Learning from Home

Under the Sea

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Science Challenge

The Water Cycle Experiment

In order to survive, all living things need the same 5 basic things:

Sunlight Shelter Food Air Water

BUT if all the living things use up all the water what will happen?

The average human is about 60 per cent water. We need to take in water every day, but we also lose water every day via our sweat, from going to the toilet and even just by breathing.
All the water on Earth is the same water that has always been here, and it just gets recycled in a process called **The Water Cycle**.

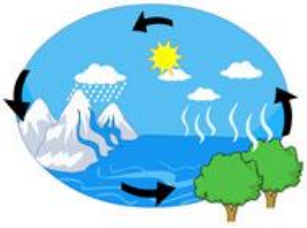


Image: https://classroomclipart.com

Watch this video to find out more: https://www.youtube.com/watch?v=al-do-HGuIk

To demonstrate The Water Cycle we can do an experiment.
Watch: Water evaporation experiment @ https://www.youtube.com/watch?v=kmmEV4ohSDA

You will need:
2 glass jars or glasses
I lid for a jar or some tin foil
Marker pen
Food colouring (blue if you have it)
Water

Click here for a booklet about the experiment:
https://www.sydneywater.com.au/content/dam/sydneywater/documents/education/make-evaporation-experiment-postcard.pdf

What to do:

1. Fill the 2 jars (or glasses with water) making sure the amount in both is equal to make it a fair test.
2. Add drops of the food colouring
3. Draw on the side of the jar (or glass) to show where the water level is.
4. Place the lid (or foil) on the top of 1 jar (or glass) and sit both on a windowsill or somewhere warm.

What do you predict will happen? Will the water stay the same or will it change?

This may take a few days before you can see a definite change but check at least twice a day to see if the water level has changed. If the water level drops, where has it gone and how did it go?

The science

The water doesn't just disappear. Water is made up of millions of water molecules. When heated they start to move and get further apart from each other. As they get warmer, they rise into the air and change into a gas called **water vapour**. This process is called **evaporation**. In this case it means there will be less water left in the jar (or glass) without a lid on. If you look inside the lid, you may see droplets where some water molecules have gathered. This is called **condensation**. When these drops become heavy enough, they will drop back into the jar. This is called **precipitation** (or rain). In this case the water will be recycled round and round never leaving the jar unless the lid is removed.

Did you get the same results? If not, can you think of an explanation why?

Technology Challenge

Origami Squid

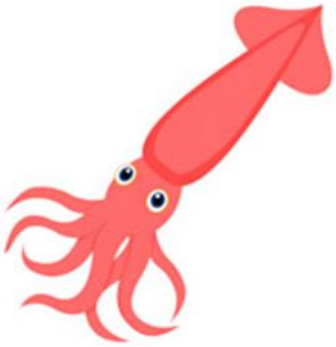


Photo and activity from YouTube.com (Surprise Origami)

According to www.collinsdictionary.com a squid is a sea creature with a long body and many soft arms called tentacles.

Your task is to make an origami squid. You will construct your 3D model squid by using a sheet of paper which will need to be folded several times and in a certain order.

You will need:

A square piece of paper of any colour. 15cm x 15cm is ideal as the folds will become more difficult if the paper is smaller.

You can click **https://www.youtube.com/watch?v=o45xp67unnU** to watch a video which will take you through how to do it step by step.

Clipart from https://classroomclipart.com

Maths & Numeracy Challenge

Countdown

This game is a simple version of the one played on TV.
(Adapted from Third Space Learning)

What you need to play:
*4 'large number' cards with the numbers 25, 50, 75 and 100 on them
**At least* two sets of cards with the digits 1-10 on them.
(Using 2 different colours of paper or card would be helpful but not essential)

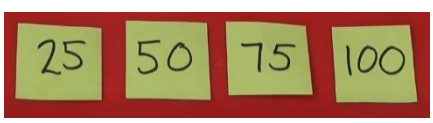
If you need help to understand you can watch a video here: https://youtu.be/RZgkr5_Xn58

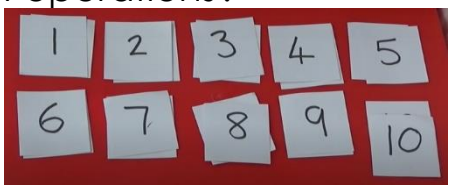
How to play:

1: Set out 4 large number cards (25, 50, 75 and 100) face down and mixed up.
2: Do the same with the 1 – 10 cards, making sure you have at least 2 cards for each number.
3: Players take it in turns to select one of the big number cards or one of the small number cards, until there are 6 cards laid out altogether.
4: Someone who is playing the game needs to generate a 3-digit number by selecting cards from a pile of 0 to 9 cards.
5: Once the number has been generated, turn over the six cards and your task is to try and get to that total using any of the six number cards and any of the four operations. (+ - x ÷)

Each card can only be used once. You can play by yourself -give yourself a time limit on how long you have, e.g., 3 minutes on an egg timer or mobile phone, or you can play against somebody else. The winner would be the first person to reach the total, or the player who is closest after a set length of time.

Extra Challenge: *Can you use all of the numbers? *Can you find more than 1 solution? *Can you use all 4 operations?





Images from thirdspacelearning.com

Literacy Challenge

Underwater Imagination

According to **www.trafalgar.com** our oceans cover more than 70 per cent of the Earth's surface.

Image: https://classroomclipart.com

*The majority of life on Earth is aquatic. (Lives under water)
*Less than five per cent of the planet's oceans have been explored.
*The world's longest mountain chain is underwater.

With so much still unknown and unexplored this gives us a great opportunity to use our imagination.

Your task is to get creative and write an imaginative story about the ocean. There are some writing prompts below but if you have your own idea then you can use that instead. Think about the **5 Ws** (**Who, What, Where, When** and **Why**) when you are writing. You may want to write a plan so you can have a structure for where your story will take you.

Prompts

1. While scuba diving deep under the ocean you see a cave, and you decide to take a look. What happens next? What do you see?
2. You wake up and find yourself on a raft in the middle of the ocean. How did you get there? What happens next?
3. The blue whale is the largest creature in the ocean or at least it you thought it was until you spotted this!
4. It has just been announced on TV that the lost city of Atlantis has been found.

When you have written your story you may like to share it with someone at home. If you can read it out to them otherwise let them read it themselves. It can be wonderful to share our imagination with others…after all think about some of the most successful films and books you might have read or watched. E.g., Harry Potter, Lord of the Rings, The Hunger Games etc. Somebody used their imagination to write them.

Health & Wellbeing Challenge

Staying Hydrated

Today we are finding out why it is so important to drink (and eat) enough water to stay healthy. Watch this video from BBC Bitesize to find out more:
https://www.bbc.co.uk/bitesize/topics/zfmpb9q/articles/zrfj96f

The average human is between 55 – 60% water. Babies and children have even more water than this. (New-born babies are 75% water!)

How much do we need to drink to stay healthy? We need water for many functions like:
Cushioning and lubricating joints
Regulating body temperature
Nourishing the brain and spinal cord
Aiding the breakdown of our food

Water is not only in our blood. An adults brain and heart is almost ¾ water. Lungs are similar to an apple at 83% water and even human bones which we might think of being very dry, are 31% water.

Every day we lose 2 – 3 litres of water via our sweat, urine and bowel movements and even just from breathing. We need to do all these thing**s** to survive so we have to replace that fluid somehow.

If we don't get enough water then we can become dehydrated. If we have too much water, we can become over hydrated – both can be dangerous to our health.

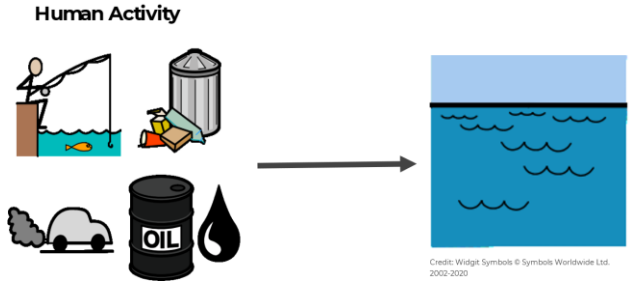
Water can come from other drinks too like tea or coffee or juice
We also get water from our food (about a fifth of what we need daily)
Fruit and vegetables like cabbage, cucumber, strawberries, oranges and even broccoli are over 90% water.

Task
Make a list of your favourite foods and look up their water content. You can find the water content listed on food and drink labels or by researching foods, like fruit and vegetables, online. Are you surprised by how much water they contain?

Social Studies Challenge

Turtles In Danger

Human beings are causing damage to our oceans and seas and the living things within them.
Activities like overfishing, fumes emitted from vehicles such as cars and airplanes, oil spillages and the dumping of plastic can all have a negative impact.



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As an example, sea turtles around the word are now threatened with extinction because of hunting and pollution. Countries around the world are trying to save them. In Indonesia, for example, it is now illegal to hunt or kill sea turtles. You cannot take their eggs and you must not sell, buy or eat anything which may have been made from any turtle or part of one.

Images: Oak National Academy

What can you do to help?
*Reduce the number of plastic bags you buy **and** *Reuse the ones you already have. *Recycle items at home

Challenge:

1. Help with recycling tasks. Ensure your rubbish goes in the correct bins at home.
2. Think before you buy. Do you need new clothes or are the ones you have still ok? Buy paper or bamboo straws, not plastic ones…or do you even need straws at all?
3. Take a bag with you (or encourage family members to do so) when going to the shops.
4. Can you think of any other ways to help?
5. Create a poster encouraging people to **Reduce** / **Reuse** / **Recycle** to help save the turtles. (You could use paper + pens / pencils or ICT)

Expressive Arts Challenge

Water Lilies

Claude Monet The Water Lily Pond (1905)

(Photo from Wikipedia)

Claude Monet was a famous painter. A keen gardener, he created this pond in his garden in Giverny, France. He painted over twenty pictures of this scene and some of them are vast wall-size paintings. Water lilies are one of the most famous themes by this **impressionist** artist. He was fascinated by light dancing on water and the reflections it would cast. For Monet, the reflection was the subject of the painting - he tried to capture a fleeting moment, an impression and this was a new idea in art.

Have a closer look at the painting
How does the picture make you feel?
What wildlife would you expect to see if you visited this pond?

Imagine... you shrank to the size of a frog and you were at this pond in France... What sounds would you hear? What would you smell? What would you see?

Which colours did Monet use?
Monet didn't use black – he felt it had a dulling effect. Instead, he used complementary colours, e.g., dark reddish browns laid into greens in the darkest part of the water.

Make your own lily pond – Paint or colour a paper plate (or simply use paper or card) with shades of blue and green. (Watercolour paints work really well for this if you have some) Try to vary the shades you use and try not to use too much paint. When dry finish with shades of blue, yellow and lavender purple over the top.
If you would like a 3D effect, you can add scrunched up tissue paper or even cake baking cases on the top as the flowers.

Art idea and photo from https://www.artycraftykids.com