

Plenary: Would you still make the same recommendations? Why?

Starter: Reflecting on the science and your storyboard from last lesson, what would be your recommendations for preparedness and adaptation to future drought events?

**Keep Thinking!**

What impact could your school have on this?

# Objectives and Linking

## Learning objective

Today, we are learning about changing our thinking about drought.



## Why are we learning about it?

Learning about this will help you to understand how we can help reduce the likelihood of drought.



## How does this link to our prior learning?

Can you link this to sustainability?

Can you link this to the seven catchment areas we have studied?



### Key Geographical Vocabulary

- Water scarcity
- Water shortage
- Responses
- Data collection
- Perspectives
- Framing
- Adaptation

### Key Geographical Skills

- Designing data collection methods.
- Selecting suitable graphical representation of results.

### Cross Curricular Focus:

- Numeracy: interpreting and analysing data.
- Careers in mapping, researching drought and recording impacts, water supply, environmental management and community development.
- Literacy: describing and analysing results from data collection, presenting water efficiency campaigns.

Today you are going to investigate water efficiency in your school. How could you go about doing this? Discuss your ideas.....

# Investigating Water Efficiency in your School

## Investigating water use in the toilets

Audit carried out by:

Date:

Location in  
school

Are the  
toilets  
girl's, boy's  
staff or  
disabled?  
Enter  
g,b,s,d.

Enter the  
number of  
toilets.



Is the  
flushing  
mechanis  
m dual or  
single  
flush?  
Enter df or  
sf.

If dual  
flush, does  
it work  
properly?  
Enter y, n  
or u.

What is  
the  
flushing  
capacity of  
the cistern  
in litres?  
Enter 20,  
(old  
cistern), 6  
(dual flush  
big  
button), 3  
litres (dual  
flush small  
button) or  
other

Is a save a  
flush  
already  
fitted?  
Enter y, n  
or u.

Are there  
signs to  
save  
water?  
Enter y or  
n.

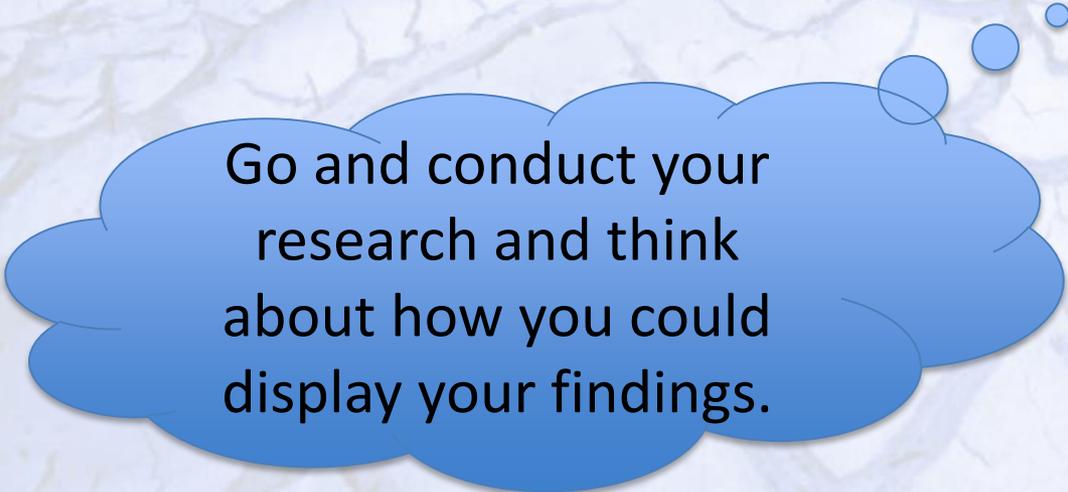
Before you conduct your  
research, let's talk about  
toilets!.....

## What are water saving toilets?

In the 1830s the average person in the UK would have got by on just 18 litres of water per day, however nowadays we are using over 135 litres a day (7.5 times the volume).

Toilet flushing accounts for 1/3 of water used in the home today; one toilet flush using an older style toilet uses 14 litres of water. So what can we do to lower our water bills and use less water?

Well, new dual flush models use as little as 2.6 and 4 litres per flush, so only 20% compared with older toilets, while composting toilets use no water at all.

A blue thought bubble with a white outline, containing text. It has several smaller blue circles of varying sizes trailing off to the right, suggesting a thought process.

Go and conduct your research and think about how you could display your findings.



## What do your results show?

Choose a suitable graphical technique to show your results.

Water use is measured in  $\text{m}^3/\text{pupil}/\text{year}$ .

On average, schools use  $7\text{m}^3/\text{pupil}/\text{year}$  – this could be reduced to  $4\text{m}^3/\text{pupil}/\text{year}$ .

From analysis of 3 years water bills, this school uses  $6.8\text{m}^3/\text{pupil}/\text{year}$ , which is 34 litres per pupil per school day.

## What do your results show?

Potential water savings in school:

Installing dual flush WCs or retrofit dual flush mechanisms can save up to 2700 litres per pupil per year.

Installing save a flush bags can save up to 600 litres per pupil per year.

A large, solid blue arrow pointing upwards, centered between the bottom box and the text above it.

What other ideas can you think of?

# Just how efficient are water saving devices?

<https://dryutility.info/2019/02/08/an-ecologically-friendly-house-but-more-expensive-to-do/>

<https://dryutility.info/2019/10/30/water-efficiency-in-the-student-village/>

<https://dryutility.info/2019/02/08/water-efficiency-the-market-is-much-more-interested-in-look-at-this-huge-luxurious-bath/>



Watch the clips and decide for yourself!

Now that we know what water usage is like in your school, you are going to build a water efficiency campaign! What does a campaign look like and what makes a campaign effective?

Water efficiency: is reducing water wastage rather than restricting water use.

## How to get maximum impact!



Hi, we are Dr Kevin Grecksh and Dr Bettina Lange and we have conducted research into achieving water efficiency in the public sector through social norms. Watch our video and write down any ideas that may work for your campaign in your school.

<https://www.youtube.com/watch?v=EQRMrmxulul&t=3s>

We are going to consider the 9 building blocks of a successful water efficiency campaign:



1. Understanding how and why water is valued



6. Reference groups



2. Narratives and stories



7. Align structural and behaviour change measures



3. Framing



8. Building water saving messages on energy saving campaigns



4. Setting realistic targets



9. Data and evaluation



5. Competition

Discuss what you think each of these mean and why they are important in creating a water efficiency campaign.

We are going to consider the 9 building blocks of a successful water efficiency campaign:



1. Understanding how and why water is valued: we need people to consider how important water is!



2. Narratives and stories: simple messages such as 'save more water' are not as effective as seeing the bigger picture of water management.



3. Framing: how information is presented to people to get the biggest impact.



4. Setting realistic targets: we need to think about how much water is actually needed to complete a task e.g. showering.



5. Competition: people like to know where they stand compared to others!



6. Reference groups: are people close to us e.g. friends and family. If we can challenge this group, we can have impact!



7. Align structural and behaviour change measures. Installing water saving devices and changing peoples thinking can go together to have bigger impact!



8. Building water saving messages on energy saving campaigns: If we combine the message e.g. shorter showers will save energy as well as water!



9. Data and evaluation: regularly evaluating the impact of water efficiency campaigns can help further improve their impact.

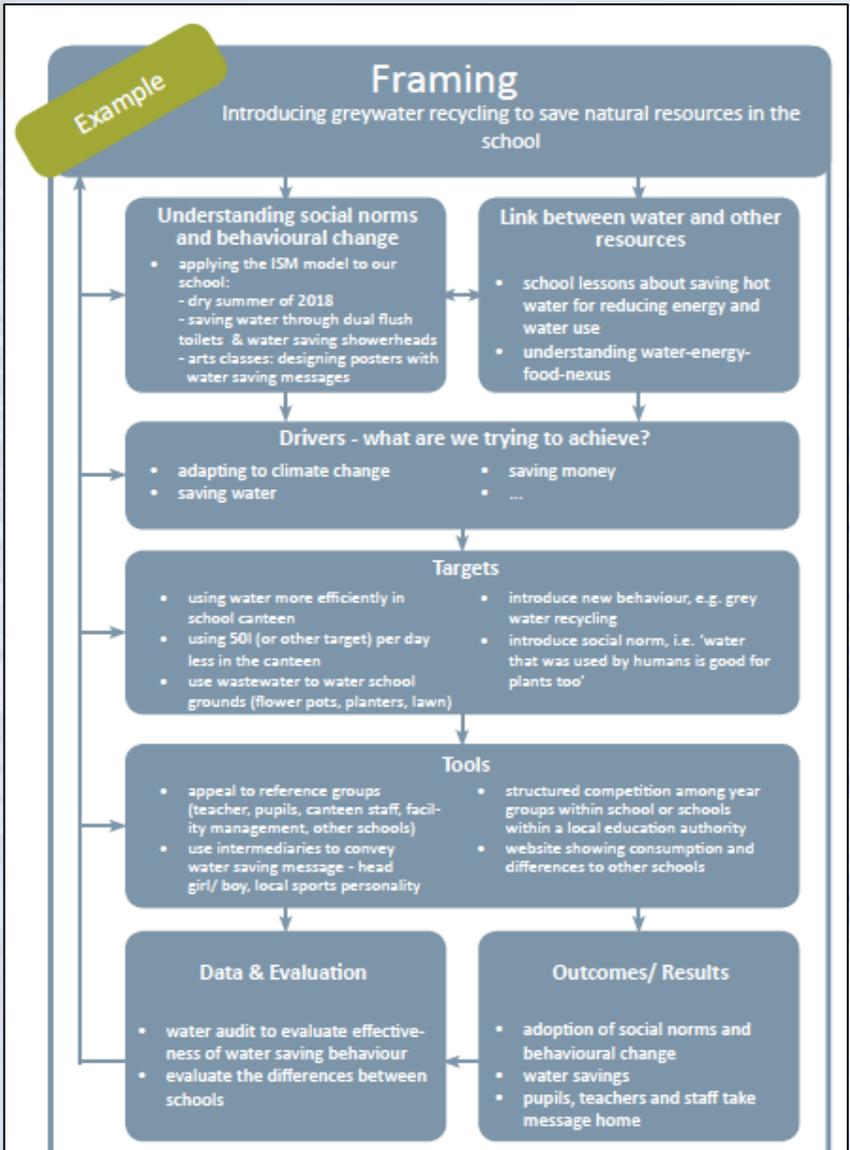
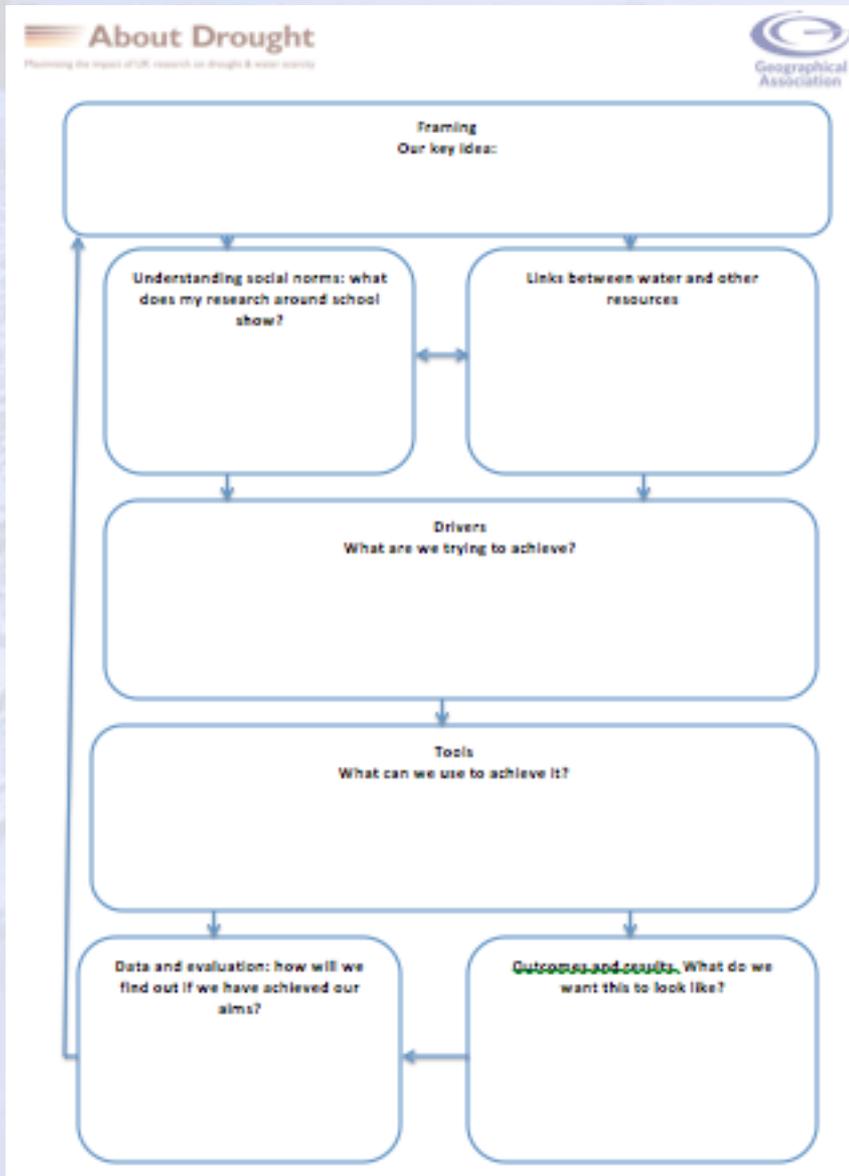


Figure 3: A water efficiency campaign in a school

You are going to consider your water efficiency campaign by framing it. Study the example and create your own to achieve greater water efficiency

Think about the structure you may use, here is one example.



Use the frame  
template to build  
your own ideas...

Present your campaigns to the class and vote on whose will have the most impact around school.

Take the winning one to your school council or Head and see if you can create a whole school water efficiency campaign and save some water and energy too!

## Learning Reflection

Go back to your starter diagram,  
what would you add to your original  
ideas from today's lesson?

## Extended Learning/Homework Task

The Drought Risk and You research team have asked you to consider your water usage at home. Create an investigation to measure water usage (and link it to energy for more impact!) and think about how you could be more efficient in the home as well as at school. There are two web links below to start you off.

<https://www.energysavingtrust.org.uk/home-energy-efficiency/saving-water>

<https://www.savewatersavemoney.co.uk/>



# Drought Risk and You



Natural  
Environment  
Research Council



## About Drought

Maximising the impact of UK research on drought & water scarcity

**UWE  
Bristol**

University  
of the  
West of  
England