

Water Safety

Introduction

Introduce yourself and go through any housekeeping.

Explain how the session will run.

Throughout, encourage the learners to:

Consider the audience and situation at the time. Where appropriate, reinforce and expand on this at relevant parts of the presentation.



What we will talk about (Objectives)

Read out the objectives from the slide. Do not go into too much detail as the themes will be expanded on during the presentation.

As the session develops, if appropriate, try to refer to local hazards and others in Lancashire, including places where incidents may have occurred **(be sensitive**)

to the situation). In effect, this can be wherever you get open water, both inland and coastal.



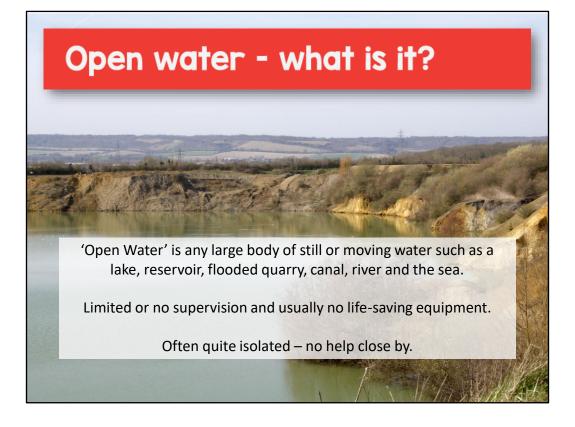
Water facts and figures

Go through the facts on the slide.

Explain that you are more likely to get into trouble and risk of drowning in uncontrolled situations (e.g. not swimming pools or organised open water events/activities) if you think you are a strong swimmer, because you are more likely to risk going into the water in the first place!

Briefly go through some of the reasons why people would go into the water?

- Falling in unexpectedly (e.g. if running or cycling along a canal towpath quite common amongst adults)
- Water sports activities
- Trying to save others and pets
- Swimming after drinking or taking other substances
- Showing off/peer pressure



'Open water' – what is it?

Reinforce the information on the slide checking that the learners know what is meant by 'open water'.

'Open Water' is any large body of still or moving water such as a lake, reservoir, flooded quarry, canal, river and the sea.

Stress that in many cases these locations will not have any supervision or life-saving equipment nearby. They are often quite isolated, which means the phone signal may be poor or non-existent. Help may take quite some time to arrive and access may be difficult. This will be covered later in the presentation.



Organised 'Open Water Swimming'

State that whilst the session will mention the dangers of 'open water' it is important to understand that water can be enjoyed safely too – so try to **#BeWaterAware**

Refer to the concept of organised 'open water swimming' (and other organised water-based activities, such as paddleboarding or kayaking) and how joining a group or club, rather than just going to a random outdoor location with friends, is likely to be much safer.

Expand on the slide as appropriate to explain the benefits of organised open water activities -

- **Organised** there will be other people about most of who will be experienced open water swimmers.
- Safe location and risk assessed strict safety checks are likely to have been done on the location. Safe swim zones are likely to exist to ensure people don't get injured or get out of their depth without help being close by.
- **Non-polluted water** no group would want to swim in water that could knowingly cause illness or injury.
- **Help on hand** likely to be supervision or a lifeguarding service, which should include qualified first-aiders.

In addition to the information on the slide you may also be able to get -

- Advice about training your body to get adjusted to the conditions this is an important concept, especially when the water is colder. Stress that just because the weather is nice and the temperature appears warm, it doesn't necessarily mean that the water is (particularly where the water is deeper).
- Access to appropriate safety equipment some groups will provide or lend wetsuits, buoyancy aids etc.



Cooling or 'Afterdrop'

Explain to the learners that "Afterdrop" is common after swimming in cold water - you get out and feel fine, and then you start to get colder, sometimes growing faint, shivering violently and feeling unwell.

Afterdrop is the phenomenon of your body temperature continuing to drop even after you get out of cold water and into a warmer environment – so that you feel colder 10 to 40 minutes after you exit than you did in the water.

When you swim, your body shuts down circulation to your skin, pooling warm blood in your core. This process helps you stay in the water longer: with reduced circulation to your peripheries skin and sub-cutaneous fat is turned into a thermal layer, similar to a natural wetsuit – hence the wild swimmers' term *bioprene* for fat.

But when you exit the water, the cooling process does not stop straight away. Even dry on the banks, this cold layer of skin and muscle continues to cool your core. You can lose up to 4.5°C from your core temperature (according to Golden and Tipton, *Essentials of Sea Survival*), bringing on shivering, hypothermia, or feeling faint

and unwell.

Tips to warm up after you get out of cold water:

- 1. Get dressed as soon as you can put on lots of layers, including a hat and gloves.
- 2. Have a warm drink from a flask you brought with you.
- 3. Sip the warm drink: this helps warm the body gently from the inside.
- 4. Eat something: sugar will help raise body temperature so it's an excuse to have some chocolate, biscuits or even a cake!

<section-header>Open water dangers - coastal areasImage: state dataImage: state data

'Open water' – what is it and what are the dangers?

Coastal areas (sea and mudflats)

Discuss the type of dangers that might exist in coastal areas.

As you go through them help the learners realise that there is quite a lot of overlap between the types of 'open water' and the dangers. Reinforce the following:

• Depth of the water

It can be very difficult to judge the depth of the water even when the water is clear.

• Temperature of the water

The water is likely much colder than you think. As you enter the water you will have an initial deep and sudden gasp followed by hyperventilation that can be as much as 600 - 1000% greater than normal breathing. You must keep your airway clear or run the risk of drowning. Cold Water Shock will pass in about 1 minute. During that time concentrate on avoiding panic and getting control of your breathing.

Hidden currents

Some of the rivers in Lancashire are tidal and these can have powerful hidden currents that run unseen below the surface.

It may also be worth pointing out that if a location is isolated this can be a real danger too – lack of readily available help, poor or no phone signal etc.

• No lifeguards – remote locations

If a person gets into difficulty then unless the area is patrolled by lifeguards the likelihood of them being rescued may be slim and anyone entering the water to rescue them has the potential to become a drowning statistic too. If the location is remote this will have its own problems in terms of access and time for help to arrive. Mobile phone signals could be weak or non-existent.

You may wish to stress particular aspects according the circumstances and location of where the session is taking place.

Open water dangers - rivers and canals



Difficulty getting out



- Fast moving water and hidden currents
- Risk of getting entangled, such as by plants or other items



- Rubbish under the waterline
- Risk of getting entangled
- Polluted water
 - Difficulty getting out

'Open water' - what is it and what are the dangers?

Rivers and Canals

Discuss the types of dangers that may be associated with rivers and canals.

Highlight any similarities between these and the previous images, reminding the learners that different areas of water can have similar types of danger.

• Difficulty getting out

It can be very difficult to get out of the water because of unstable banks, muddy or steep slippery banks, trees and undergrowth and with canals, high vertical sides.

Fast moving water and hidden currents

Some of the rivers in Lancashire are tidal and these can have powerful hidden currents that run unseen below the surface.

Risk of Entanglement

Foot and hand entrapments can occur resulting in a person getting into difficulty and even drowning.

In addition to the above, the following are also significant risks, particularly with canals

• Rubbish on or under the water

Fly-tippers and adverse weather conditions mean that quantities of rubbish, trees, shopping trolleys etc. end up in our water courses, including ponds, lakes and canals. As well as landing on something in the water that could cause severe injury the person could get entangled.

Polluted water

There are likely to be different types of pollution in the water. These can include water-borne diseases and bacteria from both human and wildlife. There may also be chemicals in the water.

You may wish to stress particular aspects according the circumstances and location of where the session is taking place.

Open water dangers - reservoirs and quarries



- Water temperature
- Depth of water
- Difficulty getting out
- No lifeguards remote locations



- Water temperature
- Depth of water
- Rubbish (or other objects) under the waterline
- Polluted water
- Difficulty getting out
- No lifeguards remote locations

Open water – what is it and what are the dangers?

Reservoirs and quarries

Discuss the types of dangers that may be associated with reservoirs and quarries.

Highlight any similarities between these and the previous images, reminding the learners that different areas of water can have similar types of danger.

Briefly go through the following:

• Temperature of the water

The water is likely much colder than you think. As you enter the water you will have an initial deep and sudden gasp followed by hyperventilation that can be as much as 600 - 1000% greater than normal breathing. You must keep your airway clear or run the risk of drowning. Cold Water Shock will pass in about 1 minute. During that time concentrate on avoiding panic and getting control of your breathing.

• Depth of the water

It can be very difficult to judge the depth of the water even when the water is clear.

• Difficulty getting out

It can be very difficult to get out of the water because of unstable banks, muddy or steep slippery banks, trees and undergrowth and, in many places, high vertical sides.

• No lifeguards – remote locations

If a person gets into difficulty, unless the area is patrolled by lifeguards the likelihood of them being rescued may be slim and anyone entering the water to rescue them has the potential to become a drowning statistic too. If the location is remote this will have its own problems in terms of access and time for help to arrive. Mobile phone signals could be weak or non-existent.

• Rubbish on or under the water

Fly-tippers and adverse weather conditions mean that quantities of rubbish, trees, shopping trolleys etc. end up in our water course including reservoirs and flooded quarries. As well as landing on something or getting caught up in it when the water is moving this rubbish/debris can cause severe injury to a person should it strike them in the water.

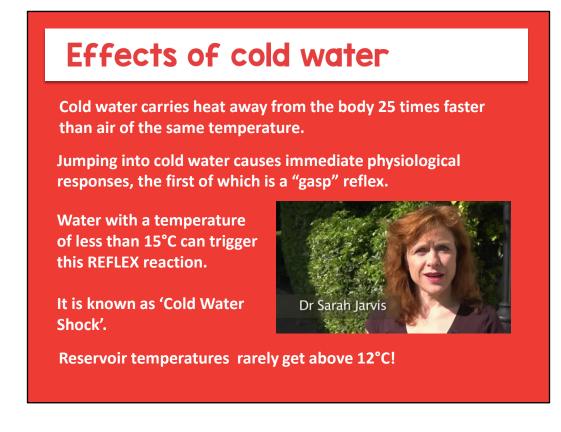
In reservoirs there is usually 'underwater' machinery or equipment, which is often hidden and can cause injury if landed on or if in active use - slice gates, pipelines etc.

Polluted water

There will be different types of pollution in the water, particularly in flooded quarries. These can include water-borne diseases and bacteria from both human and wildlife. There may also be chemicals in the water too.

Stress that these locations appear to have the most types of dangers and that in particular many tragic incidents in Lancashire and around the country have occurred in reservoirs and quarries.

You may wish to stress particular aspects according the circumstances and location of where the session is taking place.



Effects of cold water

Short film (2 mins) narrated by Dr. Sarah Jarvis which explains about the effects of sudden immersion in cold water.

The film will play on the next slide (click the play icon in the centre).

Synopsis

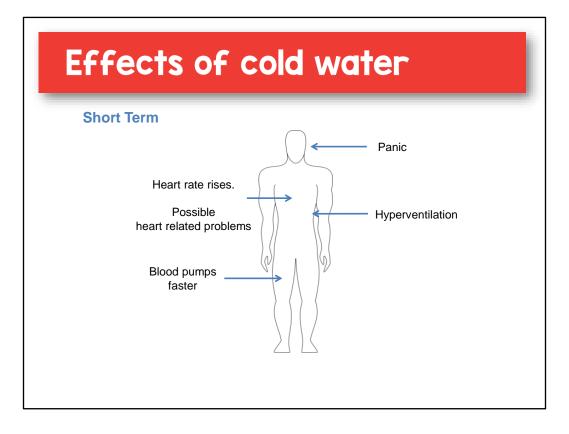
The film explains that cold water carries heat away from the body 25 times faster than air of the same temperature.

As a result, you may struggle to function properly, become disorientated and eventually unconscious.

Jumping into cold water can cause immediate physiological responses, the first of which is a "gasp" reflex.

A reflex action is involuntary - if this happens when your head is under water, you are in deep trouble.

Even in the summer, reservoir and quarry temperatures rarely get above 12°C. Even if it feels warm near the shoreline, it might drop dramatically the further out you go and that's when your body might start reacting to the cold and you find yourself getting into trouble. This is known as 'Cold Water Shock'.



Effects of entering cold water (Slide 1/3)

Go through the effects of entering cold water. Stress that the timings will vary slightly from person to person but they are a good guide.

Short Term (first 5 mins)

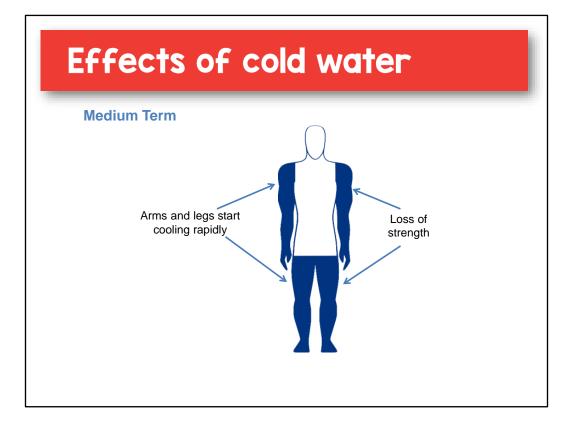
Panic and Hyperventilation

On entering the water it is likely to be much colder than the air temperature. You may gasp for air which may increase the chance of inhaling water into your lungs.

If you are struggling, lie on your back and try to float – spread your legs and arms out like a starfish and, if you need to, gently move them to help float. Try not to use your legs to swim as the large muscles require lots of blood to function, this will draw the blood away from the core part of the body making it cool faster which will increase the chance of hypothermia. Try to use your arms to scull towards safety.

Possible heart related problems - heart rate rises and blood tries to pumps faster.

Your heart rate will rise drastically reducing its efficiency, which this may lead to heart failure.



Effects of entering cold water (Slide 2/3)

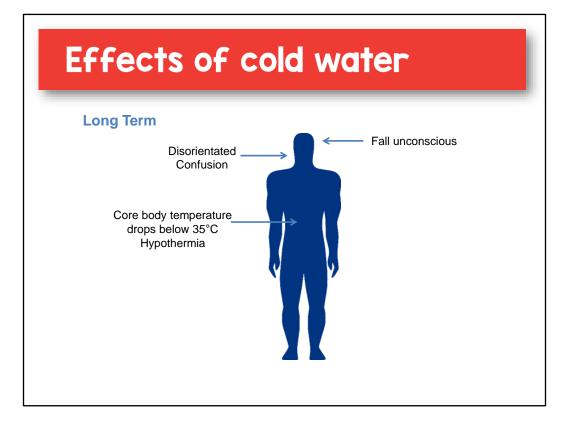
Go through the effects of entering cold water in the medium term (from around 5 mins to around 30 mins).

Arms and legs start cooling rapidly

The body will start to reduce the blood flow to the extremities and direct it to the core area to protect the vital organs.

Loss of strength and endurance

Over approximately the next 10 minutes you will lose the effective use of your fingers, arms and legs for any meaningful movement.



Effects of entering cold water (Slide 3/3)

Go through the effects of entering cold water in the long term (30 mins +).

Core body temperature drops below 35°c (Hypothermia)

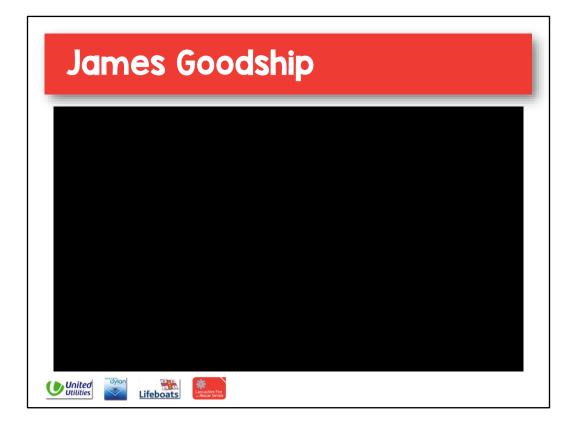
It will be very difficult to try and stay afloat due to having very little energy in the muscles to move adequately.

Disorientation and confusion

Normal decision making will be greatly reduced and rational thought will be difficult.

Fall unconscious

With reduced energy the body will naturally fall unconscious to try and save what energy it has left - this is likely to lead to drowning.

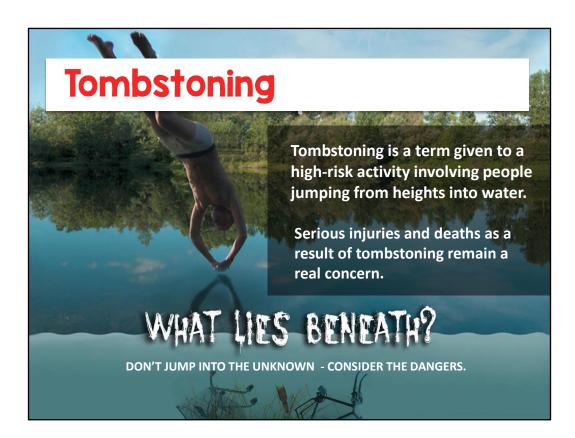


Case study - The story of James Goodship

The film (6 mins) tells the story of James Goodship, who was 17 when he lost his life in a reservoir in Foulridge, near Colne, in 2014.

His family and friends tell the story and how this has affected them.

Click on the 'Play' button to play.



Tombstoning

Ask the learners to briefly consider the following -

What is 'tombstoning'?

Explain that

cliffs or bridges.

Consider the reasons why people take part in tombstoning -

- Peer pressure
- Adrenaline
- Curious
- Not aware of the dangers
- See other people doing it

Explain that Tombstoning is incredibly dangerous because:

- The water depth could alter with the tide, and it might be shallower than you think.
- There may be submerged objects, such as rocks or machinery, that aren't visible from the surface of the water.

- Even if the water is deeper the cold temperature of the water can cause your body to go into Cold Water Shock causing hyperventilation, disorientation and cramps making it very difficult to swim.
- There may be strong currents in the water, which could sweep you away.

Many people have been killed due to tombstoning and thousands more have required rescuing and had to have treatment for serious life-changing injuries. People who have been affected by Tombstoning, both families and friends of those injured or killed or those seriously injured themselves, have described it as a "minute of madness that changed our lives forever".

Stress - Don't jump into the unknown - consider the dangers



Film - Tombstoning

Short animated film (40 secs) about the dangers of 'tombstoning' and how it can lead to serious and life-changing injuries.

Reinforce the message of the film and why Tombstoning is dangerous?

It's dangerous because:

- The water depth could alter with the tide and it might be shallower than you think.
- There may be submerged objects, such as rocks and machinery, that aren't visible from the surface of the water.
- The cold temperature of the water can cause your body to go into Cold Water Shock causing hyperventilation, disorientation and cramps making it difficult to swim.
- There may be strong currents in the water, which could sweep you away.

Many people have been killed due to tombstoning and thousands more have required rescuing and had to have treatment for serious life-changing injuries.

Don't jump into the unknown - consider the dangers

<section-header>

Skating on thin ice?

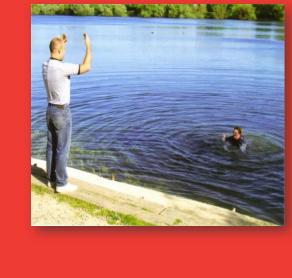
Explain to the learners that whilst frozen water areas such as ponds, canals, lakes and even reservoirs may look beautiful and exciting they are incredibly dangerous. Whilst the temperatures may drop low enough for the water to freeze, in the UK the temperature rarely drop low enough for the ice to become thick enough for someone to stand on. It isn't a risk you can take, especially as when temperatures rise the ice will begin to melt quickly and its strength diminish.

Advise the learners never to go on ice on open water. This is because if it breaks the water will be dangerously cold and it will be incredibly difficult to get out alone, even with 'untrained' help.

Stress that even if they see an animal, such as a dog, struggling on the ice and it won't come off readily to call 999 for help rather than put their own lives at risk and maybe others too.

Need help? - What you should do

If you see someone struggling in the water:



- Do not enter the water to rescue them.
- Shout for help and shout/signal to them, so that they know you are there.
- Call for help on 999 and give your location.
- Tell the person to try and stay calm and float on their back.
- Try to encourage them to a point of safety.

Need help? - What you should do

Go through what to do if someone is struggling in the water and needs help.

Importantly –

Never enter the water to rescue a drowning person – explain why – the dangers are the same for you and it may mean two people are then struggling with no means of getting help. You may be pulled down too as it is common for people struggling in the water to panic. The Fire and Rescue Service and other emergency services have equipment available to them to assist in water rescues.

Instead –

SHOUT - **Call 999 and shout for help** – Call 999 or shout for help from any passers by and ask them to call 999. Try to give as much information to the call handler as possible and importantly, a location. Have the What3Words app or a similar one downloaded on your phone so you can use this if you need to.

Make contact with the person and encourage them towards you.

Try to reassure them and encourage them to remain calm and not panic. If they are hyperventilating they need to try and calm themselves so they can regulate their breathing.

Encourage the person struggling to a point of safety – keep talking to them.

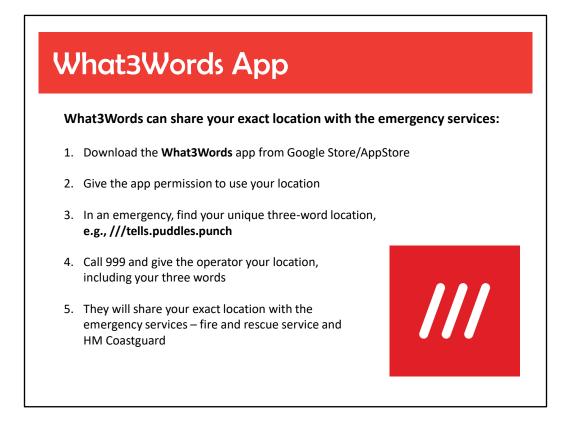
Get them to try to turn on their back and float by stretching out their arms and legs like a starfish and keep talking to them, reassuring them. In effect, **#FloatToLive**. This is equally important if it is you struggling in the water yourself.



Please change to film from Stone create site

Float to Live film

Short RNLI film (30 secs) showing a technique giving a better chance of survival if struggling in the water – **Float to Live**.



What3Words App

Street addresses aren't accurate enough to specify precise locations, such as building entrances, and don't exist for parks and many rural areas, including more remote water locations.

This can make it hard to find places and prevents people from describing exactly where help is needed in an emergency.

There are several Locator Apps which can be downloaded onto mobile phones and which may help guide the emergency services to a location if their help is needed.

What 3 Words is an example of a Locator App. In it the World has been divided into 3 metre squares. Each square has a unique combination of three words separated by full stops. It can be used in two ways, but the first way is usually the most useful in an emergency situation -

Find a What3Words address

Enter a place name or street address into the search bar and choose the correct result.

Switch to satellite mode and zoom in until you see the grid. Tap on a square to see its what3words address.

Click here for case studies, including of when the What3Words App helped in an emergency situation, including several water safety ones, in particular one from Preston Fire Station -

what3words for emergencies: real-life stories | what3words

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If you can reach

It may be possible to reach out to help the person.

Again, stress not to enter the water to rescue a drowning person.

SHOUT - **Call 999 and shout for help** – Call 999 or shout for help from any passers by and ask them to call 999. help from any passers by and ask them to call 999. Give as much information to the emergency services call handler as possible and importantly, a location. Use the What3Words app if needs be.

Make contact with the person by shouting and waving to them and encourage them towards you.

Try to reassure them and encourage them to remain calm and not panic. If they are hyperventilating they need to try and calm themselves so they can regulate their breathing.

Encourage the person struggling to a point of safety – keep talking to them.

Then, if you need to and are able to –

REACH

If you think you are able to reach them using a branch, pole or anything else that is close by, do so if it is safe. Ensure you get down low and even on the ground when you do this to prevent you falling or being pulled into the water yourself. Pull the casualty to the side remembering that they may (accidentally) pull you in even as you try to get them on to the water side.

Once the casualty is out, remove wet clothing. Keep them warm and monitor them.

Throwing something

See if there is anyone else around who can assist you and call 999. Tell them where you are – /// What3Words can help.



Find something that floats and throw it to the person, encouraging them to move towards you if they can.

Throw the object underarm to allow the person to get it. Then ask them to use it to float. If using a rope or similar object, get down low and pull them to safety.

Throwing Something

Again, stress not to enter the water to rescue a drowning person.

If the person appears out of reach and/or may not be able to get closer to shore it may be possible to throw something to them to help pull them in or help them float.

SHOUT - **Call 999 and shout for help** – Call 999 or shout for help from any passers by and ask them to call 999. help from any passers by and ask them to call 999. Give as much information to the emergency services call handler as possible and importantly, a location. Use the What3Words app if needs be.

Make contact with the person by shouting and waving to them. If you can locate a throwing rope (or similar) or something that will float, try to reassure them and tell them what you are going to do to help.

Encourage them to remain calm and not panic. If they are hyperventilating they need to try and calm themselves so they can regulate their breathing.

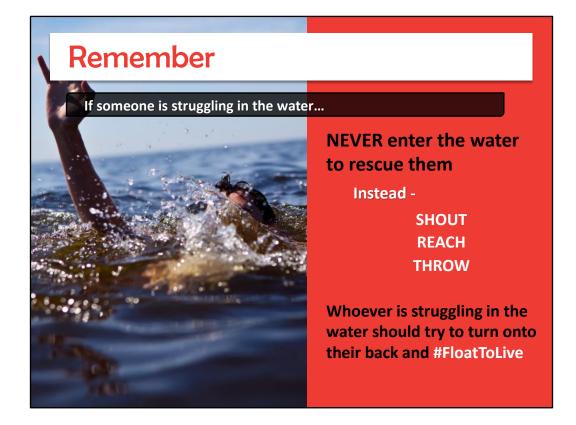
Coil the rope whilst encouraging the casualty to move towards you if they can.

Throw the rope underarm and when the casualty grabs it, get down low and pull the

casualty to safety.

At this point, if appropriate and there is time and space you can carry out an activity where, using a throwline, you get students to practise coiling and throwing a rope out to an object representing the casualty and they will be able to see how difficult it is.

Alternatively - find something that floats and throw it to the person underarm so that they can get it. Tell them to use it to float and encourage them to move towards you if they can or wait until further help arrives.



Remember –

Remind the learners what to do if someone is struggling and needs help.

Never enter the water to rescue a drowning person – explain why – the dangers are the same for you and it may mean two people are then struggling with no means of getting help. They may pull you down too as it is common for people struggling in the water to panic. The Fire and Rescue Service and other emergency services have equipment available to them to assist in water rescues.

SHOUT - **Call 999 and shout for help** – Call 999 or shout for help from any passers by and ask them to call 999. Try to give as much information to the call handler as possible and importantly, a location. Have the What3Words app or a similar one downloaded on your phone so you can use this if you need to.

Make contact with the person and encourage them towards you.

Try to reassure them and encourage them to remain calm and not panic. If they are hyperventilating they need to try and calm themselves so they can regulate their breathing.

Encourage the person struggling to a point of safety – keep talking to them.

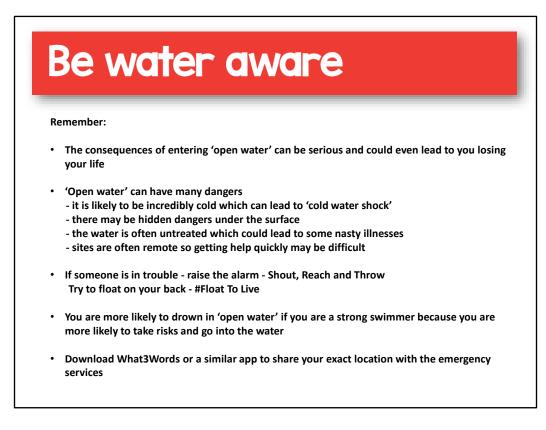
Get them to try to turn on their back and float by stretching out their arms and legs like a starfish and keep talking to them, reassuring them. In effect, **#FloatToLive**. This is equally important if it is you struggling in the water yourself.

REACH - Use a branch, pole or anything else that is at hand if it is safe.

If you think you are able to reach them using a branch, pole or anything else that is close by, do so if it is safe. Ensure you get down low and even on the ground when you do this to prevent you falling or being pulled into the water yourself.

THROW - Use anything available to either pull them to the side or that they can use as a float.

Use anything you can find that could assist in pulling them to the side or they can use as a float.



Summary – Be Water Aware

Summarise the session with reference to the objectives of the session.

Reinforce these and stress any other key points that may have arisen during the session but that are not featured on the slide.

What is 'Open water'?

"Open water" is any large body of still or moving water such as a lake, reservoir, flooded quarry, canal, river and the sea. In most cases these will not have any supervision or life-saving equipment nearby. They are often quite isolated, which means help may take quite some time to arrive and access may be difficult.

The dangers of open water

The water will be colder than expected, even on a hot sunny day. The water could be very deep or, if shallow, there could be hidden dangers below the surface such as vegetation, debris, machinery, rocks or currents.

Consequences

If jumping into water, even it appears safe, serious injury could occur.

Ultimately, anyone entering cold water could die due to the effects of 'Cold Water Shock' on the body.

If someone is in trouble - Never enter the water to rescue a drowning person but let the person know you are there to help

Raise the alarm - Call 999 and shout for help

Tell the person to try not to panic - but instead remain calm. Encourage them to float on their back with their arms and legs spread out like a starfish **#Float toLive.**

Try to use something to **reach** the person and/or **throw** something to either pull them to the side or that they can use as a float.

Download What3Words or a similar app to share your exact location with the emergency services.



Any questions?

Invite questions or comments from the learners.

They may wish to give example of experiences they have had - it may have been them who have got into trouble or they may have been involved in getting help.

If this happens try to avoid the learners using names and do not dwell on something or let the discussion develop into something that could become particularly upsetting.