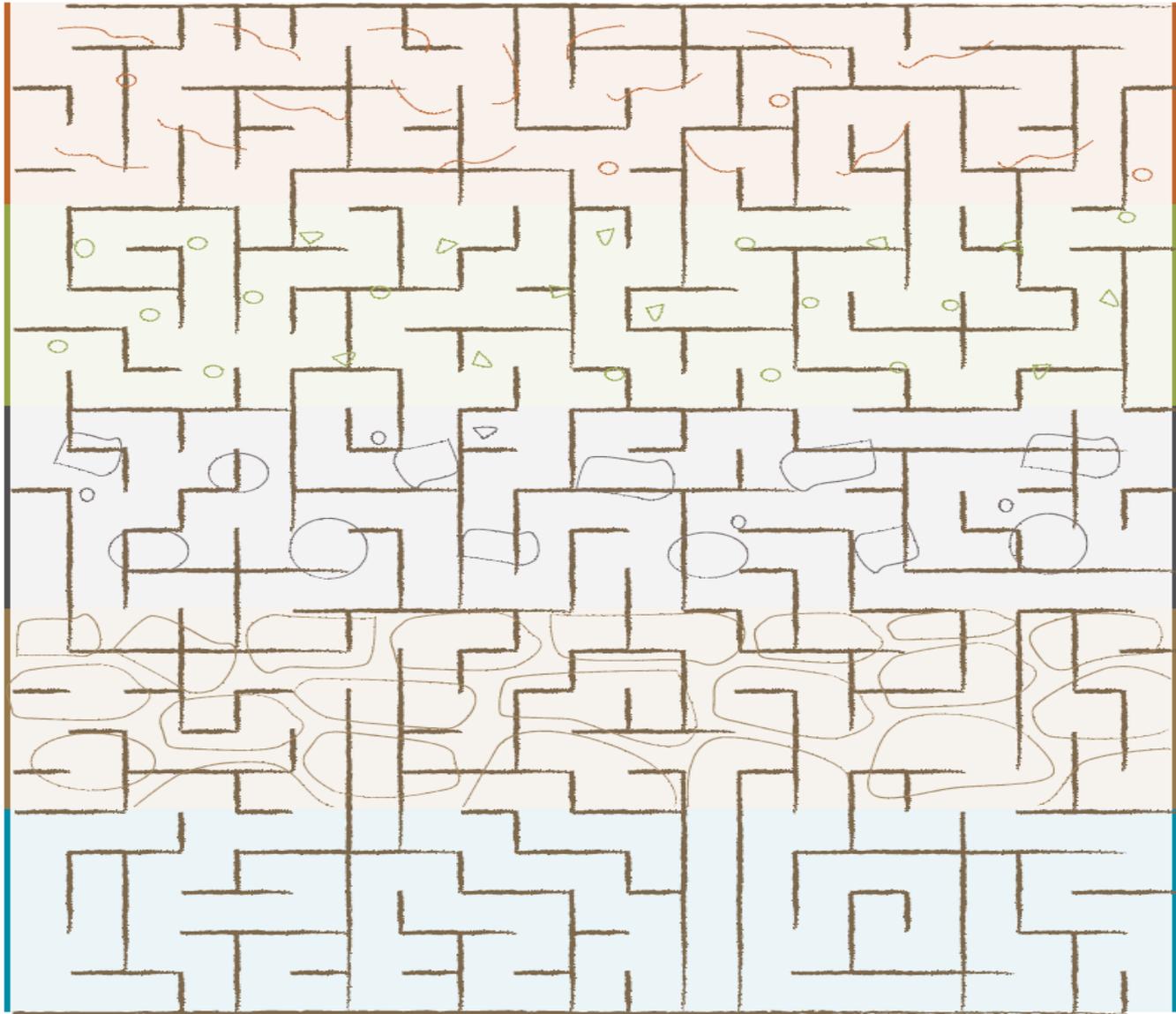


## Groundwater maze

Can you find where the ground water goes. How quickly can you do it!



START

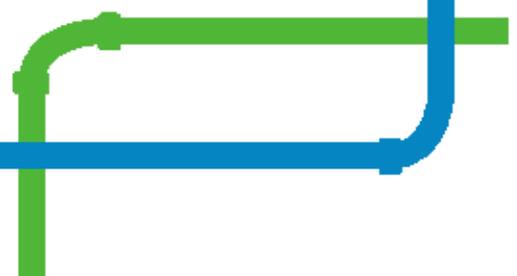


FINISH

\*\* image courtesy of Water Learn It Live It

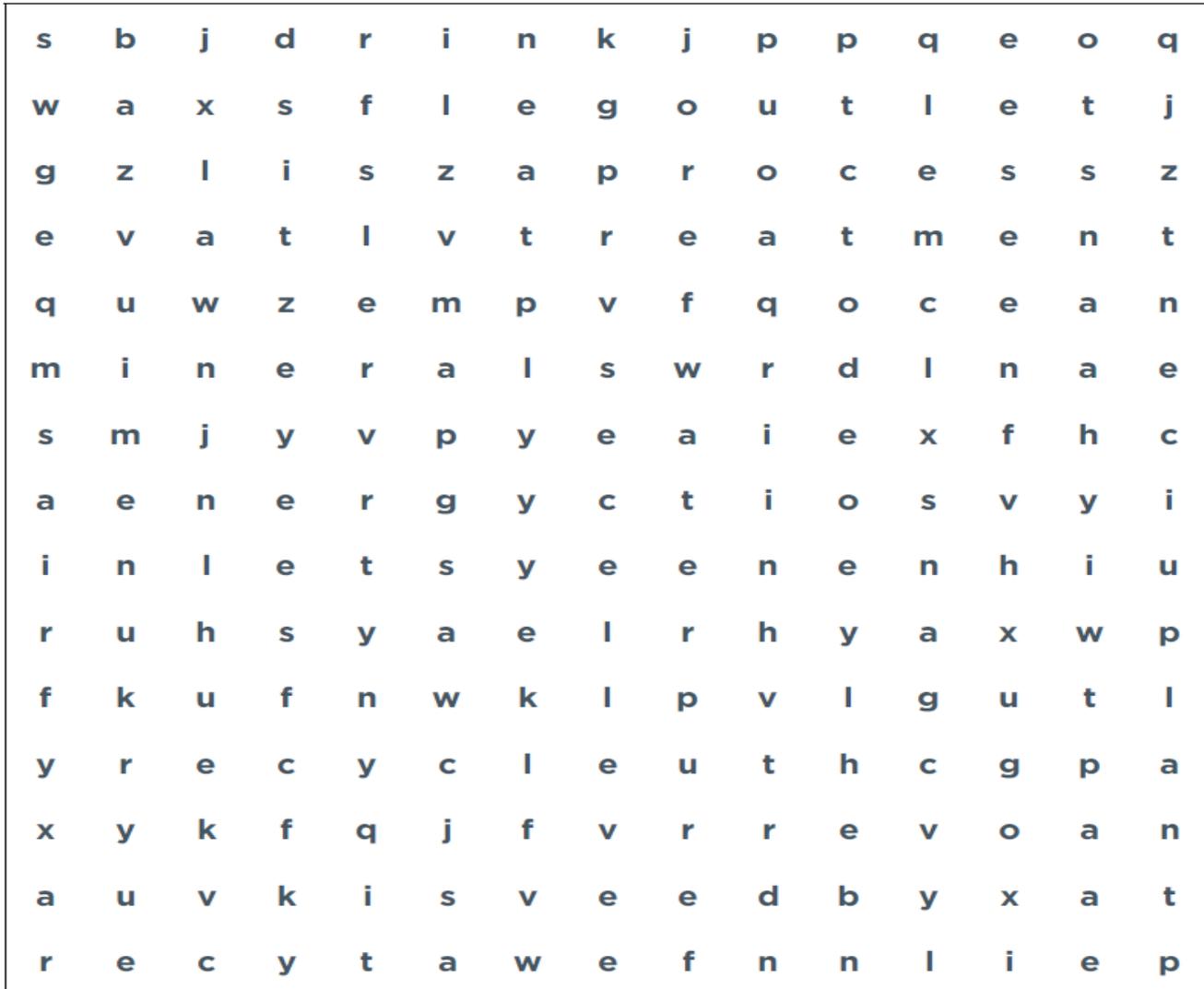
South East Water Corporation  
WatersEdge 101 Wells Street  
Frankston Vic 3199

Email: [education@sew.com.au](mailto:education@sew.com.au)  
Phone: 9552 3931



## Find a word

Find each of the words listed below that relate to desalination.



salt  
water  
ocean  
pure  
plant

treatment  
process  
inlet  
outlet  
minerals

fresh  
recycle  
drink  
energy  
cell

\*\*image courtesy of Water Learn It Live It

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## Evaporation station

This is a great activity to show how evaporation works.

### Materials

- ◆ Clear container
- ◆ Marker pen
- ◆ Water
- ◆ Sunny position

### Instructions

1. Fill the container about  $\frac{3}{4}$  full of water.
2. Mark the level of the water.
3. Place the container in a warm, preferably sunny, position.
4. Ask the children what they think will happen to the water.
5. Each session, check the level of the water and mark it, discuss any change.
6. At the end of the week discuss what the children have observed. Ask questions like: how did the water get out of the container? Where did it go? How did it get there?
7. Explain to the children that this is happening in nature all the time. Water from the ocean, rivers, lakes and even puddles on the footpath evaporates and turns into water vapour.

### Explanation

The water level has gone down because the water has evaporated. Evaporation is when water turns from a liquid that we can see and feel and drink, into a gas in the air. The sun warms up the water and gives it the energy to change into water vapour, or water as a gas. There is always water vapour in the air around us but we can't see it. We even have water in our breath (see condensation activity). The same thing happens to a puddle on the footpath after a rainy day, the warm sun makes the water evaporate. Evaporation is also the process we use to dry our clothes after we wash them!



## Condensation

Condensation happens around us every day: fog on the mirror after a shower; water forming on the outside of a cold drink; and seeing your breath on a cold morning.

Here's a quick activity to make condensation from the water vapour in your breath.

### Materials

- ◆ Clear plastic cup for each child

### Instructions

1. Give each child a clear plastic cup and explain that they need to be careful not to squash or crumple it.
2. Ask the children to describe what the cup looks and feels like.
3. Demonstrate slowly breathing in air from the room and breathing out into the cup.
4. Ask the children to do the same with their cup. They should only need to do this two to three times to start getting some condensation.
5. Ask the children again to describe the cup. If they touch the inside with their finger it should feel wet.

### Explanation

Condensation is the opposite of evaporation. Condensation is when water turns from a gas, water vapour, to a liquid. Clouds form when water vapour in the air starts to cool and forms back into tiny water droplets. As more and more water condenses, the droplets start to join together. Eventually the water becomes too heavy to stay up in the air and it falls to the ground.

When you breathe out into the cup your warm breath goes into the colder cup and the water starts to condense. For a more dramatic effect, put the cups in the freezer first. You may find that water starts to condense on them as soon as you take them out!

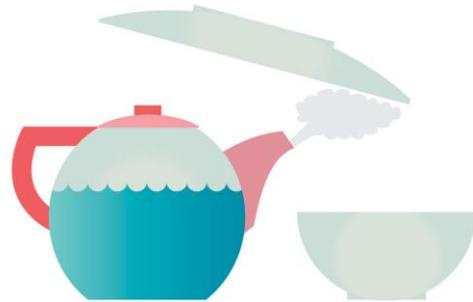


## Make it rain

This activity involves boiling water so needs to be done as a demonstration with parent supervision or assistance.

### Materials

- ◆ A kettle of water (preferably one with a removable or flip top lid)
- ◆ Oven mitt
- ◆ A metal bowl
- ◆ Ice
- ◆ Butchers paper



### Instructions

1. Review evaporation and condensation with the children. Ask them some questions like: once the water condenses to make clouds, does it stay there? What sometimes falls from the clouds?
2. Place the butcher's paper underneath or next to the kettle.
3. Turn the kettle on. While you are waiting for it to boil:
  - i. Explain that the kettle is the ocean, we couldn't bring the sun inside so we'll plug the kettle in to make the water hot instead.
  - ii. Explain that it is very cold high up in the sky, that's what makes water condense. Today our cloud is going to be a metal bowl with ice in it.
4. Once the water starts boiling, ask the children what they can see coming from the kettle, steam.
5. With the oven mitt on, carefully hold the base of the metal bowl over the steam. Don't touch the steam.
6. Almost immediately you'll see condensation, or fog, start to form on the bottom of the bowl. Explain that this is like the clouds forming.
7. As more and more water condenses on the bowl the water drops will start to join together. After a minute or two, the water will start to drip back down onto the butcher's paper. You've made it rain!

## Water cycle in a bowl

### Materials

- ◆ A large, clear bowl
- ◆ A marker
- ◆ A clear cup
- ◆ Plastic wrap
- ◆ Tape or a large elastic band
- ◆ Two small stones or beads
- ◆ Water
- ◆ Food dye (optional)



### Instructions

1. Place a few cups of water into the bowl so that the water level is about 2cm high.
2. Place the empty cup in the middle of the bowl with some stones to weigh it down.
3. Put glad wrap over the top of the bowl and make sure it is well sealed by taping it around the edge or putting an elastic band over the wrap.
4. Place a small stone in the middle of the glad wrap, over the cup.
5. Put the bowl in a sunny position where it won't get bumped.
6. Mark the water level on the outside of the bowl.
7. At each session, spend a few minutes observing the bowl with the children. Mark the water level on the side of the bowl and discuss what it looks like e.g. 'it's foggy' 'there is water on the plastic wrap' etc.
8. Once the water level in the bowl has gone down significantly (about a week), remove the glad wrap and have a look at the cup. What can you see? There is water in the cup. How did it get there? Where did it come from?

### Explanation

This bowl has recreated the water cycle. The warmth from the sun caused the water in the large bowl to evaporate, turn from a liquid into a gas. The water vapour that touched the plastic wrap and edges of the bowl cooled down enough to condense. As the water droplets joined together, they ran along the plastic wrap and dripped down into the cup.

## Thirsty plants

This activity helps to show children that living things need water to survive.

### Materials

- ◆ Two sticks of celery with lots of leaves
- ◆ A clear container with water in it
- ◆ A clear container with no water
- ◆ Marker pen
- ◆ Food colour (optional)



### Instructions

1. Explain to the children that all living things need water to survive.
2. Have a discussion on what is living and ask the children to come up with their ideas e.g. pets, birds, people, trees, flowers, snails etc
3. Show the children the celery, explain that it is a type of plant and is also a living thing.
4. Choose two celery stalks, about the same size, that have a lot of leaves.
5. Cut about 3cm off the bottom and place one stalk in the container with water and the other in the empty container.
6. Mark the water level with the marker.
7. Ask the children what they think will happen.
8. At the next session ask the children to look at the celery and describe what they see. Do they look the same? Do they feel the same?

You can extend this activity by setting up a third container with water and food dye. The food dye will be sucked up into the celery with the water, and will start to colour the celery. It's a good way to show that the water has actually gone into the celery as you can cut across the stalk and see the colour inside it.

### Explanation

Water is used to move nutrients (their food) from the roots all the way to the leaves of a plant. Plants also use water to make energy from the sun and also for support. When a plant doesn't have enough water it will wilt.

## Bubbles

### Materials

Thin mix - Good for lots of small bubbles that float high

- ◆ 1 litre container with airtight lid
- ◆ 450ml water
- ◆ 50ml good quality dishwashing liquid
- ◆ 25ml glycerol or glycerine (found at chemists or in the medicine aisle of the supermarket)

Thick mix - Good for big bubbles but makes more mess

- ◆ 1 litre container with airtight lid
- ◆ 350ml water
- ◆ 150ml dishwashing liquid
- ◆ 25ml glycerol

### Instructions

1. Give the mix a very good, slow stir.
2. Let your bubble mix 'age' overnight with the lid off, it will work even better!
3. Experiment with different bubble wands:
  - a. Make your own by rolling a piece of paper into a cone and dipping the end in the mix.
  - b. Use an old wire coat hanger and bend it into any shape you like.
  - c. Try using household items like a potato masher, whisk or slotted spoon.
  - d. Put bubble mix directly on a table and the children can blow bubbles on the table using a straw.

Note: To clean bubble mix off hard surfaces (like kitchen utensils or tables) use white vinegar.

### Explanation

Water has a high surface tension, which means that it likes to stick together. The detergent allows the water to be more stretchy and flexible so it can reach further to make the very thin skin of a bubble. The secret ingredient, glycerol, helps the bubble stay wet so it will last longer.

