

Safe Snorkelling Workbook

First Edition

Answer Book



Student's
Name

Bob Moffatt

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Published by

Wet Paper Publications
PO Box 540 Coolangatta 4225
www.wetpaper.com.au

ISBN 978-1-86283-178-0

Principal consultants

Adam Richmond and Gail Riches

Acknowledgements

Mick O'Connor, Phil Smith, Simone Baker, Neville Coleman, Mike Sugden, Lady Elliot Island, Worksafe Queensland, Scuba doctor, Cressie Sub Aqua, MTAQ/AUSI Snorkel Instructors 2010 course, Staff and Students from Gladstone, Benowa State High Schools and the Moffatt Family Children and Grandchildren.

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Sample pages



WORKSHEET 1: EQUIPMENT SELECTION

- Q.1 Identify five basic pieces of equipment required for snorkelling (Page 3).
1. mask
 2. snorkel
 3. fins
 4. body covering and
 5. protective footwear so you can walk to a snorkelling site.
- Q.2 List any three pieces of advice to take when purchasing equipment giving reasons for your answer (Page 3).
- a. *Comfort: Any piece of equipment selected must be a good, firm but comfortable fit which can be worn for long periods without causing any discomfort. Example - comfortable fins.*
 - b. *Cost: Look for quality when purchasing equipment even though it may cost more.
Example: A diving mask made of better quality will last you longer.*
 - c. *Suitability: Different localities or activities may require specialised types of equipment.
For example in colder water, thicker wet suits are required to prevent hypothermia whereas a long sleeved 50+ rash vest suits tropical waters to prevent skin cancer.*
- Q3. Give two reasons why you should use your own equipment (Page 3).
- a. *You want to keep your own adjustments*
 - b. *You don't want to catch other people's germs*
- Q4. Why should you check equipment after taking it out of storage? (Page 3)
- To see if there are any spiders, ants or other insects.*
- Q5. Name three types of mask describing one features of each (Page 3).
1. *A split lens (low volume) mask recommended for free diving as it is easier to clear and equalise on decent.*
 2. *A single lens (large volume) mask which often has a wider field of view.*
 3. *A full face mask that covers the eye, nose and mouth making it perfect for beginners to breathe comfortably while in the water.*
- Q6. What are any three things to consider when selecting a mask? (Page 4)
- a. *Comfortable, watertight fit preferably with a soft seal.*
 - b. *Has a nose pocket to allow for equalising the ears.*
 - c. *Made of good quality rubber or silicone and tempered glass*
- Q7. What is a simple check to see if a mask fits properly? (Page 4)
- Place the mask on your face (without the straps in position) and inhale gently through the nose.
If the mask is a good fit it will cling to the face due to the slight vacuum created.*
- Q8. How is a mask adjusted? (Page 4)
- With a release clip found on the strap.*
- Q9. Why does a new mask have to be cleaned before use? (Page 4)
- To remove dirt and grit from manufacturing and allow defogging solutions to adhere to the glass.*
- Q10. What three things do all snorkels include and for what purpose? (Page 5)
- a. *"J" shape tube - for easy air flow*
 - b. *Mouth piece and bite tabs - to fit into your mouth*
 - c. *Snorkel keeper to attach to the mask strap so it does not fall off*
- Q11. What is a purge valve and why is it useful? (Page 5)
- A purge valve is a simple mechanism under the mouthpiece that helps you clear water from inside the snorkel to save you energy.*

From the old 6th Edition workbook

Old worksheet 6 Boyle's Law answers

1. Boyle's Law states that pressure and volume are inversely related.
2. It is important to know that there is sufficient lung volume for diving. An average lung capacity is about 4 litres.
3. $P_1V_1 = K$ (a constant)
 $P_2V_2 = K$ (the same constant in a new situation)
then
 $P_1V_1 = P_2V_2$

(Chemistry and Physics students might know $PV = nRT$)

4. $P_1 = 1\text{atm}$
 $V_1 = 4\text{L}$
 $P_2 = 2\text{atm (10m)}$
 $V_2 = ?$

$$\begin{aligned}P_1V_1 &= P_2V_2 \\1 \times 4 &= 2 \times V_2 \\V_2 &= \frac{1 \times 4}{2} \\&= 2\text{L}\end{aligned}$$

5. $P_1 = 1\text{atm (surface)}$
 $V_1 = 3.8\text{L}$
 $P_2 = 3.5\text{atm (25m)}$
 $V_2 = ?$

$$\begin{aligned}P_1V_1 &= P_2V_2 \\1 \times 3.8 &= 3.5 \times V_2 \\V_2 &= \frac{1 \times 3.8}{3.5} \\&= 1.09\text{L}\end{aligned}$$

WORKSHEET 26 POOL SCIENCE ACTIVITIES

Complete the following two activities and answer the questions below.

Part A: Observe underwater creatures

(See Figure 26.1)

- A. Sit at the side of the pool as shown in Figure 26.1 with all your snorkelling gear on.
- B. Now submerge to the bottom, equalise your ears and swim towards the crate marked C
- C. Hold position for 5 seconds and make observations on the side of the box.
- D. Surface, clear snorkel and describe to your buddy your observations.

Now try this with an underwater slate.

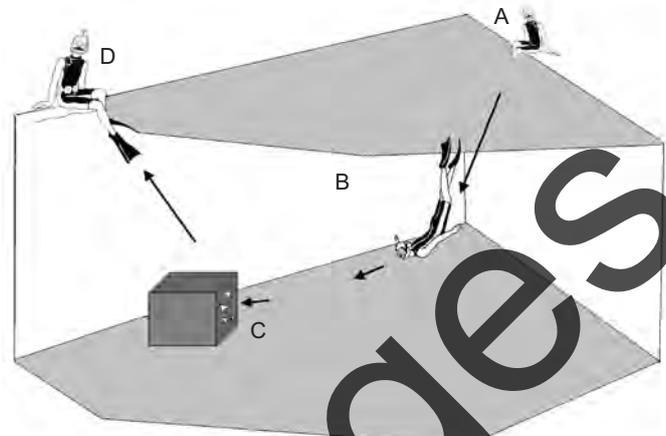


Figure 26.1 Underwater observation

Part B: Record data along a transect line

(See Figure 26.2)

Set up a make-believe set of coral clumps at the bottom of the pool with milk crates and attach some designs to represent animals

Now set a transect line joining the crates.

- A Snorkel over the crate taking making observations.
- B Record data on an underwater slate.
- C Take photographs of the shapes or objects on this crate
- D Take a sample of rocks from under the crate and place it in a collection bag.

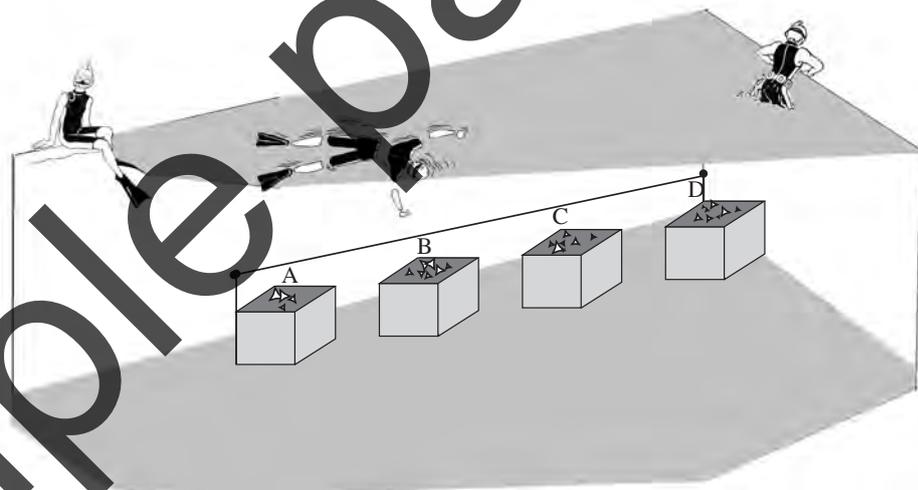


Figure 26.2 Record data along a transect line

Part C: Underwater hockey

This is an activity which sharpens your skills and fitness.

- Google the underwater hockey association for the rules.

Questions

Q1. Describe the things you saw and collected.

Q2. Devise an experiment to see if size changes underwater.

Results

Sample pages



ISBN 978-1-86283-178-0

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