

Save it

First level

Description of module

The module consists of four sets of activities, based around the idea that water is a precious resource which needs to be conserved. Introductory work could include revision of volume and capacity before moving on to activities such as the suggested cardsort. Later activities focus on what life is like in countries without adequate water distribution systems, and this could link with other conservation work, or a look at the WaterAid programme. An in-school water saving campaign could round off the module.

Main experiences and outcomes

Numeracy and mathematics

I can estimate how long or heavy an object is, or what amount it holds, using everyday things as a guide, then measure or weigh it using appropriate instruments and units.

[MNU 1-11a](#)

Expressive arts

I can use exploration and imagination to solve design problems related to real-life situations.

[EXA 1-06a](#)

Literacy and English

I can communicate clearly when engaging with others within and beyond my place of learning, using selected resources as required.

[LIT 1-10a](#)

Religious and moral education

I can show my understanding of values such as caring, sharing, fairness, equality and love.

[RME 1-09b](#)

Sciences

By investigating forces on toys and other objects, I can predict the effect on the shape or motion of objects.

[SCN 1-07a](#)

Through exploring properties and sources of materials, I can choose appropriate materials to solve practical challenges.

[SCN 1-15a](#)

Technologies

Throughout all my learning, I take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment.

[TCH 1-02a](#)

During practical activities and design challenges, I can estimate and measure using appropriate instruments and units.

[TCH 1-13a](#)

Social studies

I can compare aspects of people's daily lives in the past with my own by using historical evidence or the experience of recreating an historical setting.

[SOC 1-04a](#)

I can consider ways of looking after my school or community and can encourage others to care for their environment.

[SOC 1-08a](#)



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Activity 1

Learning intention

- To acquaint or reacquaint children with the background knowledge they need for the rest of this module

Success criterion

- Pupils are able to discuss less wasteful water use practices at home

Suggestions for teachers

1 Researching

There is useful material on the websites of Scottish Water, Waterwise, Energy Saving Trust Scotland and WaterAid. Look at www.scottishwater.co.uk/savewater www.waterwise.org.uk www.energysavingtrust.co.uk/scotland and www.wateraid.org/uk This will show children how much water is used in various activities in daily life and at home. Showing what 1 litre, 10 litres etc look like will help considerably.

2 Don't waste water

Tell the children that even in this country, we sometimes run short of water so we have to try not to waste it. Scotland gets a lot of rain, but parts of SE England have to be very careful. Display the pictures on resource sheet 1 and explain what they represent.

1. A full bath, which uses around 80 litres*
2. A water butt, which collects rainwater from the roof, so that it can be used in the garden
3. A dripping tap
4. Using a watering can rather than a hosepipe to water the garden
5. Using a bucket and sponge, rather than a hosepipe to wash the car
6. Showering, which uses less than half the amount of water a bath does
7. Leaving the tap running whilst brushing teeth
8. Washing dishes by hand, which again uses far less water

It would be possible to extend this by using the images for a cardsort, arranging the cards in three groups: Good Things, Bad Things, Things That Could Be Better. Younger and less able children may find this difficult, but mixed ability groups should be able to handle it. The discussion arising from this will allow teachers to assess understanding.

3 Rainfall

Compare average rainfall in Scotland with that in developing countries. Also, compare average amounts of water used per person per day in Scotland with averages used in other countries. For example, Mozambique 5 litres, UK 150 litres and USA 600 litres. Use measuring jugs to show what 5 litres of water looks like.

4 Water shortages

Discuss with children that water shortages occur in the UK and not just in developing countries. Refer to England's 2012 water shortage which led to a hosepipe ban in some areas. Also, in 2010 Dumfries and Galloway faced water shortages with Ayrshire and Mull also affected.

More information about the 2010 water shortage risk in Scotland can be found at: www.bbc.co.uk/news/10387004





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Activity 2

Learning intention

- To allow children some understanding of what it feels like to carry water for a distance

Success criterion

- In discussions, pupils demonstrate empathy with children elsewhere in the world who have to carry water every day

Suggestions for teachers

1 Carrying water

Google Video has many examples of children carrying water, and the WaterAid site has some good stills (WaterAid is supported by Scottish Water). Children may think that carrying water looks fun, but remind them that if they lived in an area of the world where they had to fetch water every day, walking perhaps for hours, they would quickly decide otherwise!

2 Experience it yourself

Children can experience carrying buckets of water, but there are some aspects to consider:

- we should always lift with a straight back, bending at the knees
- it is recommended that children do not carry more than 10% of their body weight
- it is not recommended that children carry until they are exhausted – about a minute is enough
- weight should be evenly distributed – 2 buckets of water, rather than one if carrying by hand. Pictures of people carrying water on their heads show even balance and also straight backs
- if children are carrying water in buckets on their heads, only a couple of litres should be in the bucket, otherwise when it falls off it might hurt somebody

- children should be properly dressed for any water-carrying activity. It is best if parents send in a change of clothes and a towel
- do this outside, of course!

Bearing in mind the above, there are many ways to make this fun, and trying to balance a bucket (which could be empty) on the head will provide plenty of laughs. A pad for the head such as a rubber quoit or old T shirt could be used. Races could be held with empty buckets balanced on the head, allowing children to place one hand on the side of the bucket for balance.

Alternatively, a child's school bag could be filled with heavy materials, for example books, to replicate water containers.

Please Note: warnings on giving children weights to carry apply here. Pupils are advised to do warm-up exercises before undertaking these activities. Certain distances should be stipulated, such as 100m or 500m. Teachers will also need to be aware of underlying health problems such as asthma, diabetes etc.

A plenary will be necessary so that children realise that carrying water every day would not be fun. Discuss times when they were utterly exhausted, and relate that to how they would feel every day if they had the task of fetching water for their families.



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Activity 3

Learning intention

- To allow children to see some of the ways that water can be collected

Success criterion

- Children build working models

Suggestions for teachers

Introduce the idea that people who have to collect water from wells or from rivers with high banks have to find ways of raising the water.

1 Model challenge

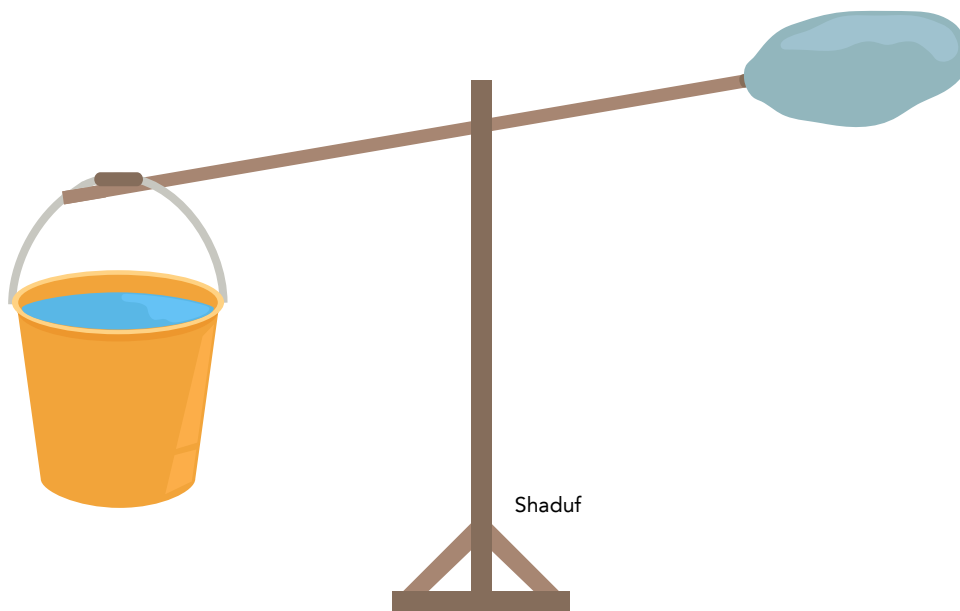
Groups of children use scrap or construction kits to build model shadufs or traditional wells. Resource sheet 2 could be used as a basis for discussion. This could be done in the form of a challenge: to design and build a working model. Children's designs and models could be put on show for the rest of the school.

2 Build a class model

A class model shaduf could be made from, say, broomsticks and skipping ropes. This is best outside, with the broomsticks securely stuck in the ground. There's a lot of good science to be gained from this, with the idea of pivot and counterweight coming in.

3 How did it work?

Children could record how the shaduf works by means of pictures in storyboard, or by adding words to a series of photographs, perhaps with a toy figure operating the model.



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Activity 4

Learning intention

- To allow children to explore several ways of saving water and why we should save water

Success criterion

- Children participate fully in the activities and can contribute to the finished work

Suggestions for teachers

1 Save water campaign

Groups can carry out a saving water campaign, targeted either at water use in and around the home or at school. There are many ways of doing this.

Children could work on:

- posters
- newspaper or magazine advertisements
- radio or TV advertisements recorded using a video camera
- talks and displays to the rest of the school

You might like to have different groups working on each of these, or all groups doing the same. All groups will be required to find out the relevant information, however, which could come from books, websites such as Scottish Water, Waterwise, Energy Saving Trust Scotland and WaterAid or just from what the children have learned by doing this topic, depending on the ability level of your class.

2 This is the news

Children could also pretend there is a water shortage and have to inform the community. What could the public do to minimise the impact? How could they save water each day? Perhaps, as a team, they could plan a television news bulletin. What would the newsreader say? What would the public be advised to do/not to do?





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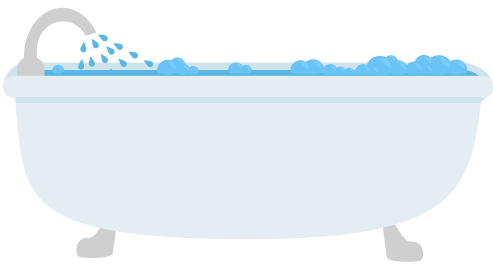
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Resource sheet 1

Using water

1



2



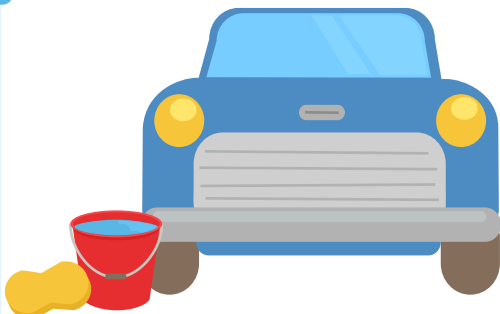
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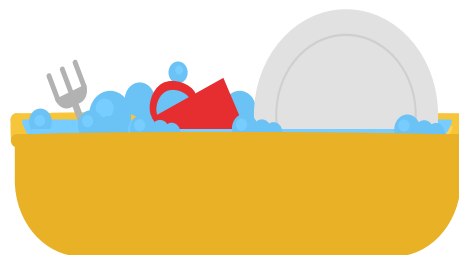
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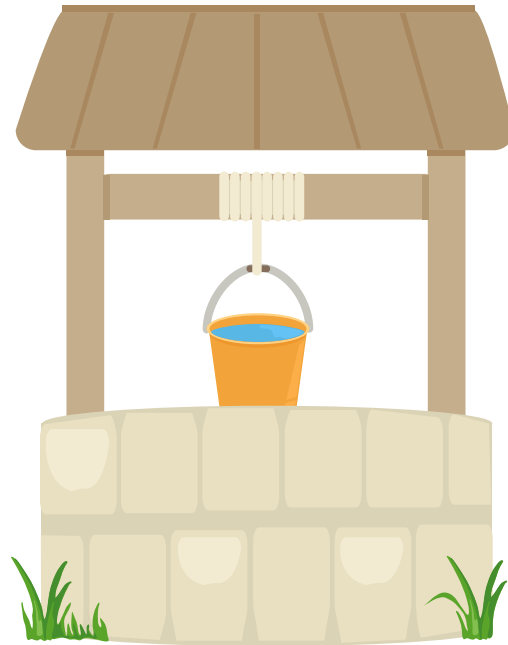
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Resource sheet 2

Collecting water

1 Bucket and well



2 Shaduf

