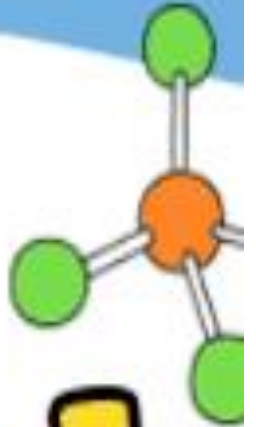


Making

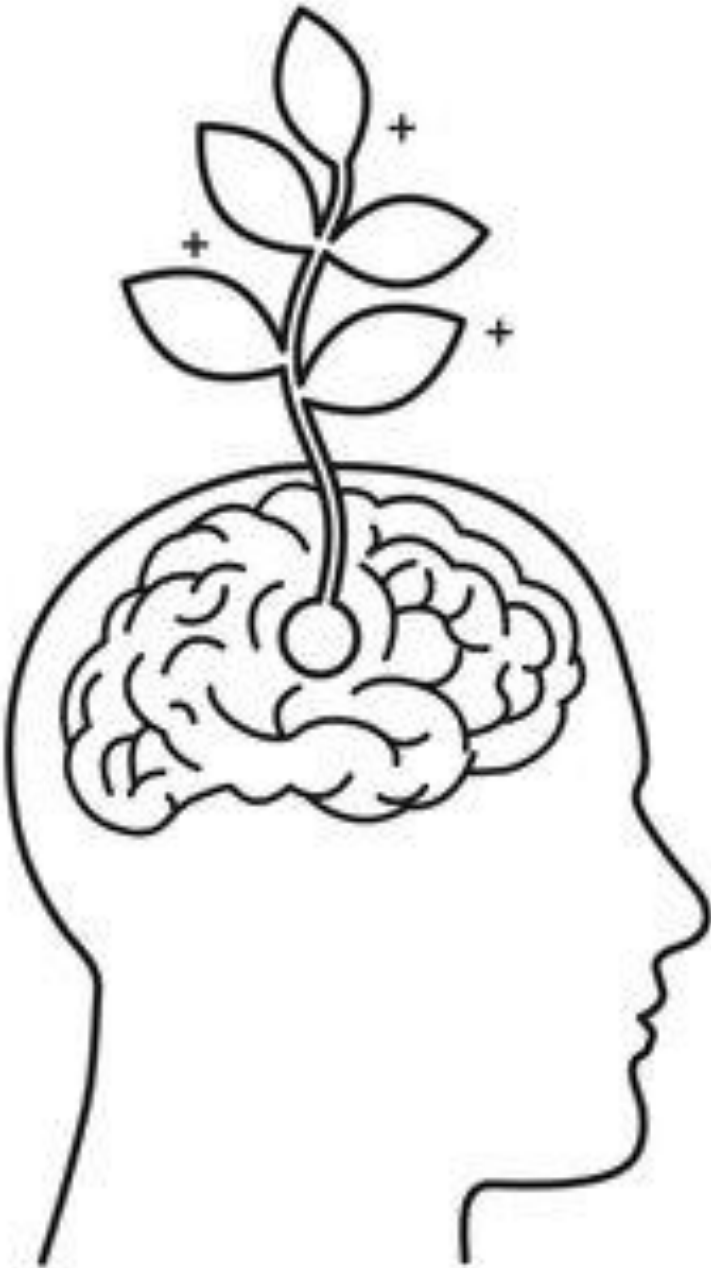
Science
FUN!

Making

SCIENCE FIT!











**KEEP
CALM
AND THINK**

**WORK SMARTER
NOT HARDER**

There are 3 ways to approach integrating science with the WAU.

- ❖ 1. START WITH A WAU TOPIC AND SEE WHAT SCIENCE FITS IN.**
- ❖ 2. START WITH A SCIENCE TOPIC AND SEE WHICH WAU TOPIC IT COULD FIT INTO.**
- ❖ 3. EXTEND YOUR CHOSEN TOPIC TO MAKE INTO A THEME.**

**There are 3 ways to approach
integrating science with the
WAU.**

**❖ 1. START WITH A WAU TOPIC
AND SEE WHAT SCIENCE FITS
IN.**



JOHN

Steps into Science

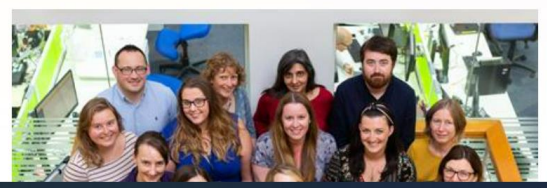
Inspiration, support and resources for primary teaching

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- Find resources
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- Beyond the classroom
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About the RSC

Browse our resources







Key organs in the body

When preparing a dead body for mummification, ancient Egyptians removed different organs such as liver, intestines, lungs and stomach from the body. They put these organs into Canopic jars because they believed that dead people needed these organs in the afterlife.

🕒 Can we draw around someone on a big piece of paper and stick on where each of the main organs is? 🕒 Can we create a table to show the organs and their functions?

Habitats and environment

In ancient Egypt, some animals were respected and represented as gods or goddesses; others were domesticated and used for farming. Some animals were dangerous so people feared them.

🕒 What can we find out about which animals lived in ancient Egypt? 🕒 Can we make a table to show which animals were respected, which were used for farming and which were feared? 🕒 What would the table look like for animals living in Britain today? 🕒 Which animals do children in our class fear? 🕒 Why?

Effects of forces between two objects

When they were creating the pyramids, the ancient Egyptians had to move large limestone blocks across different surfaces such as sand and stone. It was easier to move the blocks on some surfaces than others.

🕒 Can we find out on what kind of surface is easiest for moving a large stone? 🕒 Can you identify which surfaces around school would be best to move the stone on? 🕒 Is it easier to push or pull the stone?

Edited by:



Millgate House Education

Conditions for growing plants

Egypt is a hot country with many deserts. There weren't many places where ancient Egyptians could grow crops. The banks of the Nile were a good place for growing plants as the river provided water and nutrients by flooding its banks once a year.

🕒 What happens if we plant a seed in different soils? 🕒 Which soil seems to be the best for growing plants? 🕒 Can we create a graph showing how much each plant has grown over a period of time? 🕒 What else do you think the plants need to grow and survive?

Changes of state

Egypt is a hot country with temperature as high as 40 degrees Celsius in summer. Water was extremely important to the ancient Egyptians because it helped them grow crops. In hot weather water evaporates quickly.

🕒 Can you find a good way to stop water evaporating quickly on a hot, sunny day? 🕒 Are some containers better than others for holding water in hot weather?

Soils for growing plants

Ancient Egyptians used the banks of the river Nile to grow their crops. Every year, the river would flood the banks and make the soil on the river banks more fertile, ready for the new season's crops to be planted. The annual flooding was very important to the Ancient Egyptians, and they divided the year into three seasons: *akhet* (flooding), *peret* (growth), and *shemu* (harvest).

🕒 Can we make two tables, one showing what soil is made from and one showing what plants need to grow? 🕒 Can you explain how flooding might affect the soil and make it more fertile?

Uses and properties of materials

In ancient Egypt poor people made houses out of mud bricks. Pharaohs, however, wanted their pyramids to last for a long time, so they made them out of stone bricks.

🕒 Can we make a table to compare the properties of mud and brick? 🕒 Do you think that hard stone or soft stone would be best for building the pyramids? 🕒 What are the disadvantages of each type of stone?

BIOLOGY

ANCIENT EGYPT

CHEMISTRY

PHYSICS

Day and night, the Earth and sun

In ancient Egyptian times the sun was thought to be a disk protected by the falcon-headed god Ra, who took it for a journey in a boat across the sky every day. Every evening Apophis, the god of chaos, would consume Ra and his sun boat. This meant that Ra had to travel through the underworld at night to be reborn in the East every morning.

🕒 Can we create a sun dial that keeps track of the sun's position in the sky throughout the day? [SAFETY NOTE: Don't look at the sun directly as this can cause loss of vision or blindness.] 🕒 How do we know that the ancient Egyptians were wrong in thinking that the sun moves in a boat across the sky?

Seeing things and light sources

Pyramids contained different chambers. The sarcophagus (a container for a dead body) and other burial items would be placed in the different chambers. Pyramids had no windows and it was very dark inside the chambers.

🕒 Why do you think the Ancient Egyptians couldn't see anything without natural light? 🕒 What ideas can you think of for how the Ancient Egyptians could have allowed natural light into different parts of the pyramids?



Written by: Thomas Finch



Evolution and fossils

People in Viking times believed that some stones and fossils had healing powers. They often used fossil ammonites or belemnites, squid-like creatures from the Cretaceous period, as charms for protection.

- ① Can we find out how fossils are formed?
- ② Can we make an imprint of a shell and use it to cast a fossil out of plaster?
- ③ What can we find out about the changes that have occurred in animal life since the Jurassic and Cretaceous times?

- ④ Can you describe the life cycles of farmed plants and animals?
- ⑤ Can you describe the differences between the life cycles of mammals (eg pigs and sheep) and birds (eg chickens)?
- ⑥ What is the life cycle of a fish?
- ⑦ Do any other animals have similar life cycles?

Sound: pitch and volume

Viking musicians had a variety of percussion, stringed and blown instruments they could play. The Viking lyre was a stringed instrument similar to a guitar but much quieter.

- ⑧ Can we find out what makes a guitar louder than a lyre?
- ⑨ How does covering and uncovering the holes in a recorder change the pitch? Why?
- ⑩ How can we change the pitch and volume of a drum?

Edited by:



Millgate House Education

Contact forces

Viking longships were long and narrow and didn't sink far into the water. They were the fastest ships of that time. If Vikings rowed up a river but got to a stretch that was too shallow or narrow for rowing, they would take their ship out of the water and pull it across the land until they got to a suitable part for rowing again.

- ① Can we make a model to investigate boat shapes and find out which shapes float best in water?
- ② Can we investigate which surfaces are best for pulling objects across?
- ③ How does the weight of an object affect how easy or hard it is to pull it across a surface?
- ④ What forces are acting in these situations?

Reversible and irreversible changes

In Viking times babies wore nappies with peat moss to keep them dry. Modern nappies contain crystals made of superabsorbent polymers.

- ① What nappy brand is best at absorbing water?
- ② Can you think of any reasons for differences between brands?
- ③ What other materials can absorb water? Which is the best?
- ④ Once the polymer crystals in a nappy have absorbed the water, is there a way to get the water back?

- ⑤ Once the polymer crystals in a nappy have absorbed the water, is there a way to get the water back?

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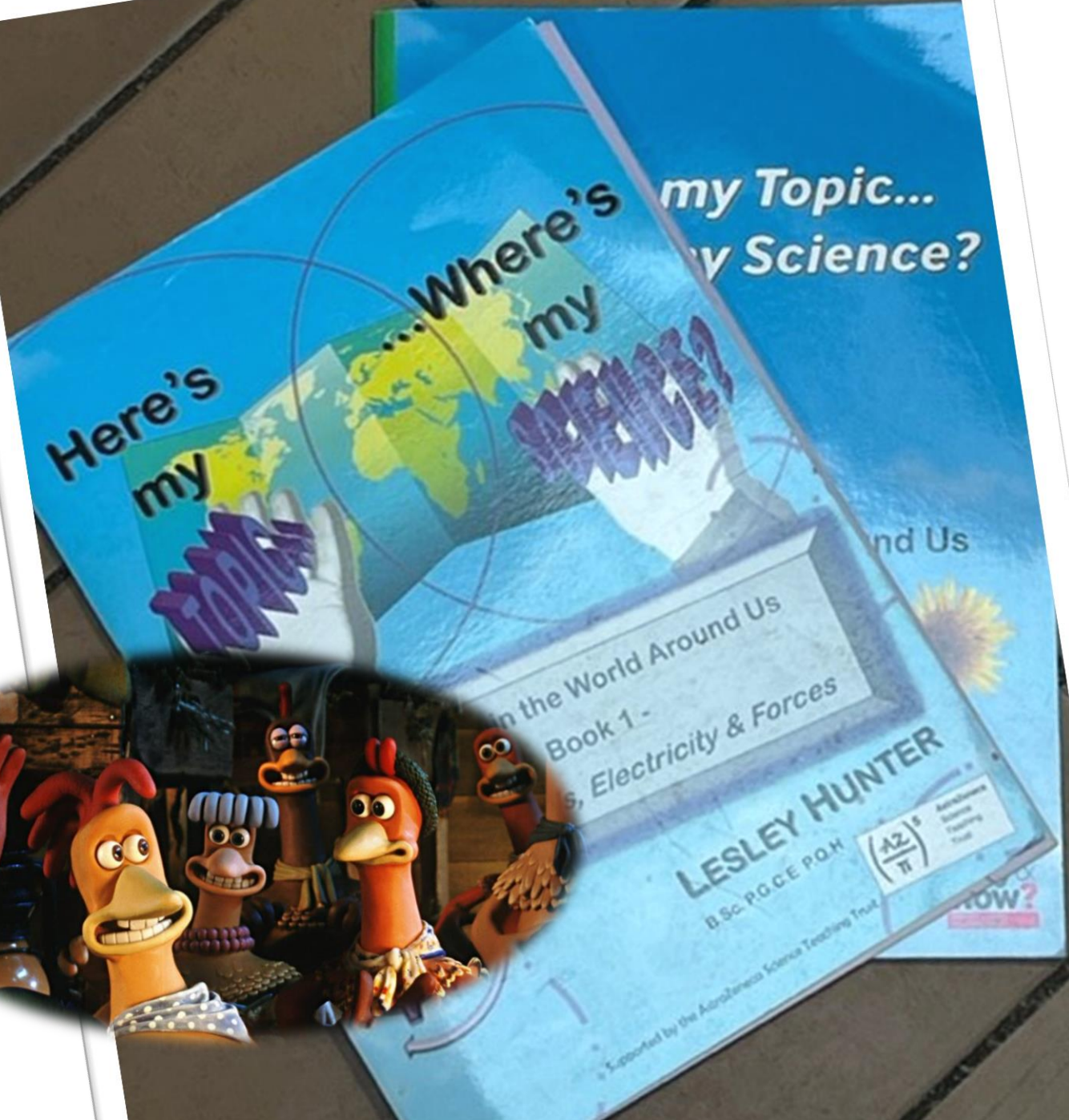
Written by: Terry Harvey-Chadwick,
SV Educational Services



ROYAL SOCIETY
OF CHEMISTRY



**If it's green or wriggles, it's biology.
If it stinks, it's chemistry.
If it doesn't work, it's physics!**





Resources overvi

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A guide to the
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Access lesson plans, activities and ideas to support the teaching of science through the topic of World War II.

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Discover a range of lesson plans, activities and ideas to support the teaching of science through the topic of Explorers.

rivers



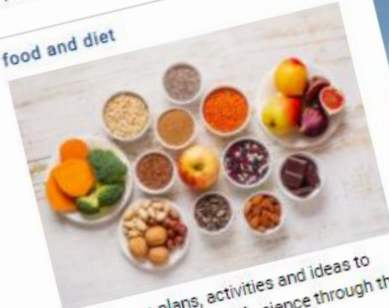
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Discover lesson plans, activities and ideas to support the teaching of science through the topic of Ancient Egypt.

earthquakes volcanoes



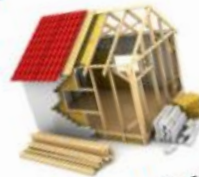
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In this issue: everything you need to know, and use,
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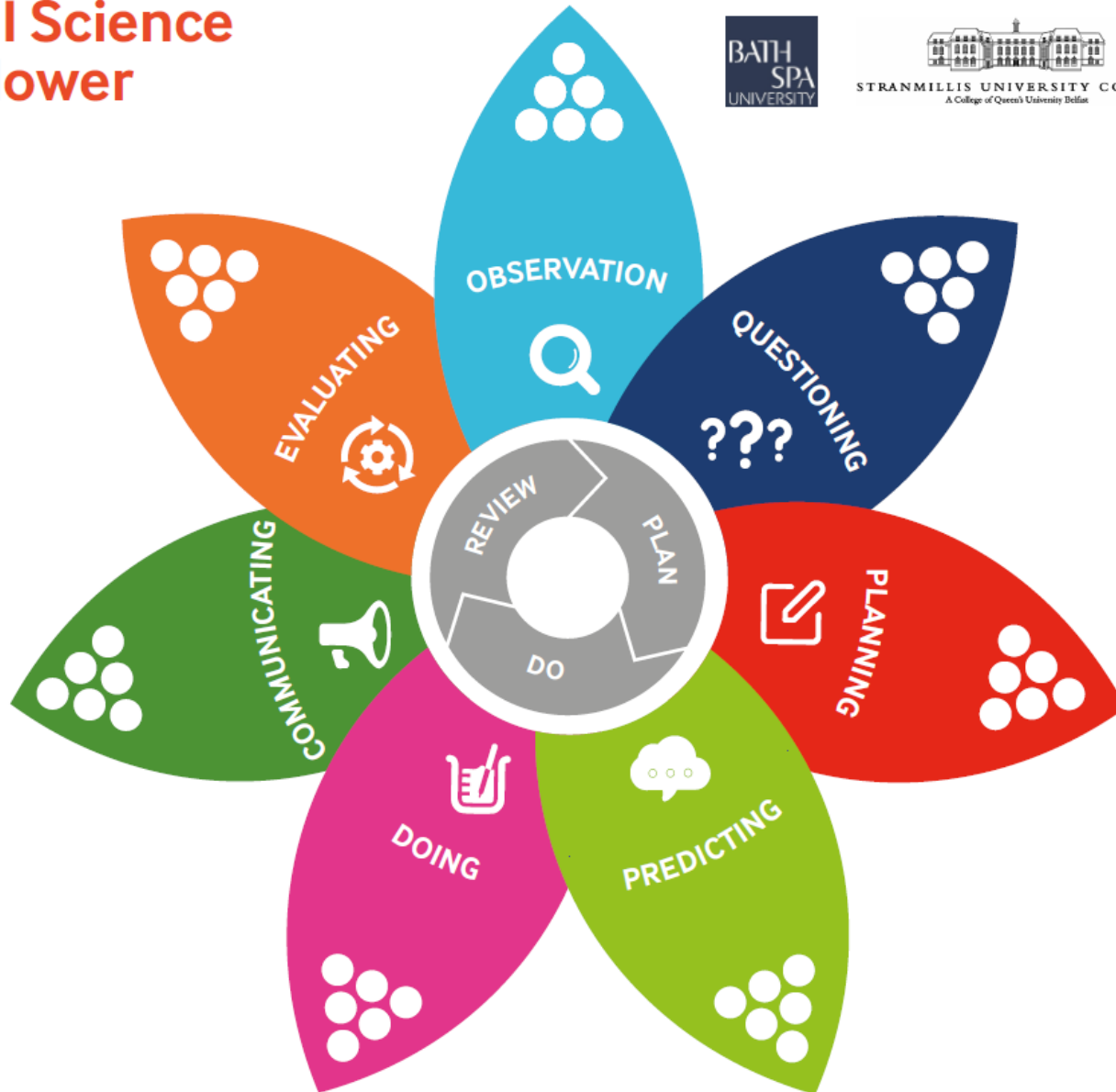
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Teaching Ideas

Safety



TAPS-NI Science Skills Flower



<https://taps.pstt.org.uk/shared-understanding/shu3/taps-ni-science-skills-flower/>

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WAU.**

**❖ 2. START WITH A SCIENCE
TOPIC AND SEE WHICH WAU
TOPIC IT COULD FIT INTO.**



Explorify

Year group (all)

Science topic (all)

Zoom In, Zoom Out

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Zoom In, Zoom Out Short starter • Energiser • No prep
Challenge your class to observe an object, from very close up, and describe what they see. Then zoom out, and discuss step by step. Develop oracy skills and involve the whole class. It's an all-round favourite! [Learn more](#)

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ZOOM IN, ZOOM OUT

Strange snack

Take a closer look at this everyday object by zooming in and out to see it differently.

P3 – P4, P5 – P7

Animals, including humans

Save Mark as done?



ZOOM IN, ZOOM OUT

Chock-a-block

Take a closer look at this everyday object by zooming in and out to see it differently...

P3 – P4, P5 – P7

Movement and Energy

Save Mark as done?



ZOOM IN, ZOOM OUT

Orange and waxy

Take a closer look at this everyday object by zooming in and out to see it differently.

P5 – P7

Evolution and inheritance

Save Mark as done?



ZOOM IN, ZOOM OUT

Pink and spongy

Take a closer look at this everyday object by zooming in and out to see it differently...

P5 – P7

Animals, including humans

Save Mark as done?

- Activity type (all)
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- Audio**
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 - Mission Survive
 - Problem Solvers







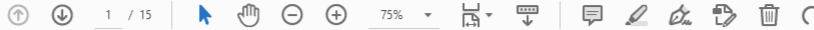






SEASONAL CHANGES

EXPLORIFY RESOURCES



The Climate Challenge (CC)



EXPLORIFY RESOURCES

CC Curriculum statements	Additional related Science Curriculum areas (English)	Explorify activities (Codes below)	Suggested use / Taking it further (CC key learning points in bold)
Biodiversity - plants, animals, habitats			
<p>English:</p> <p>To recognise that environments can change and that this can sometimes pose dangers to living things (Y4)</p> <p><i>Northern Ireland:</i></p> <p><i>The variety of living things in the world and how we can take care of them (KS1).</i></p> <p><i>Changes in the local natural environment, including how they can affect living things (KS2).</i></p> <p><i>The relationship between animals and plants in a habitat (KS2).</i></p> <p>Scottish:</p> <p>Contribute to the design or conservation of a wildlife area (SCN 2-02a).</p>	<p>Y1: Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Y2: Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>Y3: explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <p>Y5: Describe the life process of reproduction in some plants and animals.</p>	<p>Buzzing with life WGO</p>	<p>Identify flowers in the local habitat- younger children could use this spotter sheet. Older children could use the free app Seek by iNaturalist (user guide).</p> <p>Meadows are now one of Britain's rarest habitats; 97% have been lost since the 1930s. They support a large population of living things. The RSPB have created a simple video about planting wildflower seed. Find out more about the Plantlife's No Mow May initiative by watching their introduction video.</p> <p>English:</p> <p>You can encourage wildlife in your school grounds and help restore local biodiversity by planting your own wildflower meadow. The Wildlife Trust has a leaflet about ways to introduce wild flowers and offers further advice here. You could also register for support and match funding from the Earth Restoration Service's Flutter Flowers here or sign up to be part of Backyard Nature. Do your pupils want to create a wildflower corner at home? They could make seedballs using these instructions and then find a suitable spot for them.</p>
	<p>Y3: Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Y5: Describe the life process of reproduction in some plants and animals.</p>	<p>Feathery friend ZIZO</p>	<p>This provides an opportunity to explore pollination. Children could learn to recognise different species of bee, with this excellent British Science Week resource. It's estimated that about one third of the food we need is dependent upon pollination by bees. Scientists are concerned that the populations of some bee species are declining in the UK. This could be because of habitat loss, climate change and the use of insecticides.</p>
<p>Collaborate in the design of an investigation into the effects of fertilisers on the growth of plants. Express an informed view of the risks and benefits of their use (SCN 2-02a).</p> <p>Contribute to discussions of current scientific news items to help develop an</p>		<p>Which pollinators visit our school grounds? TBQ</p>	<p>What could your school grounds offer bees? You could make a bee bath for when they might be thirsty; a "bee hotel" for solitary bees to live in or make a hibernating nest for a queen bumble bee to use over winter with either a buried tea pot or terracotta pot. Of course, planting a wild flower area (or using seed bombs) near these facilities would be perfect!</p> <p>Surveying pollinators will help children understand the role they play. To increase the biodiversity supported, a range of flower types are needed. The Royal Horticultural Society (RHS) has produced an easy-to-use chart, the Pollinating Insects Spotter Guide to help identify pollinators. Meanwhile, the urban bees website produces a monthly guide to which bees can be spotted.</p>

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**There are 3 ways to approach
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**❖ 3. EXTEND YOUR CHOSEN
TOPIC TO MAKE INTO A
THEME.**

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[Key Stage 3 Assessment Statistics](#)

[Áiseanna Bunscoile/Primary Irish-Medium Resources](#)

[Progress File](#)


[Lesson 2: Made in Ulster. for the World](#)


Science Through Stories





Here are some resources that were developed for World Book Day and can be used by teachers across all key stages of the primary school.


 **Elmer - Foundation Stage - How Easy Is It To Hide?**
PDF | 2.05 MB - last updated 07/01/2020

 **Rosie's Hat - Foundation Stage - Why Do Things Move?**
PDF | 2.18 MB - last updated 07/01/2020

 **Horrid Henry Rocks - Key Stage 1 - What Materials Can Horrid Henry Use To Help Block Out The Sound?**
PDF | 1.62 MB - last updated 07/01/2020

 **The Lighthouse Keeper's Lunch - Key Stage 1 - How Can Mr Grinling Get His Lunch Quickly?**
PDF | 1.63 MB - last updated 07/01/2020

 **Gangsta Granny - Key Stage 2 - Can We Create An Alarm System To Prevent Future Gangsta Crooks From Stealing The Crown Jewels?**
PDF | 2.2 MB - last updated 07/01/2020









 **The BFG - Key Stage 2 - Can You Make Your Own Fizzy Potion?**
PDF | 1.87 MB - last updated 07/01/2020

 **Charlotte's Web - Key Stage 2 - Why Do Spiders Not Stick To Their Own Webs?**
PDF | 1.42 MB - last updated 07/01/2020

story to initiate
World Book Day.





- 
Bridges
 PDF | 3.85 MB - last updated 12/11/2019
- 
Water
 PDF | 999.23 KB - last updated 12/11/2019
- 
Wind
 PDF | 1.28 MB - last updated 16/06/2020
- 
Textiles
 PDF | 14.56 MB - last updated 12/11/2019
- 
Farming
 PDF | 1.92 MB - last updated 12/11/2019
- 
Farming Resources
 ZIP | 21.84 MB - last updated 12/11/2019
- 
Flight
 PDF | 3.98 MB - last updated 12/11/2019
- 
Flight Resources
 ZIP | 12.55 MB - last updated 12/11/2019

Periodic Table

These are the 118 currently known and officially named elements that make up the periodic table (IUPAC 2016).

The periodic table arranges the elements, with their diverse physical and chemical properties, in order of atomic number and fits them into a logical pattern. Eighteen columns divide the elements into groups with closely related physical properties. Rows list elements in order of mass and are called series or periods. Properties of elements change in a systematic way through a period.

Atomic number

The atomic number is equal to the number of protons in the nucleus.

Relative atomic mass

The ratio of the average mass of the various isotopic forms of an element to one-twelfth of the mass of a carbon-12 atom in its ground state. A number in brackets indicates that all isotopes of the element are unstable, ie radioactive.

Cu
Copper
29 63.546

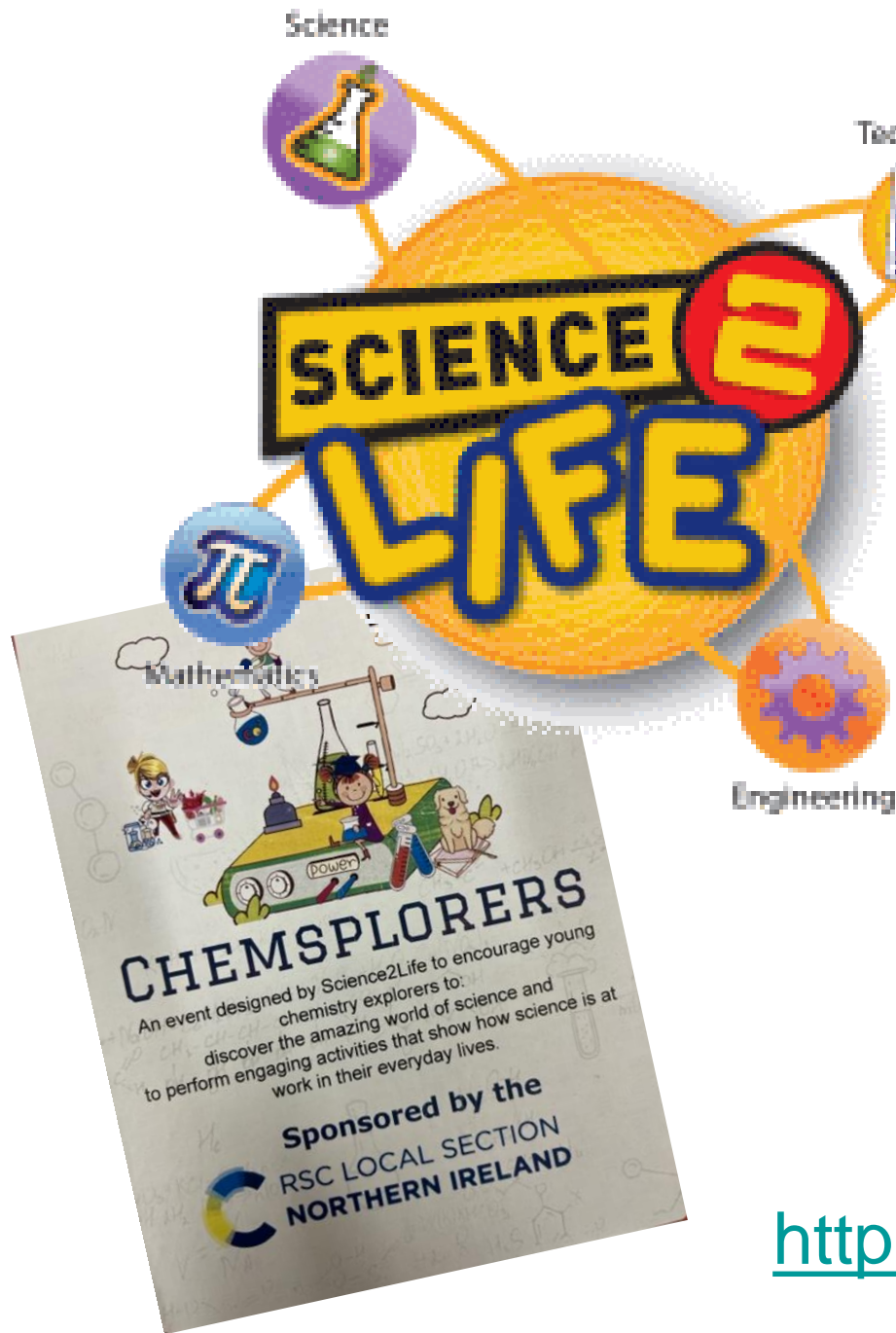
Group 1		Alkali earth metals Group 2		Transition metals									Group 13	Group 14	Group 15	Group 16	Group 17	Noble gases Group 18				
H Hydrogen 1 1.008	Li Lithium 3 6.94	Be Beryllium 4 9.012	Na Sodium 11 22.990	Mg Magnesium 12 24.305	K Potassium 19 39.098	Ca Calcium 20 40.078	Sc Scandium 21 44.956	Ti Titanium 22 47.867	V Vanadium 23 50.942	Cr Chromium 24 51.996	Mn Manganese 25 54.938	Fe Iron 26 55.845	Co Cobalt 27 58.933	Ni Nickel 28 58.693	Cu Copper 29 63.546	Zn Zinc 30 65.38	B Boron 5 10.81	C Carbon 6 12.011	N Nitrogen 7 14.007	O Oxygen 8 15.999	F Fluorine 9 18.998	Ne Neon 10 20.180
Rb Rubidium 37 85.468	Sr Strontium 38 87.62	Y Yttrium 39 88.905	Zr Zirconium 40 91.224	Nb Niobium 41 92.905	Mo Molybdenum 42 95.95	Tc Technetium 43 (98)	Ru Ruthenium 44 101.07	Rh Rhodium 45 102.905	Pd Palladium 46 106.42	Ag Silver 47 107.868	Cd Cadmium 48 112.414	In Indium 49 114.818	Sn Tin 50 118.710	Sb Antimony 51 121.760	Cd Cadmium 48 112.414	Ga Gallium 31 69.723	Ge Germanium 32 72.630	As Arsenic 33 74.922	Se Selenium 34 78.971	Br Bromine 35 79.904	Kr Krypton 36 83.798	
Cs Caesium 55 132.905	Ba Barium 56 137.327	La Lanthanum 57 138.905	Hf Hafnium 72 178.49	Ta Tantalum 73 180.948	W Tungsten 74 183.84	Re Rhenium 75 186.207	Os Osmium 76 190.23	Ir Iridium 77 192.217	Pt Platinum 78 195.084	Au Gold 79 196.967	Hg Mercury 80 200.592	Tl Thallium 81 204.38	Pb Lead 82 207.2	Bi Bismuth 83 208.980	Po Polonium 84 (209)	At Astatine 85 (210)	Rn Radon 86 (222)					
Fr Francium 87 (223)	Ra Radium 88 (226)	Ac Actinium 89 (227)	Rf Rutherfordium 104 (261)	Db Dubnium 105 (262)	Sg Seaborgium 106 (266)	Bh Bohrium 107 (270)	Hs Hassium 108 (277)	Mt Meitnerium 109 (278)	Ds Darmstadtium 110 (285)	Rg Roentgenium 111 (288)	Cn Copernicium 112 (285)	Nh Nihonium 113 (284)	Fl Flerovium 114 (289)	Mc Moscovium 115 (288)	Lv Livermorium 116 (293)	Ts Tennessine 117 (294)	Og Oganesson 118 (294)					
Alkali metals		Lanthanides																				
Ce Cerium 58 140.12	Pr Praseodymium 59 140.908	Nd Neodymium 60 144.242	Pm Promethium 61 (145)	Sm Samarium 62 150.35	Eu Europium 63 151.964	Gd Gadolinium 64 157.25	Tb Terbium 65 158.925	Dy Dysprosium 66 162.500	Ho Holmium 67 164.930	Er Erbium 68 167.259	Tm Thulium 69 168.934	Yb Ytterbium 70 173.054	Lu Lutetium 71 174.967	Actinides								
Th Thorium 90 232.038	Pa Protactinium 91 231.036	U Uranium 92 238.029	Np Neptunium 93 (237)	Pu Plutonium 94 (244)	Am Americium 95 (243)	Cm Curium 96 (247)	Bk Berkelium 97 (247)	Cf Californium 98 (251)	Es Einsteinium 99 (252)	Fm Fermium 100 (257)	Md Mendelevium 101 (258)	No Nobelium 102 (259)	Lr Lawrencium 103 (262)									

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For periodic table videos, data, history, and more, visit www.rsc.org/periodic-table, or scan the QR code.

www.rsc.org/periodic-table



<https://www.science2life.com/>

Making

Science
FUN!

Making

SCIENCE FIT!

