



Float first lesson plan and activities

Children: Senior Primary and Intermediate School

This resource covers water safety educational content based on the *Float first* survival skill. Select the content that is best suited for your students – you may want to check out our other resources as well. The lesson can be included in your aquatic education programme in line with the NZC (2007).

Learning outcomes:

- Understanding cold water shock and describing what happens to the body when falling into cold, deep water
- Discussing the *Float first* survival steps as a first response to cold water immersion
- Recognising that floating for the first 2 minutes will help them get their breathing back to normal and calm down
- Knowing to signal for help if in difficulty in the water
- Sharing tips on floating and identifying several improvised flotation items

Materials required:

You can show examples of 'improvised flotation' items that can be used to assist flotation in an emergency: A large bottle, a rugby ball, a bucket, chilly bin.

Additional resources may be required depending on the activity you choose.

Introduction

The World Health Organisation has marked the 25 July each year to remember those who have drowned and encourage us to unite and learn together to stop drowning in our waters. Today we are going to learn how to look after yourself in cold water and the critical survival skill *Float first*.

Floating on your back has helped to save many lives – For example, in the UK, the long-running campaign to promote floating now has a number of survivors to tell their story. [RNLI survivor stories](#)

Cold water

Let's start by talking about cold water conditions.

What temperature do you think would be classed as cold water?

Offer options and ask the class to vote if this is a cold or warm water temperature:

6°C, 12°C, 16°C, 21°C.

Explain the definition of cold water and risk on entry:

Water below 15°C is defined as cold water and can seriously affect your breathing and movement. At 15°C, a fairly typical coastal water temperature for New Zealand winter, the predicted survival time for hypothermia would be about 4-5 hours. In Auckland the sea temperature will rise up to 22°C during the summer months. However, rivers and lakes are usually colder, even in summer.

*Hypothermia is a medical emergency that occurs when the body loses heat faster than it can produce heat, causing a dangerously low body temperature.

Introducing cold water shock:

Ask students to suggest some of the responses they think their body would have if they fell into cold water - how does it make your body feel?

Responses to cover:

- Skin temperature dropping
- Heart rate increasing
- Panic and unable to think clearly
- Blood pressure increasing
- Breathing quickly, losing control of your breathing, gasping for air
- Muscles cool down, affecting movement and swimming ability

Clarify that these are automatic responses which cannot be controlled and that this is the way our body responds to cold water shock. Even the strongest swimmers are not immune.

If a person enters cold water quickly, the sudden cooling of the skin by cold water also causes an involuntary gasp for breath. This may last for about one minute, and they will breathe up to ten times faster than the normal rate. This could lead to dizziness, panic, loss of orientation and inhalation of water, and possibly lead to drowning. The heart rate is also increased making the heart work harder, and blood pressure increases.

Knowing how to respond in the first 60-90 seconds can help you to survive.

This is a good time to run activity 2 or 3.

Float first

Would you know what to do if you fell into our cold, New Zealand waters this winter? How would you survive if strong currents took you out to sea?

What you do in the first 2 minutes could save your life.

Float first is based on global research and has proven to save lives when used as a survival skill around the world. It can help to prevent drowning whilst the cold water shock passes, allowing time for rescue.

How do we float?

Watch the Drowning Prevention Auckland [eLearning video](#) that explores and teaches personal buoyancy. This will provide a good basis for discussion. The video covers: Personal buoyancy and ability to float, floating on your back and improvised flotation. (Stop the video at 2 mins 20 secs).

Recap questions after watching the video:

- Ask the students to lie down to explore the different floating shapes that can help them float on their back and think about which ones would work best to keep them buoyant. Shapes: T, I, X, Y.
- What is the best shape to help us when floating on our back? Why do you think that position helps us to float? Starfish or X shape help to spread the body over a greater surface of water.
- Can everyone float? Anyone can float but some may take a little longer to learn and will benefit from additional flotation. We saw in the video children using milk bottles to help them float. All people float differently (especially if wearing clothes) and even if the lower body sinks they can still stay afloat and keep their airways out of the water using flotation techniques. This includes making gentle arm movements.

Encourage them to try next time they are at the pool. Remembering that they should only enter the pool when a responsible adult is supervising. They can try with milk bottles to start with as well! Check out our learning and resources page for details of DPA programmes where they can learn to float.

The Float first survival steps

1 Float on your back

Keep your airways (mouth and nose) out of the water and fight your instinct to swim. Tilt your head back and use gentle arm movements. Keeping your airways clear will stop you from breathing in water.

Q&A

Suggest items that could be used to assist flotation. Why are these items buoyant?

A bottle, ball, chilly bin, bucket and even gumboots can all help someone to stay afloat. They all have air in them already or like the bucket, can be used to trap air to assist flotation.

3 Call for help

Call out, or signal with your arm to let someone know you are there. If you can phone, ring 111.

2 Control your breathing

Get your breathing under control and conserve energy. Your breathing and heart rate will slow down as the cold water shock passes. This takes around 60-90 seconds.

Q&A

What do you think you should do next?

Get the students thinking about what their options are and record their ideas on a whiteboard. Then discuss the best options and why. Cover steps 3 and 4 below.

4 Swim to safety

Look for an exit and only swim if it is safe to do so. If you are unable to get out of the water, look for items that can provide additional buoyancy, take steps to keep warm and continue to float until help arrives. Staying still will preserve body heat.

Float first is a survival skill that can be used at any time of the year to help when falling into deep water or if you get into difficulty in the water. For example, to rest if you were to get tired whilst swimming. Plus, it's better to float than attempting to swim against a river current or a surf rip.

Remember: If you see someone struggling in the water ask an adult to help. You should never put yourself at risk by going into the water to rescue them. And if you are in trouble yourself, signal for help straight away.

Extension - Floating in lifejackets

A lifejacket not only helps a person to float but conserves body heat in and out of the water. The bright colours also make it easier for rescuers to find people.

Lifejackets should be worn whenever you are in or close to deep water. For example, on a boat, when fishing off the rocks at the beach or from a wharf.

Once the cold water shock has passed and you have regained control of your breathing, a lifejacket will provide you with the buoyancy to move into the H.E.L.P. position. This position will help to keep you warm if you find yourself in the water. Even if the water does not feel cold immediately, your body will lose heat over time.

Watch the video on our [eLearning section on lifejackets](#) (stop at 3 mins 30 secs).

Questions and discussion

- **What does H.E.L.P. stand for?** Heat Escape Lessening Position
- **Where do we lose a lot of heat?** Head, chest, arm pits and groin
- **What is hypothermia?** A lowering of the core body temperature
- **Why do we have to protect ourselves from it?** It can be fatal and lead to drowning



Ask students to demonstrate that they are cold.

What would they do with their arms to keep warm?

Do they match the picture?

What else is this person doing to keep warm?

Crossing lower legs and drawing them up to the chest. With the head out of the water - note they have turned their back to the waves.



What is a good way to keep warm if there is more than one of you? Linking together in a tight Huddle and keeping still will help to keep warmer.

How are the group linking together? Using their arms and legs.

Are the group trying to swim? No, they are staying still and floating together.

Note: When the body is still, the same water is in contact with the skin. The body will gradually warm this water. If you move, new water will come into contact with the body that has not been warmed up and you will feel colder.

Trying it out: Students can try out the H.E.L.P. (whilst sitting) and Huddle (whilst standing) positions in the classroom or outside. Make sure that there is no gap in the middle of their Huddle.

Activities

Choose from the three activities to support with their learning.

Activity 1 - Posters

Create an awareness poster about what to do if you fall into the water unexpectedly. Children can focus on any aspect of the learning and may choose to share the *Float first* survival steps, warn about cold water shock or teach people how to float.

Pass it on – encourage everyone to share the *Float first* survival skill with their friends and family. If they are a member of any groups or clubs they could take the poster along to talk about. Please feel free to share with the DPA team as well – we would love to see what you have been up to!

Activity 2 - Float first or fight the cold water?

This short exercise gives the group an idea of differences between fighting against cold water at first and using the Float first survival skill. You can use this activity at the start or end of the lesson to get them thinking about how their body will respond and the need to *Float first*!

1. Divide them into two groups and set a timer for 90 seconds. 2. Tell one of the groups that they will be moving about as much as they can – jumping around and shaking their arms and legs. Tell the other group that they will be staying perfectly still, while breathing deeply and calmly. 3. ...2 ...1 ...go!
2. Once the 90 seconds are up, let them see the differences between the two groups – one exhausted, one relaxed.
3. Ask the students what they would do if they fell into cold water? Now is time for the big reveal! Tell the students that their natural response if they fall into cold water will be to thrash about, but then they'll end up like group 1 – exhausted. This will make them much more likely to swallow water. The best chance of survival is to do as little as possible, like group 2. Floating for just 60-90 seconds allows the effects of cold water shock to pass.

The Royal National Lifeboat Institution (UK) developed this fight or float activity and have a great short clip showing the difference between floating and fighting against the cold when in the water: [RNLI Youth Education Resources – Fight Or Float Exercise](#)

Activity 3 - Cold hands experience

This activity looks at how the body responds to cold water by asking children to participate in a practical experiment that provides insights into cold water immersion.

This activity can be run with a group of students, each working in pairs or small groups or as a teacher-led activity with individuals nominated to participate. *DO NOT do this activity when alone. Participants MUST have adult supervision for this activity.

Materials required: Bowls/ice cream containers of cold water (ice optional), thermometers, stopwatch, towels/paper towels, pen and paper to record the findings, coat or other items to check for hand control and movement.

Set up: Prepare half-full small bowls/containers of very cold water – they will need to be able to lay their hands flat in the bowl and be submerged in the water. You may want to use iced water or create temperatures similar to those of average sea and river temperatures.

Run a quick survey to see how long everyone thinks they can keep their hands in the water. Then in groups or pairs, ask them to take turns to place their hands in the cold water carefully. The experiment can last for 2-4 minutes and thermometers are essential if ice is being added to confirm the temperature. Time in water depends on water temperature, if under 10°C, 2 minutes is sufficient. Between them, they will need to record the temperature, expected times for immersion, actual water immersion times and any observations during and after the experience. See detailed instructions below.

Note for children under age 10: We do not recommend the water used in this activity is below 15°C. Students can also explore different water temperatures by using tap water, warm water, and cold water with a very small amount of ice.

Instructions for the activity:

- Record the expected durations before anyone in the group places their hands in the water.
- Place a small thermometer in each of the containers with the ice and record the temperature.
- Prepare stopwatch and start as your buddy places both hands in the cold water. One person in each group will need to time and record actual times and findings.
- Keep your hands still in the water for 2 - 4 minutes if possible. Remember to remove from the water if uncomfortable.
- Record findings and how the person is feeling and what the experience is like during and after the experiment.
- When your time is up (2-4 minutes) keep your hands in the water and start moving/wriggling your fingers. How does that feel? Do your hands feel warmer or colder with the movement?
- Remove your hands from the water and quickly do the designated manipulation task such as:
 - Putting on a coat and zipping or buttoning it up.
 - Un-screw and re-screw a nut from a bolt.
 - Try a lifejacket - unclip, unzip and then put on, zip up and clip up, tightening if needed so it fits snugly.
- How easy/hard was it to do this task? What did it feel like for you? Why do you think that was?
- Re-warm your hands by tucking them into a warm spot on your body.

Note: This activity can be modified by wearing a glove on one hand or wrapping in paper and cover with cling film to experience the difference an extra layer will make. Wearing a wetsuit or clothing will help to slow the onset of hypothermia.

Feedback as a group and have a short discussion about their findings:

- What did it feel like when your hand first entered the water?
- Was the temperature as warm/cold as you had expected?
- As your hand was in the water for longer what did you notice happening to your hand and arm?
- How do they think it would feel if their whole body was in very cold water?
- Did your hands feel warmer or colder with the movement?
- How did they find the manipulation task? What was different about your ability to do the task?
- How do they think the cold water might affect their swimming ability?

Final facts:

As a guide - after 10 Minutes in cold water (15°C or less) the body reaches the Cold Incapacitation stage - Effective use of fingers, arms and legs for any meaningful movement is lost. If a cold victim tries to swim or tread water, their body temperature will decrease faster. Warm blood from the core travels to these limbs and the cold blood returns to the heart. This hastens the decrease of core body temperature.

Hypothermia is a medical emergency that occurs when the body loses heat faster than it can produce heat, causing a dangerously low body temperature. Hypothermia will occur when there is prolonged exposure to cold temperatures. Even in ice water it could take approximately 1 hour before becoming unconscious due to hypothermia. This means that if we can survive the cold water shock by using the survival skill *Float first*, this allows time to be rescued before hypothermia takes hold.

Drowning prevention learning and resources

Professional Learning and Development in schools

We offer PLD within the education sector, to assist schools in developing aquatic education programmes, in line with the NZC (2007) expectations. We can support your teachers to deliver quality aquatics education with in-class and in-pool teaching and resources. Your school does not need to have a pool to provide an aquatics programme. Email: Lynley Stewart, lynley.stewart@dpanz.org.nz

Auckland Lifejacket Hubs

If any students need to borrow a lifejacket they can find their closest [lifejacket hub here](#). DPA also loan lifejackets to school and community groups.

FREE Online Water Safety Modules

We have a free eLearning platform for all ages to learn more about how to stay safe around water. It covers a range of water-based activities. Check out our [eLearning platform](#).

SPLASH Holiday Programme

Check out our one day [school holiday programme](#) for 8-10 and 11-15 year olds!