



Hauraki Gulf Forum  
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# Introduction to Shellfish Monitoring

Preparing students to undertake a shellfish survey

**PART 3: Shellfish identification, measuring and recording data**

# Part Three Practising identifying & measuring shellfish and recording data



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# Its for real!



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- The survey data will be used by the Hauraki Gulf Forum so its important that the data you collect and record is **accurate**.
- **You will need to know how to:**
  - **Correctly use the quadrat to take a sample**
  - **Identify the different types of shellfish**
  - **Correctly use the measuring stick or V-board to measure the length of cockles and/or pipi**
  - **Correctly fill out the data forms**



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# Bivalves

Shellfish with two distinct shells

# Cockle Tuangi



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# Pipi



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**Wedge Shell**

**Hanikura**



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# Nut Shell



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**Trough Shell**

**Ruheruhe**



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# Quiz Q1



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Q: How do you tell the difference between a nutshell and a small cockle?

A: The nut shell is smooth with no ridges or lines like a cockle



# Quiz Q2



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Q: How can you tell the difference between a cockle and a trough shell?

A: A trough shell is usually bigger than a cockle and the shell is thinner. The trough shell has fine radial growth lines while the cockle has ridges going in both directions



# Quiz Q3



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Q: Is this a pipi?



A: No. It is a tuatua. Tuatua are found on open coast beaches, not usually in sheltered harbours/estuaries.



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# Gastropods

**These Gastropods (snails) are also Univalves (shellfish whose shell is in one piece)**

# Mud Whelk



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# Other kinds of whelks



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Spotted whelk



Speckled whelk



Red mouthed  
whelk

# Harbour Top Shell Whētiko



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**Horn Shell**

**Koeti**



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# Other gastropods



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Mud snail **Tiitiko**



Olive shell **Tikoaka**



Oyster borer **Kaikai tio**

# Quiz Q4



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Q: Is this a harbour top shell  
or a cats eye?



A: A top shell. Cats eyes live on the rocky shore and have a distinctive circular green and white 'trap door' on the underside of the shell.



# Other marine creatures you might find



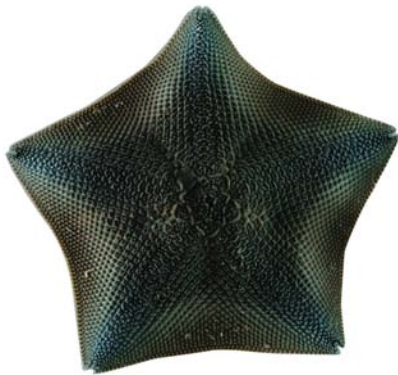
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# Echinoderms



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Echinoderm is Greek for 'spiny skins'



Cushion Starfish



Sand dollar or  
'snapper biscuit'



Heart urchin

You may find these near low tide

# Others



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Seagrass



Various kinds of crabs



Different kinds of shrimp



Various kinds of worms

# Introduced species



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Clubbed tunicate  
A type of sea squirt



Asian date  
mussel



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# Measuring

Only the dominant *live* shellfish are measured eg cockle and/or pipi  
All other *live* shellfish are counted but not measured

# Correct measuring technique



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1. Place the shell against the baseplate with the hinge at the side so that you are measuring its **longest** dimension.
2. When reading off the shellfish length, **look straight down** on it (not on an angle).
3. The letters marked on the measuring sticks correspond to shellfish size classes, A = 0-5mm, B = 5-10mm, C = 10-15mm etc. **If the cockle length is between the lines, read off the letter written beside *the line above*.** If the cockle is exactly on a line, read off the letter beside the line.

# Quiz Q5



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- Which is the right and wrong way to measure a cockle and why?



Right



Wrong – not measuring  
the longest axis

# Quiz Q6



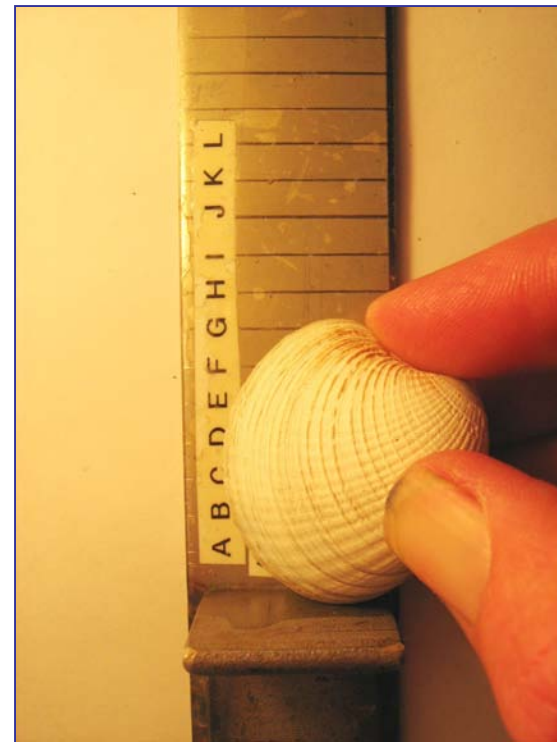
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- What letter would you record these shellfish as measuring?

This pipi touches the line so it is a 'G'



This cockle is just over the 'G' line so it is an 'H'





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# Data forms

# First things first



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There are four things to remember when you get to a new sampling station

1. Use a fresh form (one form for each sample)
2. Write down the sample location on the form:
  - the transect letter AND
  - the distance or number along the transect
  - Eg A2, A20
3. Write down the name of the person doing the recording
4. Observe and describe what you see on the surface

# Observations



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At your sample site look at the surface and write down what you see:

- Are there lots of dead shells or stones?
- Are you in a channel or hollow, or on top of a shell bank?
- Is the surface muddy and slippery, hard and rocky, or sandy?
- Is there seagrass growing?
- Are you sampling in water?

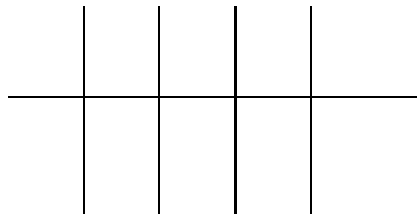
This information may help you make sense of your data later

# Recording data



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- Use a **tally** system to record the number of **live** shellfish in the quadrat in the correct box on the form



- If there are no living animals in your sample write **NIL** in large letters across your form
- If you make a mistake, cross it out really well
- At the end, count up your tally marks and record the total



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# Now its your turn

Have a turn practicing identifying, measuring and recording using  
dead shells

# For the survey you will need to bring



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- Covered shoes that can get wet and muddy
- Clothes and shoes to put on afterwards
- Plastic bag for wet and muddy clothes
- Warm and waterproof clothes
- Sunscreen and hat
- Food and water