

THE SECOND OPEN WATER DIVE

Lesson Objectives

While continuing the theme of teaching students how to enjoy and be aware of the underwater environment, this lesson transfers the skills learned in Sheltered Water training to Open Water conditions. As the encumbrance of protective clothing will still be new to students, the previously learned skills will be repeated in a depth of water similar to that in which they were initially learned. The students' depth experience will however be increased during the course of the dive.

Achievement Targets

At the end of this lesson students should:

- Have had an enjoyable dive
- Be competent and confident in their ability to recover from a dry suit inversion
- Be competent and confident in their ability to disconnect their dry suit inflation hose in the event of the valve sticking open
- Be competent and confident in their ability to retrieve and clear their mouthpiece in a depth of approximately 2m
- Be competent and confident in their ability to clear their mask of water in a depth of approximately 2m
- Be able to perform static AS skills as both donor and recipient
- Have further developed their buoyancy control, finning action and swimming attitude
- Have increased their awareness of the underwater environment and of their impact upon it
- Have developed an awareness of pilotage as a means of navigation
- Have increased their depth experience to approximately 10m
- Be competent and confident in their ability to carry out a near vertical ascent

Lesson Contents

This lesson will require a site with both a level area at a depth of approximately 2m for skills practice, a maximum depth of approximately 10m, and a suitable visual reference (steep rock face, shot line) against which vertical (or near vertical) descents/ascents can be performed over a depth range of at least 5m.

If preferred, the skills practice at 2m can be performed at the end of the dive.

1. Briefing

Explain to the students that this lesson is intended to develop their personal skills while wearing protective clothing as well as extending their depth experience. Buoyancy control will also be further developed by introducing more rapid pressure changes associated with near vertical descents and ascents. Rescue skills will also be developed with static AS practice prior to incorporating this skill into an ascent during a later lesson. Also explain that, in addition to developing their skills, the objective is also to have an enjoyable dive while further increasing their depth experience and developing their awareness of the underwater environment and how to navigate their way around it.

Ensure that the briefing includes breathing gas consumption considerations and that appropriate 'turn round' and reserve values are established. Although decompression will not impose any limits on this dive, explain why this is, and that it has not just been ignored.

Ensure all the elements of a 'SEEDS' brief are covered, including any additional signals that will be used to point out items of interest.

2. Prepare SCUBA unit and put on protective clothing

While students should have already met the performance standards for preparing the SCUBA unit during Sheltered Water lessons, the protective clothing will still be relatively new to them so this aspect should be monitored.

Report dive plan to Dive Manager.

3. Kit up and buddy check

Again, as protective clothing aspects will still be relatively new to the students their performance of kitting up and the buddy check should be monitored.

After the buddy check, and wearing gloves, include a dry run of the AS exercise to establish a suitable position for both access to the AS and for control of dry suit venting.

While wearing both gloves and masks, include a practice of rapid disconnection of their own dry suit direct feed hose as a dry run for the stuck inflator drill. Reconnect the hoses and check operation.

4. Entry

Enter the water by either steps or wading into standing depth water. Fit fins, leaning on buddy or other suitable fixed object for support. So that students are prepared for the water temperature during the later mask clearing exercises, have each splash water onto their face before fitting their facemask.

5. Skills practice - 2m

- Buoyancy control - mid water hover

From a kneeling position inflate dry suit in short bursts to lift clear of the bottom. Vent/re-inflate in short bursts to achieve a hover in mid water (ie completely clear of the bottom and below the surface), adjust dry suit inflation so that no further inflation/deflation is required while gently ascending/descending with breathing cycle, remain clear of the bottom and the surface throughout breathing cycle

- Inversion recovery

Assume slightly head down attitude for air to migrate towards feet of suit. As legs start to rise, breathe out to minimise increase in buoyancy, bend at the waist and use both arm action and fin kicks to complete a forward roll until legs are again lower than body, allowing air to migrate back from legs

At the end of this exercise, students should be **competent and confident** in their ability to perform this skill

- Dry suit inflator stuck open

Assuming the dry suit hose comes under the right shoulder, the right hand grips the direct feed hose, thumb and forefinger operates the disconnect collar (*Note: initially the direct feed hose may need to be pressed towards the valve to enable the collar to be moved*), direct feed hose separated from drysuit inflator. Where necessary the left hand is used to steady the valve

The above sequence is then reversed to reconnect the hose. Once connected the inflator should be briefly operated to check that the re-connection has been correctly made

At the end of this exercise, students should be **competent and confident** in their ability to perform this skill.

- Mouthpiece retrieval and clear

Breathe in, remove demand valve from mouth, hold demand valve out to side and drop, lean forward and then roll demand valve side down, sweep arm back as close as possible to side and then outwards and forwards to encircle demand valve hose, replace demand valve, exhale to clear. The **competence/confidence** performance standard should be achieved in this skill before progressing to the AS exercise

- Partial mask clear

Lift lower skirt of mask from face to allow a small amount of water to enter, hold top edge of mask against forehead, breathe out steadily (but not forcibly) through nose, tilt head backwards.

- Full flood

As for partial flood but lifting mask skirt off face to completely flood the mask.

- Remove & replace

Flood mask completely as above, remove mask, identify nose pocket to check mask is correct way up, place strap out of way over front of mask, place mask on face, run finger round edge of hood to check clear of mask skirt, replace strap over head, hold top of mask against forehead, breathe out steadily through nose, tilt head backwards

At the end of this exercise, students should be **competent and confident** in their ability to perform this skill.

- Breathe from an Alternative Supply - stationary

Students should act as both donor (initially) and then recipient. Recipient signals out-of-air, takes donor's AS from stowage, removes own mouthpiece and replaces with donor's AS, recipient and donor make positive contact by holding shoulder strap or other convenient hand-hold

The positioning of the donor and recipient should be such that, without changing their relative positions they can, in a later lesson, ascend to the surface while being able to control dry suit venting and without getting in the way of each other's finning action. The flexibility of position offered by the length of the AS hose should be utilised to the full to achieve this

6. Carry out exploratory dive to approximately 10m

This is the main objective of the lesson and should be a leisurely swim which includes a vertical or near vertical descent/ascent over a depth range of approximately 5m. Throughout the dive indicate points of interest to the students and the features used for pilotage to return to the exit point.

- Buoyancy control with changing depth - descent

Closely monitor the students' buoyancy control during the descent and the ascent. Guide the students inflation of their dry suits during the descent with the object of arresting the descent just clear of the bottom, thus demonstrating not just good buoyancy control but also the avoidance of damage to underwater life on the bottom

- Finning action and swimming attitude

During the dive further monitor the students' finning action and swimming attitude, particularly the latter if the disposition of their weights was adjusted after the previous dive

- Awareness of and impact on the underwater environment

Draw the students attention to as many features of the topography or underwater life as possible during the dive. As this will all be new to the students, don't assume that they will automatically see things, particularly where life hides in crevices or holes

Continue to encourage the students to be aware of the potential damage that they can do to underwater life not only by carelessly placed hands but by contacting the bottom with their fins as they swim along.

- Pilotage demonstration

Throughout the dive instructors should point out features that they are using for navigation and how to recognise them when returning in the opposite direction

- Buoyancy control with changing depth - ascent

Ensure that the students use visual references to judge their rate of ascent, and that they maintain visual contact with all members of the group. Stop the ascent at the 6m ascent check depth before continuing at the slower ascent rate

At the end of this exercise the students should be **competent/confident** in their ability to control their

buoyancy throughout the ascent. Achievement of this standard is essential prior to progressing to the AS ascent exercises in the next lesson.

7. Exit

Remove fins and mask in standing depth leaning on buddy or other suitable fixed object for support. Exit water by wading or steps

Report back to Dive Manager.

8. De-kit

As with kitting up, students should assist each other to remove the SCUBA unit.

Although it is better to debrief the dive while it is still fresh in students' minds, depending upon weather conditions, and whether the students have got cold on the dive, instructor should decide whether it is better to remove protective clothing before or after the debrief.

9. Debrief

Check that all students have enjoyed the dive and remind them of both interesting features/life that they saw and of the features used for pilotage. Review their performances, both generally during the dive and of the specific exercises, highlighting areas of good performance and offering constructive criticism where necessary.

10. Equipment care

Remind students to clean and dry their equipment on their return home.

Adapting this Lesson

The following paragraphs offer guidance on how to adapt the lesson contents for circumstances different to those assumed for the above lesson notes.

Protective clothing/water conditions same as for Sheltered Water training

Under these circumstances, the above contents include some unnecessary duplication. Consequently the object of the lesson becomes the further extension of the students' depth experience, and their awareness and enjoyment of the underwater environment. Item 5 can therefore be deleted. As for the previous lesson, a deep water entry and exit, such as from a boat, may be substituted.

Protective clothing/water conditions differ from Sheltered Water training

- Buoyancy change only

As correct weighting will have been established on the previous dive, and the standard of protective clothing will not have any further impact on the skills exercises, item 5 can again be deleted with the exception of the mid water hover buoyancy check. Deep water entries and exits may also be substituted

- Full wet suit/changed water conditions

The encumbrance aspects of the protective clothing still apply, and consequently the lesson content should remain largely unchanged except for the inversion recovery which is peculiar to the dry suit. Stuck BC inflator action should be substituted for the stuck dry suit inflator exercise in item 5

Skills Performance Standards

At the end of this lesson, the students should be sufficiently competent to achieve the following skill performance standards without supervision, in the water conditions experienced:

Dry suit inversion – student uses arms and fin kicks to perform forward roll to regain upright attitude, breathes out to minimise increase in buoyancy, vents additional air from suit once upright to control buoyancy.

Direct feed disconnection – student locates direct feed hose without hesitation, disconnects hose from valve cleanly and without fuss or fumbling

Mouthpiece recovery and clear – with their mouthpiece removed and allowed to fall beside them, students gently exhale, lean forward and roll the shoulder over which the hose passes down to cause the demand valve to hang clear of the body, sweep the appropriate arm back close beside the body and around to locate the demand valve, replace the mouthpiece in their mouths and blow to expel water before recommencing to breathe from their demand valves.

Mask removal and clear – with their mask removed, students continue to breathe steadily, check correct orientation of the mask before refitting it, expel water by breathing out steadily through the nose and tilting the head either back or forward as appropriate to the type of mask. Completely clearing all the water from the mask in one breath, while desirable, is not essential.

Buoyancy control on ascent – student ascends and maintains visual contact with fixed reference (eg bottom, rockface, shotline etc), at same time maintains contact with group, controls buoyancy to stop at 6m, controls buoyancy to ascend from 6m taking 1 minute to reach surface.

