BASIC SKILLS

Lesson Objectives

The objective of this lesson is to introduce more basic skills while continuing to develop the students' level of comfort underwater. Further development of buoyancy skills and finning action is included so that these skills can become second nature. This lesson also introduces Alternative Supply (AS) skills necessary to assist a buddy.

Achievement Targets

At the end of this lesson students should:

- Know how to assemble and check their SCUBA unit
- Have developed a good finning action
- Be able to quickly and effectively operate their buoyancy controls
- Have developed a basic level of competency in controlling their buoyancy while swimming underwater and while ascending and descending
- Be competent and confident in their ability to retrieve a dropped demand valve and clear it of water
- Be able to remove, refit and clear their mask of water in shallow water
- Be able to use an AS as both donor and recipient in shallow water
- Have learned the 'out of gas' signal

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Lesson Contents

This lesson introduces the students to taking more responsibility for their own equipment. As it is the first time that they will have assembled the equipment, it will naturally take longer than normal. Valuable in-water time can be saved if equipment assembly is taught in a separate 'dry' session prior to the in-water lesson.

1. Briefing

Explain the above objectives to the students and reiterate how less haste will mean more speed overall. Relate the above objectives to real diving and explain why, although occurrences of flooded masks or dropped mouthpieces are extremely rare, developing competence in these skills will give them the confidence of knowing that, should those situations occur, they will have no trouble dealing with them. Explain also the relevance of mouthpiece clearing as a progression to the use of the AS. To minimise any nervousness on the students' part explain that initially they will only be performing these underwater skills in standing depth of water. Ensure that all aspects of a 'SEEDS' brief are covered.

2. Preparing SCUBA unit

- Assembly

Starting with the SCUBA unit completely disassembled, fit the stab jacket to the cylinder and then have the students do the same. Then fit the regulator and make all necessary connections to the BC. The students should then do the same. Make the point that when not being handled the equipment should be laid down to prevent it being knocked over and damaged unless restrained in some sort of stowage

- Functional check

Turn the breathing gas on slowly, check the contents, take check breaths from both main and octopus demand valves, turn the breathing gas off and check for leaks, dissipate the air pressure and attempt to breathe from both main and octopus demand valves to check for no inward leaks ('breathe down' check), finally slowly turn the breathing gas back on again

3. Kitting up and buddy check

As a reminder from the previous lesson, demonstrate and then supervise the practice of buddies helping each other to kit up and the buddy check (BAR or other appropriate acronym as a reminder).

4. Entry into shallow water

Lead the students, by ladder or wading into shallow water where mask, fins and snorkel are fitted, using each other, or a fixed object, for support.

5. Buoyancy check, standing depth

Lay flat on the bottom, adjust weight/BC inflation to pivot on fin tips with breathing, BC inflation/venting in small bursts, BC control held high when venting.

If necessary adjust the students' weight either on a weightbelt or in integrated pouches - not by putting weights in BC pockets!

6. Swimming on surface, BC inflated

This exercise should start and end in standing depth of water, and introduces support from a BC in different attitudes while further developing dexterity with the BC controls and finning action. This exercise also introduces a lead-in to the later exercise of mouthpiece clearing and consolidates the previous lesson on snorkel clearing.

- On back, BC inflated

  Inflate the BC fully by mouth, swim on back with a laid back attitude to minimise drag, look round to check direction. Check that finning action is from the hips with the legs flexing slightly. Develop fine control of the BC by venting in short bursts (using both BC mouthpiece and dump valve) until waterline is at chin level, then re-inflate using direct feed. Distance for swim approximately 25m, deflating/inflating BC twice during the distance

- On front, breathing from demand valve, BC partially inflated

  Swim of approximately 25m with continuing check on finning action. Partially deflate BC, re-inflate as necessary using direct feed to establish a comfortable level of inflation for swimming on the front.

- Swimming on surface changing from demand valve to snorkel

  Swim of approximately 25m, face down, change from breathing from the demand valve to through the snorkel, alternating between the two after three breaths from each

This exercise increases the task loading on the students and consequently concentration on buoyancy control, or swapping between demand valve and snorkel, may cause finning action to deteriorate. Where necessary extend the distance to give the students more practice to adapt to this.

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7. Breathing without a mask, standing depth

As a pre-cursor to the later mask clearing exercises, this exercise gives the students confidence that they can easily breathe through their mouth while their nose is submerged. While standing and with facemasks removed, breathe from the demand valve, slowly submerging until the nose is below the water level. Once a comfortable breathing rhythm has been established, practice inhaling from the demand valve and exhaling via the nose.

8. Retrieving demand valve and clear, standing depth

- Demand valve clear - exhale

  Breathe in, remove demand valve from mouth, allow mouthpiece to flood, turn demand valve to point mouthpiece downwards to avoid free flow, replace demand valve, exhale to clear. Perform twice

- Demand valve clear - purge button

  Breathe in, remove demand valve from mouth, allow mouthpiece to flood, turn demand valve to point mouthpiece downwards, hold demand valve high, gently press purge button to clear water, bring bubbling mouthpiece down to replace in mouth. Perform twice

- Retrieve demand valve 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 close to side and then outwards and forwards to encircle demand valve hose, replace demand valve, exhale to clear. Perform twice

At the end of this exercise students must be **competent and confident** in their abilities to retrieve a demand valve and clear it of water as this skill is fundamental to the later AS exercise.

9. Mask clearing, standing depth

- Initial 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

- Progressive flood

  Repeats as for initial clear, but lifting mask skirt off face to allow increasing amounts of water to enter.

- 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, hold hair etc. clear of face, place mask on face, check skirt clear of entrapped hair, replace strap over head, hold top of mask against forehead, breathe out steadily through nose, tilt head backwards

The above technique may need adapting depending upon the style of mask used although the progressive sequence will remain the same. Masks fitted with drain valves will require the head to be tilted forward rather than back.

10. Use of alternative supply - standing depth

While using the ‘out-of-gas’ signal as a means of starting this exercise, teach for the more real situation of the recipient taking the donor's AS from it's stowage, not waiting for the donor to remove it and offer it. As this exercise will require the participation of a student to demonstrate, having the student act as donor initially means that they not only retain their own demand valve throughout, but the demonstration is not dependant upon action by them. At this stage students should not be expected to carry out this exercise with each other until they have seen each competently act as both donor and recipient with the instructor.

- As donor

  Once recipient has taken AS, makes positive contact with recipient by holding shoulder strap or other convenient hand-hold.

- As recipient

  Recipient signals ‘out-of-gas’, takes donor's AS from stowage, removes own mouthpiece and replaces with donor's AS, recipient makes positive contact with donor by holding shoulder strap (avoiding quick release buckles) or other convenient hand-hold

The relative positioning of the donor and recipient should be such that, in later lessons, they can ascend to the surface while being able to see each other's faces 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.

11. Swimming underwater to deeper water

Although a positioning manoeuvre for the next exercise, use the opportunity to further check buoyancy control and finning action.

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12. Controlled ascent and descent using BC - deeper water

The ascents and descents experienced by the students so far have been relatively gentle giving time to control buoyancy. This exercise introduces a more rapid change and hence the need to develop a more instinctive control of buoyancy.

- 'Mini' ascent/descent

  From kneeling position, hold BC controls above shoulder, introduce air in short bursts until slight positive buoyancy achieved, once knees are clear of bottom vent air in bursts to gently lower back onto knees.

- Ascent/descent

  As for mini ascent but continue to surface, venting air in bursts to maintain controlled rate of ascent. At surface vent air from BC in bursts to initiate a controlled descent, inflate BC in bursts during descent to control descent and achieve a gentle touch-down on the bottom.

Where the depth of water exceeds approximately 2m, a further intermediate ascent should be included before ascending completely to the surface.

13. Swimming underwater to standing depth

Another positioning manoeuvre, this time for the exit, which can again be used as a further opportunity to check buoyancy control and finning action.

14. Exit water

Remove fins leaning on buddy or other suitable fixed object for support, exit by wading or via steps.

15. Remove SCUBA unit

Buddy pairs assist each other to remove equipment, SCUBA unit laid down on ground, demand valves placed on top.

16. Debriefing

Using the 'REAP' format, praise good performance and offer constructive criticism where necessary. Explain how they will further develop their skills in the next lesson. Answer any questions that the students have.

17. Equipment care

Supervise the students disassembling their equipment, building on the experience gained of this in the first lesson.

- Equipment washed in fresh water, pressure dissipated from regulator, equipment disassembled, regulator dustcaps dried and fitted, and all items stowed away

Skills Performance Standards

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

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.

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