box and they are in the correct column.

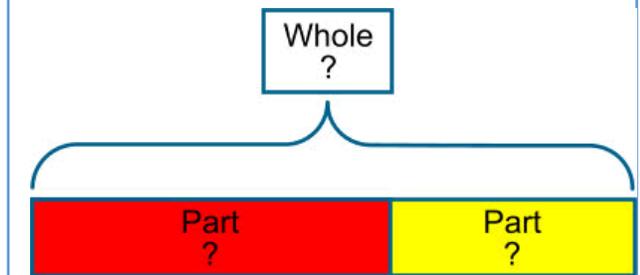
Place Value

In the place value chart, the digit 5 is in the hundreds, the value of this is 500. The digit 4 is in the tens, the value of this is 40 and the digit 8 is in the ones the value of this is 8.

Hundreds (H)	Tens (T)	Ones (O)
5	4	8

Bar Models

Bar models can be used to solve addition and subtraction problems.



Year 3 Knowledge Organiser – Multiplication and Division

Fact Families

$3 \times 4 = ?$

Fact Family

$3 \times 4 = 12$

$4 \times 3 = 12$

$12 \div 4 = 3$

$12 \div 3 = 4$

Fact families are related multiplication and division facts using the same three numbers.

Key Vocabulary

Multiplication	Repeated addition of the same number.
Division	Splitting a number into equal groups.
Array	A set of numbers arranged in order, shown in rows and columns.
Groups of	When items are placed together and counted as one.
Equal	To have the same amount.
Product	When two numbers are multiplied together.

3	1 x 3 = 3
	2 x 3 = 6
	3 x 3 = 9
	4 x 3 = 12
	5 x 3 = 15
	6 x 3 = 18
	7 x 3 = 21
	8 x 3 = 24
	9 x 3 = 27
	10 x 3 = 30
	11 x 3 = 33
	12 x 3 = 36

4	1 x 4 = 4
	2 x 4 = 8
	3 x 4 = 12
	4 x 4 = 16
	5 x 4 = 20
	6 x 4 = 24
	7 x 4 = 28
	8 x 4 = 32
	9 x 4 = 36
	10 x 4 = 40
	11 x 4 = 44
	12 x 4 = 48

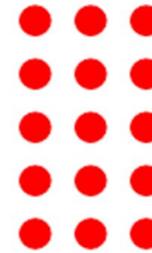
8	1 x 8 = 8
	2 x 8 = 16
	3 x 8 = 24
	4 x 8 = 32
	5 x 8 = 40
	6 x 8 = 48
	7 x 8 = 56
	8 x 8 = 64
	9 x 8 = 72
	10 x 8 = 80
	11 x 8 = 88
	12 x 8 = 96

Sticky Knowledge

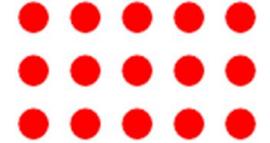
- 3 groups of 4 is the same as $3 \times 4 =$
- Arrays can be used to solve multiplication. For example 3×4 the array would have 3 rows of 4 or 4 rows of 3.
- When dividing the number must be shared out into equal groups.
- Multiplication and division are inverse operations and can be used to check your working out.
- When dividing make sure that the bigger number comes first for example $12 \div 4 =$

Array

3×5



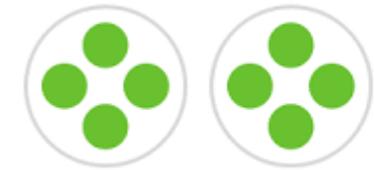
5×3



Arrays can be used to help solve multiplication and division problems.

Groups of

Groups of describes the equal number of items in a group. E.g. 2 groups of 4:



$2 \times 4 = \square$



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Science Knowledge Organiser

Autumn 1

Year 3 Knowledge Organiser – Rocks

Key Vocabulary

Metamorphic	A type of rock that has been changed through heating and / or pressure.
Igneous	A type of rock that is made when melted rock cools.
Sedimentary	A type of rock formed when sand, mud and pebbles at the bottom of rivers, lakes and oceans pile up.
Particle	Tiny little pieces of matter (bits). 
Texture	How something feels. 
Appear	How something looks. 
Man - made	Humans created it.
Natural	Something created naturally by nature.

Igneous Rocks



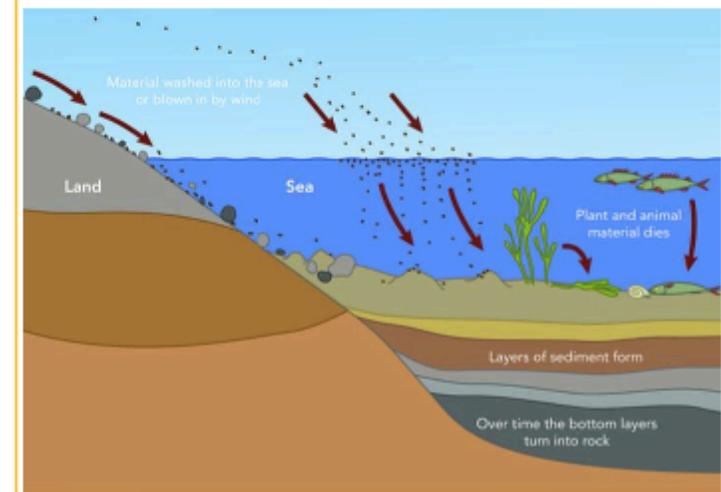
Sedimentary Rocks



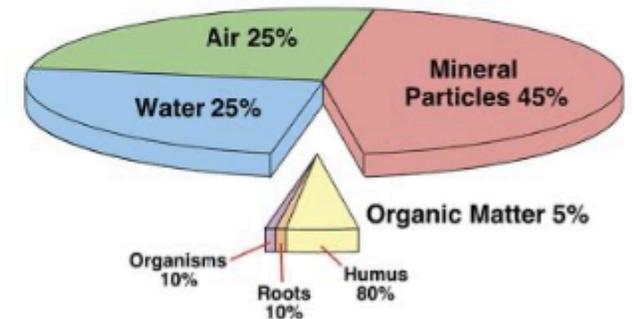
Metamorphic Rocks



Fossil formation



What is soil made up of?



Sticky Knowledge

- Soils are made from rocks, water, air and organic matter.
- Fossils are formed when a living organism dies and it is covered with layers of rock.
- Fossils are found in sedimentary rock.
- There are 3 different types of rocks: igneous, sedimentary and metamorphic.
- Rocks can be either man-made or natural.



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PE Knowledge Organiser

Autumn 1

Year 3 Athletics



Key Vocabulary

Run	Move quickly using two feet
Jump	Have both feet off the ground
Sprint	Run really fast over a short distance
Jog	Run at a slow speed
Speed	The rate at which we jump, throw and run
Rotation	Turning
Power	Physical strength and force

Sticky Knowledge

- A sprint start will give me power and speed
- Different phases of a race require different speeds
- Turning my body helps me to throw further
- Demonstrate the 4 basic jumps showing control at take-off and landing
- Throw with increasing accuracy and coordination into targets at different distances

Famous Athlete



A cheetah can run 100m in 5.95 seconds with a top speed of 61 mph, that's only 4 seconds faster than Usain Bolt.

Did you know?

There are over 650 muscles in the human body. The smallest muscle in your body is in your ear. Your ears never stop growing

The current record for standing long jump is held by Byron Jones, who recorded a jump of 3.73 m that's the length of a car!

Year 3 Team Building



Key Vocabulary

Team work	Working together
Trust	belief in the honesty and reliability of others
Cooperation	Working together as a team taking on different roles
Challenge	to engage in an activity the involves a problem
Communication	talking to each other and understanding what been said with either words or actions
Common purpose	Having the same aim or target
Problem Solving	Looking at a problem or challenge and working out how to solve it.

Sticky Knowledge

- Working together as a team makes us stronger
- The most effective teams don't have leaders
- When problem solving sometimes things don't work so we have to start again and come up with a new plan
- Encouragement is important during team work as it keeps everyone determined and on task
- Having rolls within a team can help you solve a problem quickly

Team Work



New Zealand All Blacks Rugby Team

Did you know?

The New Zealand national rugby union team, called the All Blacks is one of the most successful rugby teams in the world

