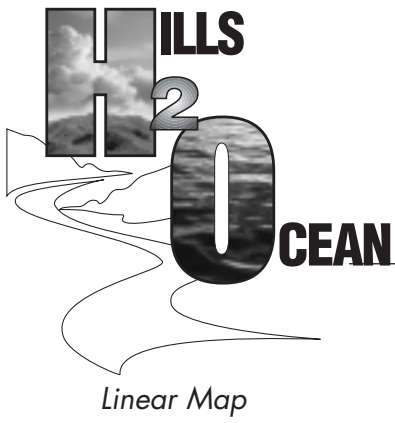


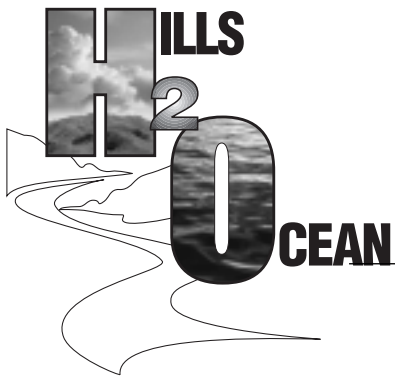


worksheets



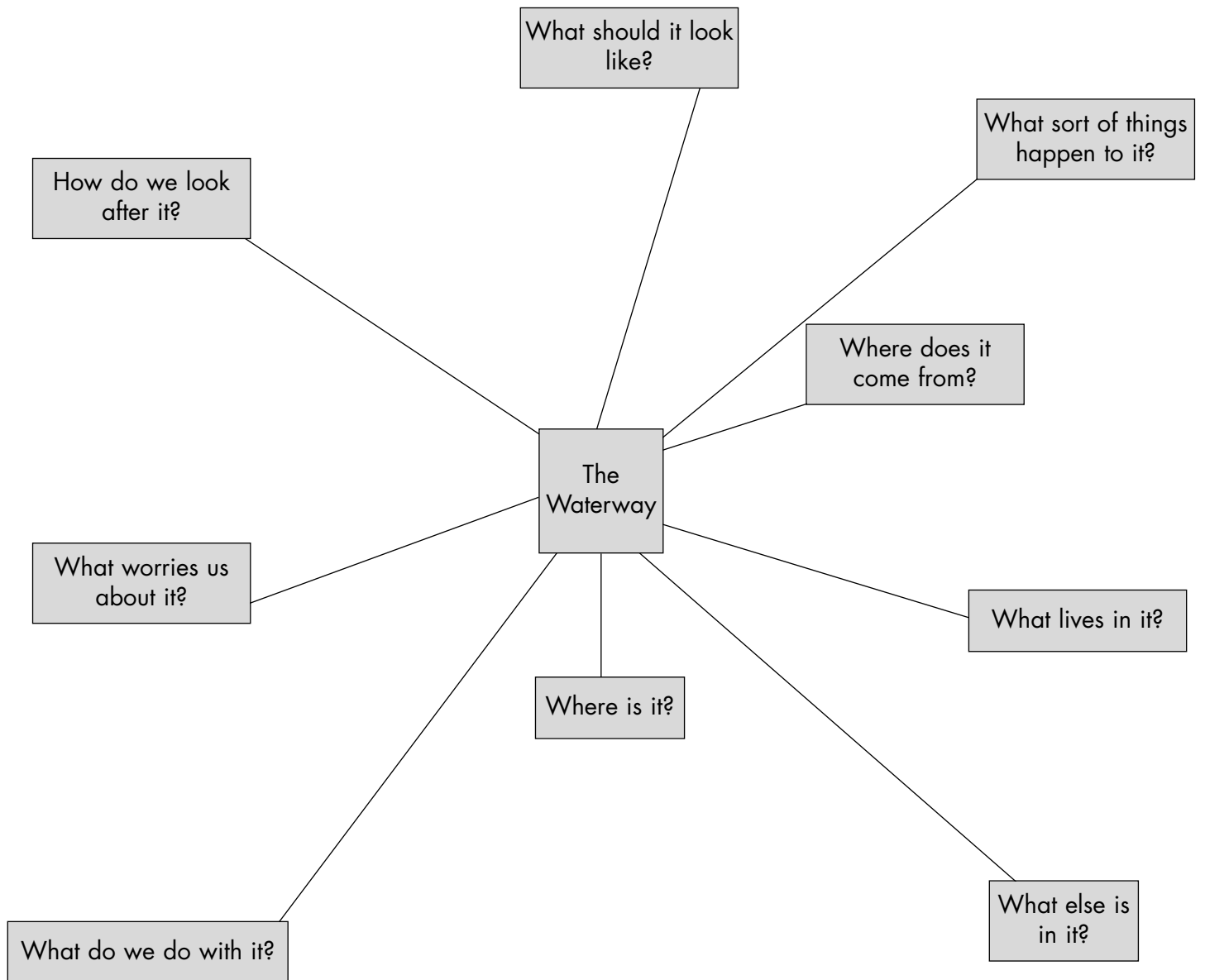
Name _____ Date _____

The Waterway
Write all you understand about each
of these headings



Mind Map

Name _____ Date _____



Unit 3 Go with the flow: Version 1

Distance timed	Time of stick over distance	Average time of stick over distance	Metres per second
	1	divide total by 3	divide number of metres by average time
	2		
	3		
m	Total secs.	secs.	m/sec

Unit 3 Go with the flow: Version 1

Distance timed	Time of stick over distance	Average time of stick over distance	Metres per second
	1	divide total by 3	divide number of metres by average time
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	3		
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Unit 3 Go with the flow: Version 1

Distance timed	Time of stick over distance	Average time of stick over distance	Metres per second
	1	divide total by 3	divide number of metres by average time
	2		
	3		
m	Total secs.	secs.	m/sec

Unit 3 Go with the flow: Version 1

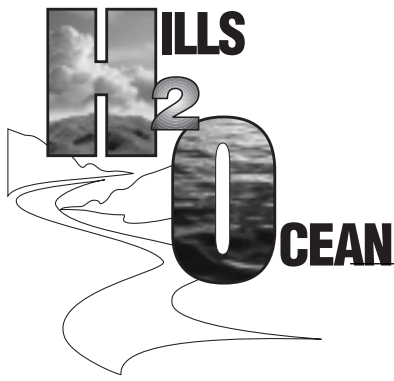
Distance timed	Time of stick over distance	Average time of stick over distance	Metres per second
	1	divide total by 3	divide number of metres by average time
	2		
	3		
m	Total secs.	secs.	m/sec

Unit 3 Go with the flow: Version 2

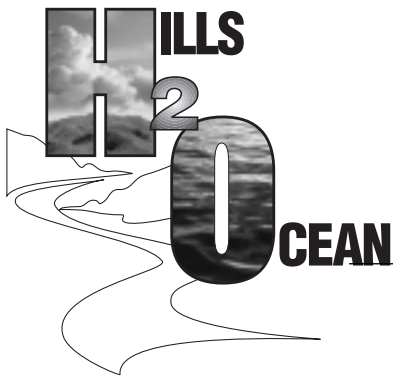
1. Width of waterway	2. Water depth A	3. Area of cross section over 10 metres	4. Time taken at surface second	5. Distance travelled in 1 B	6. Average speed of water C	7. Discharge of waterway
	1	<i>multiply width by average depth</i>		<i>divide 10 metres by average speed</i>	<i>divide by 2 because it's faster at the surface</i>	<i>multiply A by B</i>
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	Total		Total			
	Average		Average			
m	m	m ²	secs/10m	m/sec	m/sec	m ³ /sec
<i>To get discharge in litres per second, multiply C by 1000 litres/sec</i>						

Unit 3 Go with the flow: Version 2

1. Width of waterway	2. Water depth A	3. Area of cross section over 10 metres	4. Time taken at surface second	5. Distance travelled in 1 B	6. Average speed of water C	7. Discharge of waterway
	1	<i>multiply width by average depth</i>		<i>divide 10 metres by average speed</i>	<i>divide by 2 because it's faster at the surface</i>	<i>multiply A by B</i>
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	Total		Total			
	Average		Average			
m	m	m ²	secs/10m	m/sec	m/sec	m ³ /sec
<i>To get discharge in litres per second, multiply C by 1000 litres/sec</i>						



People in our group:			
Aim: This is your question.			
Hypothesis: We think ...			
Some ideas we have: Write about or draw two ways you could show this aim. Tick the one you choose.			
Equipment we need:			
Our plan: Write this out in steps.			
What we noticed: What did you actually see happening?			
What the results mean: The 'so what' statement.			
Success rating:	Amazing	OK	Well...



What lives where?

Activity

Refer to the background information section for information about how the numbers are given to the macroinvertebrates. The numbers below are averages of the group they refer to.

Count the number of each type of macroinvertebrate found in each section of the waterway you test. Compare the numbers at different places in the waterway, different waterways and stream beds, different flow speeds, etc.

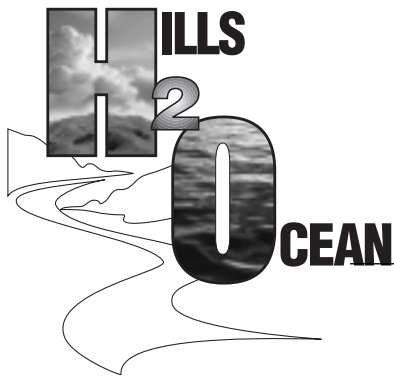
Macroinvertebrate Monitoring Sheet

Waterway Name: _____

Date: _____

Macroinvertebrates and average sensitivity scores.

mayflies	8	
stoneflies	8	
caddis larvae	6	
beetles	7	
craneflies	5	
water boatmen, back swimmers	3	
snails	3	
midges and worms	1	



How healthy is the water?

Key words:

- genus** family name for an animal (like your surname)
- species** personal name for an animal within a species (like your first name)
- health score** the quality of the water depending on the type of macroinvertebrates that live there.

Activity

To work out a **health score** for a waterway based on the macroinvertebrates that live in it;

- record each type (**genus**) of macroinvertebrate found. For example, if you find two different **species** of mayfly record them twice.
- add up the total score of all species identified
- divide the score by the number of types (genus) of macroinvertebrates
- multiply by twenty.

The higher the score, the better the water. You're aiming for 100 plus!

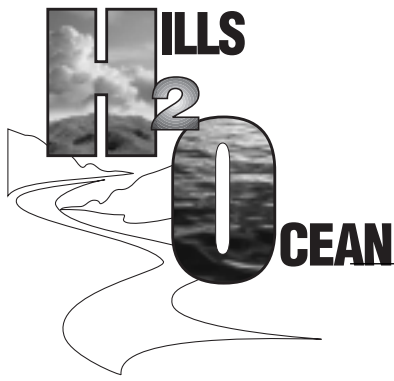
Macroinvertebrate Monitoring Sheet

Waterway Name: _____

Date: _____

Macroinvertebrates and average scores

mayflies	8	
stoneflies	8	
caddis larvae	6	
beetles	7	
craneflies	5	
water boatmen, back swimmers	3	
snails	3	
midges and worms	1	
Total Score ÷ Number of species x 20 = MCI Score		



waterway monitoring sheet 1

Waterway Name:

Date:

Physical Information

Site number:	1	2	3
Bed type			
Temperature			
Flow rate			

Macroinvertebrates

mayflies and stoneflies	8	
caddis larvae	6	
beetles and crane flies	6	
water boatmen, back swimmers	3	
snails	3	
midges and worms	1	



waterway monitoring sheet 2

Waterway Name:

Date:

Physical Information

Site number:	1	2	3
Bed type			
Temperature			
Colour			
Clarity			
Flow rate			

Macroinvertebrates

mayflies	8	
stoneflies	8	
caddis larvae	6	
beetles	7	
craneflies	5	
water boatmen, back swimmers	3	
snails	3	
midges and worms	1	