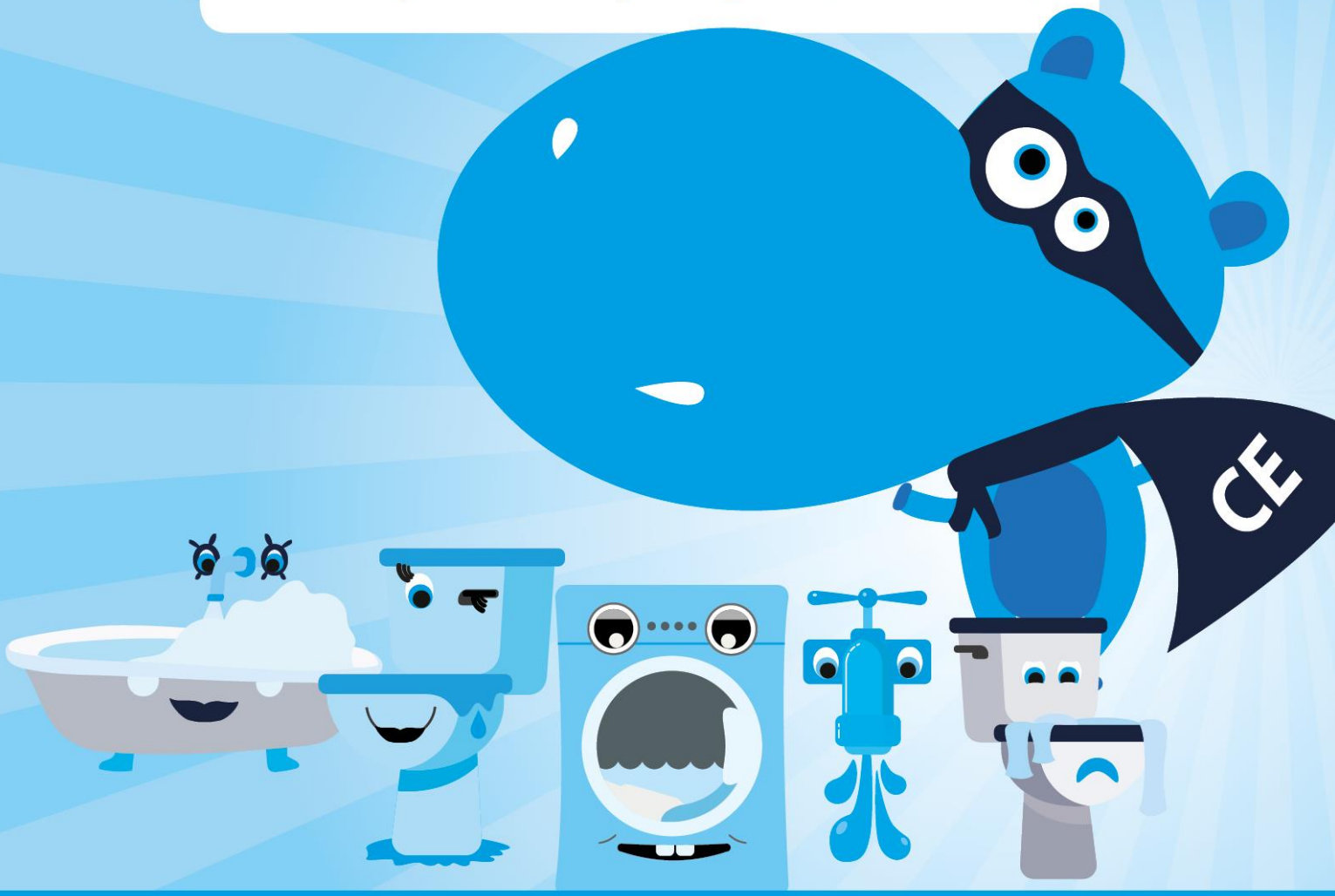
CAPTAIN EFFICIENT

v the water wasters

Activity book: Key Stage 2 (Years 3-6)



South Staffs Water

South Staffs Water

Introduction

In this book, you will find a number of different activities that use English, Art and Maths. The activities all follow on from each other and include different things to do to keep it fun!

There are examples and a checklist for each activity, so you can make sure you've included everything in your work. This will also mean that your teachers can see what you've been working on and how it fits in with your school work.

You won't need to print out the book; you can use one of your school books or a notebook to do the work in. All you need is your imagination! Don't forget you can send us photos of your work, but ask an adult's permission first.

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Have fun!

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Captain Efficient's arrival

At South Staffs Water HQ, they were becoming concerned about people wasting water.

'What we really need', said Mr Willicott, frowning and scratching his head, 'is a superhero.'

Suddenly, there was a whizz, bang, pop and a flash of shimmering blue light. Standing there like a proud peacock was a blue hippopotamus, his superhero cape fluttering behind him like a butterfly.

'I'm Captain Efficient', announced the Hippopotamus in a loud, booming voice. 'I spend all my time fighting water wasting crime. I'm just the one you need, my message they must heed.'

Mr Willicott jumped up and down in delight and clapped.

'Can you recruit some Water Warriors Captain Efficient?' he asked, 'Then we can spread the water saving message far and wide.'

Captain Efficient agreed that he would make this his mission, for saving water is very important.

As quick as a flash, he disappeared with another whizz, bang, pop and a flash of shimmering blue light!

Word watch

What does 'efficient' mean?
Sometimes your teachers/people at home might tell you to use your time, 'efficiently'. This means that they want you to use your time wisely so that none gets wasted. Captain Efficient teaches people to use water wisely so that it doesn't get wasted.

What does 'intonation' mean?
Variation in pitch pattern in a sentence to show emotion, expression and if the sentence is a statement or question.

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Task

Lower Key Stage 2 (Year 3 and 4)

- Read the short story of Captain Efficient's arrival out loud using intonation, tone, volume and action.

Then complete this activity:

In the story identify, and note down, examples of:

- **Fronted adverbial** - fronted adverbials are phrases or words at the start of a sentence, which describe the action that follows. You will find that they are often used to describe:
  - The time something happens, 'After the setting of the sun…'
  - How often something happens, 'Once in a while...'
  - Where something happens, 'At the bottom of the garden…'
  - The manner something happens, ' As quick as a flash…'
  - How likely it is something will happen/has happened, 'Almost certainly…'
- **Alliteration**- when words that start with the same sound (not just the same letter) are used repeatedly in a phrase or sentence. 'The big brown bear…'
- **Simile**- compares two different things using the words, 'as' and 'like', e.g. 'He swam like a fish…'
- **Punctuation**- includes capitals, commas, question marks, exclamation marks, quotation marks and full stops. Punctuation can change the meaning of your sentence. 'Let's eat grandma.' 'Let's eat, grandma.'

Then complete this activity:

Write your own short story about something you have done today that includes all of the above. Remember to proof read your work and make any corrections accordingly.

Checklist

I have:	Read out loud using intonation, tone, volume and action	
	Identified examples of: fronted adverbial, alliteration, simile and punctuation	
	Written my own short story that includes: fronted adverbial, alliteration, simile and punctuation	
	Proof read my work and made any corrections	

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Word watch

What does infer mean?

Clues that are given to help you work out what's really happening or how someone is feeling. For example, 'One of the cakes was missing. Lily stood in the corner looking nervous with crumbs on her top and her cheeks puffed out like a hamster.'

Task

Upper Key Stage 2 (Year 5 and 6)

- Read the short story of Captain Efficient's arrival out loud using intonation, tone, volume and action.

Then complete this activity:

- What do you infer from the text about how Mr Willicott is feeling at the start of the story? How does this change?
- Re-write the introduction using a thesaurus to help you with alternative descriptive words. Don't forget to use different writing techniques such as, fronted adverbials, alliteration, similes and punctuation.
- Proof read your work and make any corrections

If you don't have a thesaurus, there are various ones available online, such as:
https:/www.collinsdictionary.com/dictionary/english-thesaurus

Checklist

I have:	Read out loud using intonation, tone, volume and action	
	Answered the questions on inference	
	Re-written the introduction using a thesaurus to help with alternative descriptive words	
	Used different writing techniques, including, fronted adverbials, alliteration, similes and punctuation	
	Proof read my work and made any corrections	

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Where do we get our water from?

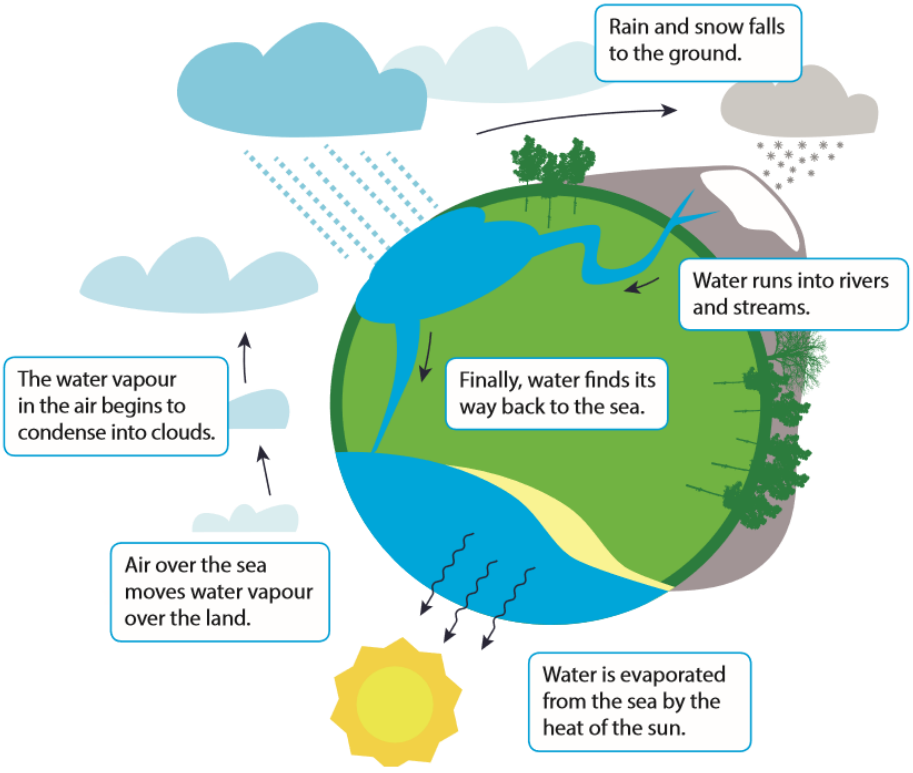
At South Staffs, we get our water from three different places; Blithfield reservoir (a big, man-made lake) the River Severn and groundwater (water held underground in the soil, or in pores and crevices in rock). The water is then pumped to our treatment works, where it's cleaned, before being pumped to service reservoirs (large indoor building) to be stored and then pumped out to your homes.

But how does the water get to the river and reservoir in the first place?

70% of the earth is covered in water, which goes round in one continuous cycle, the water cycle, meaning that we drink the same water as dinosaurs. Yes really!

The water cycle

The heat of the sun **evaporates** water from the sea, turning it into water vapour. This water vapour **condenses** into clouds and when the clouds get full it falls to the ground in the form of rain or snow. Another word for this is **precipitation**. The rain finds its way underground, to rivers and eventually back to the sea ready for the whole cycle to start again.



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Task

Now you've read about the water cycle, use the water cycle diagram to help you create your own. Be as creative as you want to be, this could be a 3D model using an empty cereal box or you could even try making it out of Lego!

Don't forget to clearly label your diagram using the key terms: **Evaporation**, **Condensation** and **Precipitation**.

Checklist

I have:	Learnt about the water cycle and the key terms: Evaporation, Condensation and Precipitation	
	Used the diagram of the water cycle to help me draw/make my own water cycle and label it	

We'd love to see photos of your work but remember to ask an adult's permission first.

You can also keep your teacher updated with photos of your work.

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Water use

How much water do we use?

On average in the UK, we each use 150 litres of water a day. That sounds like a lot of water but when we start to add up the amounts of water that we use for different things, we probably end up using more than 150 litres a day. Having a bath, for example, uses 80 litres of water and leaving the tap running while you clean your teeth uses 12 litres. That's 92 litres already just from having a bath and cleaning your teeth once.

Take a few minutes to write a list of all the different things we use water for, maybe ask other people at home to help you.

What do we use water for?

Here are a few examples to get you started:

- Drinking
- Washing your hands
- Flushing the toilet
- Cleaning your teeth

As you can see, we use water for lots of different things, so it's important to make sure we don't waste it, so there's plenty for us all to use in the future.

How can we save water?

Checking for leaks

- Leaking toilets aren't always easy to spot, as the water dribbles away invisibly down the back of the pan. This can waste thousands of litres of water every year and can add to the cost of bills on water meters.
- We have, 'LeakyLoo' strips that can detect a leaky toilet.
- Most toilets also don't need to use a full cistern to flush effectively, a 'HIPPO, the water saver device' can be inserted into a cistern to help save water with every flush.

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Half-full appliances

- Most of us are guilty of putting on our dishwasher or washing machine when it's only half full, thinking it will only use half the water. This however is not the case, so we need to make sure there is a full load in our dishwasher or washing machine before we put them on.

Throwing rubbish down the toilet

- If we all flushed our tissues down the toilet every time we blew our nose, rather than putting them in the bin, we'd waste a lot of water.
- Try to avoid flushing away cotton balls, wipes, simply throwing them in a bin will cut down on the amount of water wasted with every flush. This will also help to stop drains getting blocked.

Keeping Clean

- How many of you like to have a shower in the morning? How many of you spend longer than four minutes in the shower?
- To help save water and time, you can use a shower timer. If everyone used a shower timer we would save enough water to supply 1 million homes every day!
- A bath typically uses around 80 litres, while a short shower can use as little as a third of that amount.
- By running your bath by just two centimetres shorter than usual you can save on average 5 litres of water.
- You can minimise your water use by reusing your bathwater to water your house plants or garden.

Running Taps

- You can save water by not leaving taps running when you clean your teeth or wash your hands.
- Dentists recommend brushing your teeth for two minutes, leaving the tap running while you do this though wastes 12 litres of water. It's much better to turn the tap off while you brush and then back on again to rinse. 'Toothy Timers' will help you to remember this.

- Similarly, leaving the tap running while you wash your hands wastes water. It is better to switch the tap on, off and then back on again or to put a small amount of water in the sink.

You can order your FREE water efficiency devices at:
www.savewatersavemoney.co.uk be sure to ask an adult for permission

Why do we need to save water?

Water is a precious resource and we are fortunate in this country that we have easy access to clean, running water. All we need to do is turn on the tap to be able to have a drink of water, to wash ourselves or to clean our dishes. This water is also free from any harmful contaminants. According to the Environment Agency though, if we don't all start to reduce the amount of water we use, then by 2050 many areas of England will be facing water shortages.

Not all countries are as fortunate as us. Imagine having to walk a long distance to collect water to use at home, but this water is often dirty and contaminated. Research the work that WaterAid does to help people in poorer countries who don't have access to clean, running water, which is especially important at the moment. **www.wateraid.org**

Answer the questions below to test your water knowledge:

1. On average in the UK, how many litres of water do we each use a day?

2. How many litres of water are wasted, if you leave the tap running whilst you clean your teeth?

3. List five things we use water for:

    -
    -
    -
    -
    -

4. What can be used to help detect a leaky toilet?

5. What can be used to help save water with every flush?

6. List three things you shouldn't flush down the toilet:

    -
    -
    -

7. Why shouldn't rubbish be flushed down the toilet?

8. How many minutes should you spend in the shower?

9. How many litres of water does it take to fill the average bath?

10. What year could we face water shortages by?

11. What is the name of the organisation that helps people in poorer countries who don't have access to clean, running water?

12. What are you going to do to try and save water around the home?

Checklist

I have:	Read about how to save water and used this information to answer the water knowledge questions	

Now you know all about how to save water, it's time for your next task!

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Water Warriors

Mr Willicott asked Captain Efficient to recruit some Water Warriors to help spread the water saving message. Your mission, should you choose to accept it, is to create your own Water Warrior. Be as creative as you want, there are many different ways to create your character; pencil, paint, play dough, recycling, so many possibilities!

You may need an adult to help you and don't forget you can share your creations with us via social media, just remember to ask permission first.

Task

To create your own Water Warrior, you'll need to think about:

- Are they going to be a person, an animal or an object?
- What are they going to be called?
- Do they have a super power?
- What's their water saving message?

Once you've created your Water Warrior, write a short description about them, including their name, if they have any superpowers and how they encourage people to save water. Use the writing techniques practiced in the earlier activity to help you.

Checklist

I have:	Created a Water Warrior using different materials	
	Written a short description of my Water Warrior using different writing techniques, including, fronted adverbials, alliteration, similes and punctuation	
	Proof read my work and made any corrections	

Don't forget to take pictures of your Water Warrior to show your teacher. You can even share them with us, but remember to ask an adult's permission first.

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Now you have your Water Warrior, you can encourage other people to save water.

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Task

To help spread the water saving message, you can choose one of the tasks below:

Water efficiency poster

Design a poster encouraging people to save water. Your poster should include one water-saving message and a picture to illustrate your point; you could even include your Water Warrior.

Use these pointers to help you:

- Slogan - short and snappy
- Alliteration - when words that start with the same sound (not just the same letter) are used repeatedly in a phrase or sentence. 'The big brown bear…'
- Wordplay
- Typographical devices - when text is used to form patterns, shapes and images
- Don't overcrowd it
- Message should be simple but effective
- Colourful
- Consider letter size and spacing
- Imperative verbs – bossy verbs that tell you what to do. For example, take, use, put.

Or

Write a letter to your headteacher about the importance of saving water and what you can do as a school to try and do this when you return.

Use these pointers to help you:

Letters:

- Decide on persuasive report/balanced argument
- Layout
- Opening paragraph to set out basis of letter
- Remaining paragraphs to deal with one issue at a time, beginning with vocabulary, such as 'However, As a result of….Consequently, Furthermore.' etc.
- Opening line of each paragraph to contain main idea of that particular paragraph and further sentences to develop idea
- Final paragraph to summarise main points
- End with appropriate greeting

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Checklist

I have:	Designed a poster **or** written a letter on the importance of saving water	
	Used persuasive writing and other writing techniques to get my message across	
	Included a picture on my poster	
	Proof read my work and made any corrections	

Water use Maths

To try and find out how much water you use at home for different activities, by keeping a tally like the one below. Every time someone in your house does one of the activities, get them to put a mark in the corresponding column.

You can then use this to help you work out the sums for the next activity.

Activity	Tally	Total
Example - flushing the toilet	𝍸 |	**6**
Flushing the toilet		
Four-minute shower		
Having a bath		
Washing hands under running water		
Filling the kettle		
Brushing teeth with tap running (two minutes)		
Washing machine (one load)		
Using the dishwasher (Eco setting)		
Handwashing dishes (one bowl of water)		

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Now you've filled in your tally, use the totals to help you work out the total number of litres of water your household uses a day for each activity. You'll then be able to work out the total number of litres you use per day.

Activity	Litres	Number of times per day	Total number of litres
Example - flushing the toilet	**9**	**6**	**54**
Flushing the toilet	9		
Four-minute shower	35		
Having a bath	80		
Washing hands under running water	3		
Filling the kettle	2		
Brushing teeth with tap running (two minutes)	12		
Washing machine (one load)	85		
Using the dishwasher (Eco setting)	12		
Handwashing dishes (one bowl of water)	6		

Have a look at your water use results. You should now be able to see which activity your household uses the most water for, and which activity uses the least amount of water. Decide what you're going to try to do to save water and then repeat the activity to see if you've managed to reduce your water use.

If you want to, you could try keeping a tally over a week to compare your results day to day.

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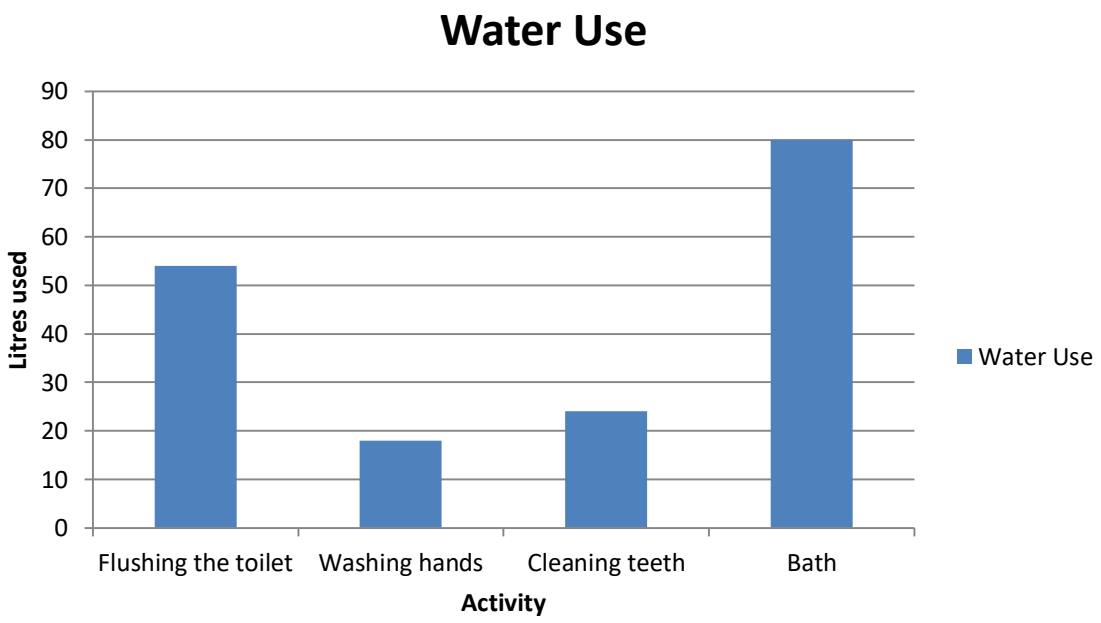
Plotting your results on a graph

Use your school Maths book to put your results onto a graph, like the one below with the activity along the x axis (horizontal) and the number of litres on the y axis (vertical).



Checklist

I have:	Completed a water use tally for my household	
	Worked out the total number of litres of water used for each activity	
	Identified which activity uses the most amount of water and which one uses the least	
	Plotted my results on a graph	

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Re-cap

To re-cap what you've learnt through this activity book, answer the questions below:

1. How does Captain Efficient appear?
2. What does 'efficient' mean?
3. What does 'intonation' mean?
4. Give an example of a fronted adverbial.
5. What is alliteration? Can you think of an example?
6. Where do we get our water from?
7. What percentage of the earth is covered in water?
8. What are the three stages of the water cycle?
9. On average in the UK, how many litres do we each use per day?
10. How many homes could we supply water to every day if everyone used a shower timer?
11. List three ways to save water:
    - ○
    - ○
    - ○
12. How many litres of water are used if you flush your toilet six times a day?
13. What can you do at home to try and save water?
14. Tell five other people all about how to save water. These could be other people at home or friends and family you catch up with.

Remember to take photos of your work to show your teachers what you've been working on. There are lots more water-themed activities to do on our website:
http://www.south-staffs-water.co.uk/community/education

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linkedin.com/company/south-staffs-water

youtube.com search South Staffs Water