

RIVERS

Student's worksheets

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1.0. WHY ROCKS, LANDSCAPES AND RIVERS?

Look at them: Lluís, Gemma, Marc and Alba and their teacher are going to discover a river!

1. Look at this comic. Read the text in the bubbles.
2. Talk with a partner and find out one word in each bubble related to rocks and rivers.
3. Write the 5 words down.
4. Guess the meaning of the words from the pictures.
5. Are you interested in rocks and rivers? Why or why not?

I'm interested in I'm not interested in	Rocks Landscapes Rivers	because	I want I don't want	to be to study	Geology Geography Mineralogy Hydrology
I like I don't like					A fisherman, A sailor, a geologist



**1.1.A. BETTING GAME: WATER AND LANDSCAPES***Instructions*

1. Read the following sentences. Some of them are right and some are wrong. If you think the sentence is right, put a tick in the right column, if you think it is wrong, put a tick the wrong column.
2. Compare your answers with your partner; agree which can be the right one. Bet for your decision (10 / 20 / 30100) and write the number in the bet column.
3. If you are right, you get the number of points you have bet. If you are wrong, you lose the number of points you have bet.
4. Add the total losses and gains to reach a total. (gains minus losses). Who has the most points?

	RIGHT	WRONG	BET	LOSS	GAIN
Weathering is the effect of weather on rocks					
Erosion is the action of the water only					
Waterfalls are in the upper part of the river					
All the rivers end in the sea					
Estuaries and deltas are the same					
Cold and heat can break down the rocks					
Granite is harder than limestone					
The vegetation protects the soil					
Artificial lakes don't damage ecosystems					
Rivers are not useful for people					
TOTAL					

GRAND TOTAL:

HELP!!!

Look around, can you see some pictures with names on the walls? Can you understand every word now?

Use the words on the whiteboard to report and discuss your results with the rest of the class.

**1.1 B. HOMEWORK: WATER AND LANDSCAPES**

1. Fill in the gaps with the words provided below:

Weathering is the effect of on rocks

..... is the action of the water and wind on the surfaces

Waterfalls are in the of the river

Not all the rivers end in the.....

Estuaries and..... are not the same

..... can break down the rocks

----- is harder than limestone

The vegetation protects the.....

..... can damage ecosystems

..... are useful for people

WORD BANK:

Rivers, Granite, Sea, artificial lakes, Weather, deltas, soil, upper part, erosion, cold and heat,

2. Draw lines to match each word with its opposite:

cold

useful

hard

natural

to start

hot

useless

soft

artificial

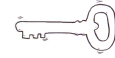
to finish



1.2. MISSING WORDS



1. Read the text.
2. Complete the missing words by looking at the keys.

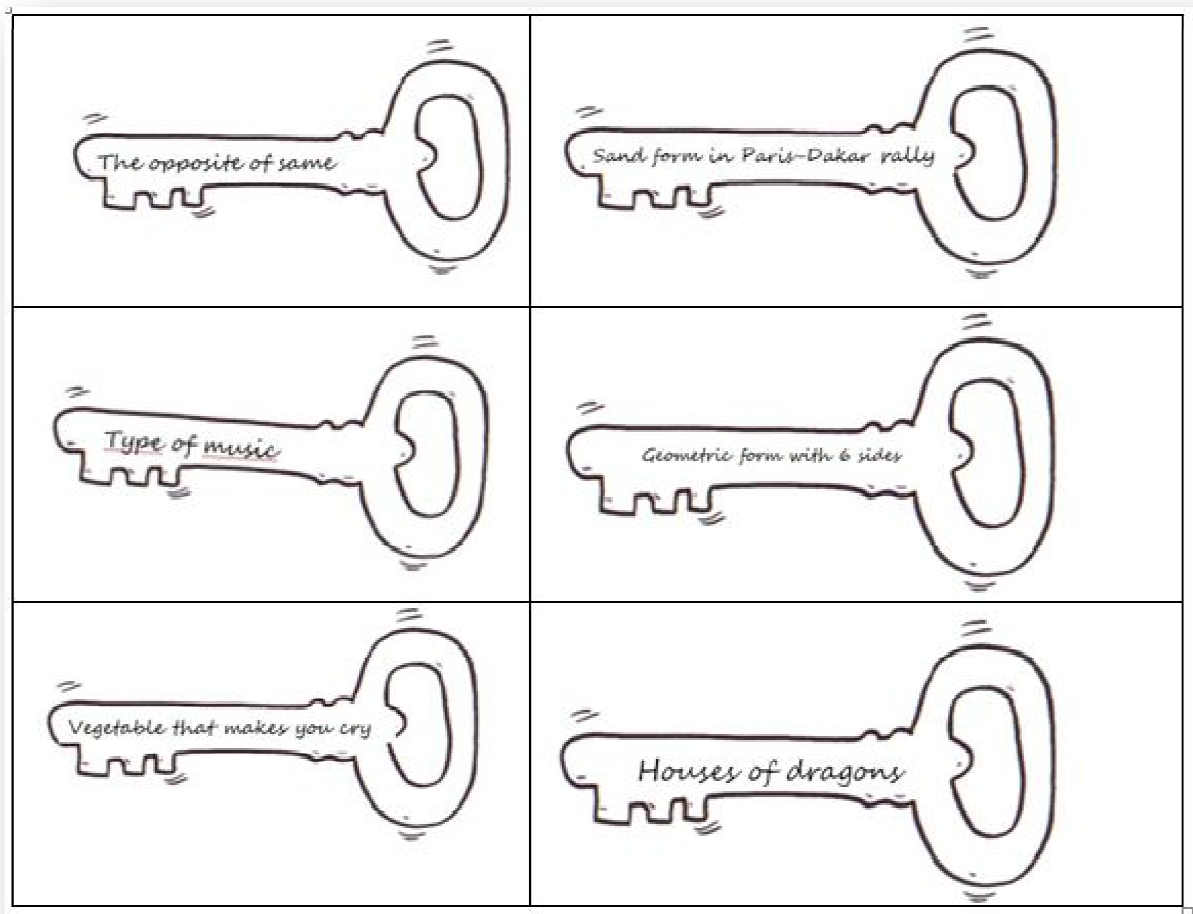


1.1. R..... LANDSCAPES






Different rocks are weathered in d..... ways, so each rock produces its own landscape:

- Granite landscape: tors, spheroid granite boulders, o.....-skin weathering.
- Sandstone landscape: angular forms, cliffs, d.....
- Basalt landscape: flows of lava, h..... pillars.
- Chalk and limestone landscapes (karsts): dolines, c..... caverns, holes, stalactites, swallow-holes...

3. Correct the mistakes.
4. Read the text again
5. Memorize the four types of landscapes and one or two particular forms in each.



**1. 3. CHANGING EARTH***Instructions:*

-  Watch the video carefully.
-  Make sure you know the meaning of weathering, erosion, transportation and deposition.
-  In pairs, discuss the meaning of any difficult or new words.
-  In pairs, fill in the table with the words in the bank
-  Ask your teacher the words you cannot understand.



GEOLOGICAL TIME	ADJECTIVES	GEOLOGICAL AGENTS	ACTIONS

To break apart, powerful, wind, large period, tremendous, gravity, shaping, millions of years, water, slow process, majestic, freezing.

HELP!!!

I think this means.....

I don't know what this means

Do you know what this means

How do you spell.....?

What does it mean.....?

What's the meaning of.....?

I cannot understand the word.....

**1.4. FILL IN THE GAPS****1.2. WHAT IS WEATHERING?**

Rocks are solid. However, wind, gases from the atmosphere, water, ice or living beings can break them down. **Weathering** is the breaking down of rocks into small particles such as sand and pebbles. It may be:

Mechanical weathering is the breaking down of rocks in smaller pieces by physical processes. **Freeze-thaw** is the fracture of rock by repeated frosts: water during the day and ice during the night, so the crack is enlarged. **Exfoliation** is due to the expansion in hot temperatures during the day, and contraction in cold nights. **Abrasion** rocks are broken down by particles such as sand carried by wind or water.

Chemical weathering is the breaking down of rocks by chemical reactions. Some rocks can react with water (hydrolysis), oxygen (oxidation) and with carbonic acid from the atmosphere (carbonation).

Biological weathering is the breaking down of rocks by living organisms, for example damage from tree roots, from animals walking or from machinery.

WORD BANK

Rocks day smaller Weathering night temperatures rain wind
 Mechanical tree Biological organisms pebbles animals oxygen
 Chemical reactions

CONCLUSION. To break down a rock it's necessary to have one of these 2 factors, contrast of temperatures and water, or both.

- Put the following types of weathering inside the cells according to the temperature and presence of water.
- Work with your partner and compare your results.

CONTRAST OF TEMPERATURES

		YES	NO	
WATER	YES			FREEZE-THAW
	NO			NONE
				EXFOLIATION
				BIOLOGICAL W.
				CHEMICAL W.



1.5. A. LOOP GAME: EROSION AND TRANSPORTATION

1. Instructions:

- Look at your card
- Be prepared to read the words if they are the answer to "Who knows..."
- Then read to the class the unfinished sentence on your card.
- The game finishes when all the cards have been read.



1.5. B. HOMEWORK: EROSION AND TRANSPORTATION



Fill in the gaps according to the Loop game cards.

1.3. WHAT IS EROSION?

E..... is the process of carrying away the small rock particles such as s..... and pebbles. The main a.....of erosion are: Water (in rivers, o..... waves and glaciers), wind , g..... and animals and machinery.

Rivers erode in four ways: **H**..... **action**, the force of the flowing water on the bed and banks. **Abrasion**, s..... carries by the river wear away the c..... (sandpaper effect). **Attrition**, stones collide becoming smaller and r..... **Corrosion**, acidic waters dissolve rocks made of c..... carbonate.

1.4. WHAT IS TRANSPORTATION?

The m..... carried by a river is called its **load**, depending on the size of the flood, the river can carry more or fewer materials, the maximum weight of load a river can carry is the **C**.....

The load is transported in four ways: **Traction**, s.....s are rolled along the river bed, **saltation**, stones bounce along the river bed, **suspension**, particles of silt and clay f..... in the water, **solution**, m..... dissolve in the river water.

Suspension and solution The process of carrying away small rock particles is.....	Erosion The small rock particles are.....	Sand and pebbles The main agents of erosion are.....
Water, wind, animals In how many ways do rivers erode?	In 4 ways The force of the flowing water on beds and banks is.....	Hydraulic action The sand carried by the river has a sandpaper effect called.....
Abrasion When the stones collide they become rounder and smaller, this process is called.....	Attrition The acidic water dissolve rocks made of.....	Calcium Carbonate The dissolution of carbonated rocks is called.....
Corrosion The material carried by a river is called its	Load The maximum load a river can carry is its	Capacity The load is transported in 4 ways- traction, saltation ...

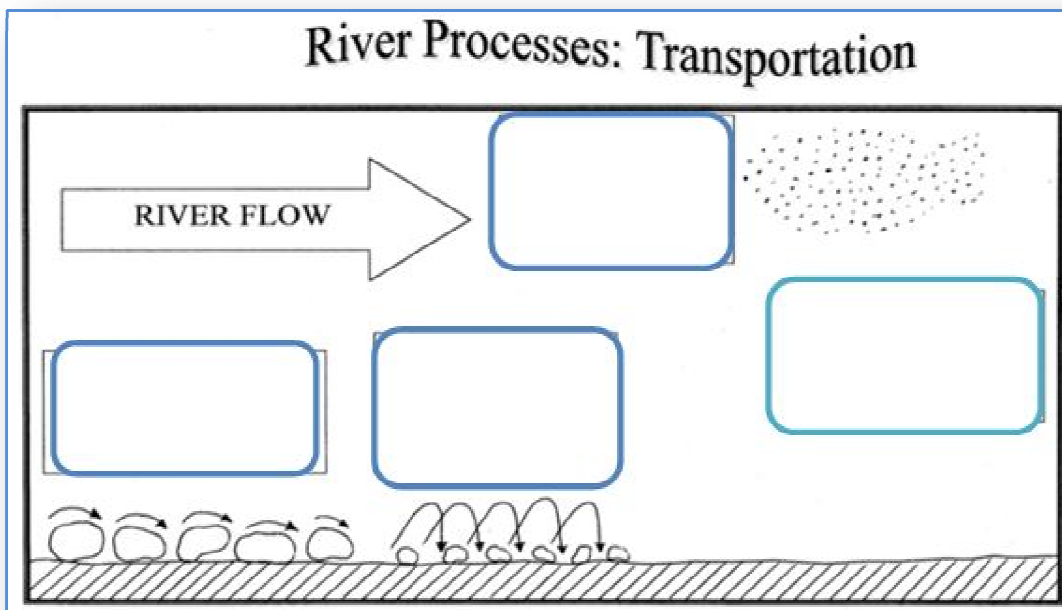
**1.5. C. REVISION WEATHERING, EROSION AND TRANSPORTATION**

A. Find 10 words related with weathering and erosion

L A N D S C A P E G C S N S L
 K W E N F N I W N A O A O E Y
 N O I S O R E I P S R A I N V
 V S O J S M R A B N R Y T O Q
 J O A X O E C L D C O N A T Y
 L W J L H I L D E E S C I S I
 M U C T T E W B B E I P L W O
 H J A Y D A M K B F O T O D G
 N E N N V D T Y E E N P F G U
 W F A X Z T D I W E P Z X C E
 X S H I N B O M O H P U E H I
 W W T I C W A Y G N R B P D R
 I I S U Q X S R L H K J H E S
 Y M Z L P B W C W Z I L D P O
 T L I P A M R J S X I Z J S S

CAPACITY, CORROSION, EROSION, EXFOLIATION, LANDSCAPE,
 PEBBLES, SALTATION, SAND, STONES, WEATHERING

B. Complete the diagram by adding the words:





C. MATCH THE WORDS WITH THE DEFINITIONS

1. WEATHERING	a) the process of carrying away the small rock particles such as sand and pebbles
2. FREEZE-THAW	b) the expansion in hot temperatures during the day, and contraction in cold nights
3. EXFOLIATION	c) stones collide becoming smaller and rounder
4. ABRASION	d) acidic waters dissolve rocks made of c..... carbonate.
5. EROSION	e) the breaking down of rocks into small particles
6. ATTRITION	f) Some rocks can react with water
7. CORROSION	g) particles of silt and clay float in the water
8. HYDROLISIS	h) sandpaper effect
9. BIOLOGICAL WEATHERING	i) Minerals dissolve in the river water.
10.SOLUTION	j) the fracture of rock by repeated frosts

**1.6. A. ORDER THE PIECES OF THE TEXT***Instructions:*

1. Read the piece of paper with part of one text
2. Some students have the same part as you.
3. Walk around and find 5 students with different parts of the text
4. Are you in a group of 5? Everyone has a different part of the text? Now order the text!
5. Read the text aloud and compare with other groups. Do you have the same result?



I have got Have you got	one paragraph one part	that ends with that finishes with
I think that In my opinion I believe that	this comes	before after
	you are right you are wrong	



1.6.B. HOMEWORK: DEPOSITION



- Read the text and answer the questions:

1.2. WHAT IS DEPOSITION?

In places where the river slows down, it loses energy and deposits some of the material it is transporting inside bends of meanders, and middle and lower course of the river. Heaviest materials are deposited first and sand and clay are deposited last. Minerals in solution become salt in the sea. Depending on their size, the particles can be classified as: Boulders, Cobbles, pebbles, sand, silt and clay.

1. What happens when the river slows down?
2. Where are the materials deposited?
3. Which material is deposited first and which material last?
4. How are the particles classified?
5. What are the six types of particles?



1.7. BE A GODFATHER OR A GODMOTHER!

Now, you are going to be the GODFATHER or GODMOTHER of one word. You have to protect the word against the wrong uses, spellings, etc, you have to make sure that your peers understand YOUR word and that they use and spell it properly.

Choose a word from the list below. Write your word on a card (with a drawing if you like) and on the other side write the definition, according to the text. Be a good godfather or godmother!

Listen to a partner read his/her definition to you, then write the word which describes their performance. Tick the table below:

Excellent: You don't hesitate

Good: you need some help

Well: you answer, but you need be helped, with clues

Need more work: you can't find the word

NAME.....		DATE.....		
WORD	EXCELLENT!	Good, but keep trying!	Good, but you can improve!	Need more work
1. Agents erosion				
2. Basalt landsc.				
3. Biological W.				
4. Boulders				
5. Capacity				
6. Chemical w.				
7. Conglomerate l.				
8. Deposition				
9. Erosion				
10. Granite landsc.				
11. Hydrolysis				
12. Load				
13. Mechanical W.				
14. Oxidation				
15. Pebbles				
16. Saltation				
17. Transportation				
18. Weathering				



1.8. READING THE LANDSCAPE

1. Instructions

- Work in your group of 5 students
- Each one in the group has an assigned role: reporter, organizer, harmonizer, and planner and material manager.
- Look at your picture of a rock landscape.
- Discuss and fill in the table below
- Describe your landscape to the rest of the class. They guess which landscape is described.



PICTURE NUMBER	MAIN ROCK		
CLIMATE (if relevant)	SHOULD BE PROTECTED?		
WEATHERING	CHEMICAL	MECHANICAL	BIOLOGICAL
EROSIVE AGENT			
USE	ECONOMIC	TOURISM	GEOLOGICAL INTEREST



1.9. SELF ASSESSMENT

You should be able to distinguish between weathering and erosion and provide examples of each.

Can you?

http://qldscienceteachers.tripod.com/junior/quizzes/geology_erosion.html

http://www.softschools.com/quizzes/science/weathering_and_erosion/quiz448.html

**2.1 LISTEN TO A SONG**

1. Listen to the song, tick the words you can hear:

<http://www.youtube.com/watch?v=2VS3s3NnNI8&feature=related>

mountains	night	river	deep	faith	jungle	
doubt	cross	night	desert	streams	wide	
shore	opposite side	night	valley	fair	ocean	night
truth	night	land	dreams		night	soul

Listen to the song again and try to fill in the gaps with the words from the box above:

"River of Dreams" Billy Joel

In the middle of the
 I go walking in my sleep
 from the of.....
 To the so deep
 I must be lookin' for something
 Something sacred I lost
 But the river is
 And it's too hard to.....
 even though I know the river
 is.....
 I walk down every evening and stand
 on the
 I try to cross to the
 So I can finally find what I've been
 looking for
 In the middle of the
 I go walking in my sleep
 Through the of.....
 To a river so deep
 I've been searching for something
 Taken out of my

Something I'd never lose
 Something somebody stole
 I don't know why I go walking at night
 But now I'm tired and I don't want to
 walk anymore
 I hope it doesn't take the rest of my life
 Until I find what it is I've been looking
 for
 In the middle of the
 I go walking in my sleep
 Through the of.....
 To the river so deep
 I know I'm searching for something
 Something so undefined
 That it can only be seen
 By the eyes of the blind
 In the middle of the(break)
 I'm not sure about a life after this
 God knows I've never been a spiritual
 man

Baptized by the fire, I wade into the
 river
 That is runnin' through the promised

 In the middle of the
 I go walking in my sleep
 Through theof.....
 To the river so deep
 We all end in the
 We all start in the
 We're all carried along
 By the river of.....
 In the middle of the

2. Classify the words according to how they are related with the words below:

RIVERS	LANDSCAPES	ABSTRACT WORDS



3. Compare the answers to exercises 1, 2 and 3 with a partner. Try to agree.
4. Read the complete lyrics and correct your mistakes.

"River of Dreams" Billy Joel

In the middle of the night	something	(break)
I go walking in my sleep	Taken out of my soul	I'm not sure about a life after
From the mountains of faith	Something I'd never lose	this
To the river so deep	Something somebody stole	God knows I've never been a
I must be lookin' for	I don't know why I go walking	spiritual man Baptized by the
something	at night	fire,
Something sacred I lost	But now I'm tired and I don't	I wade into the river
But the river is wide	want to walk anymore	that is runnin' through the
And it's too hard to cross	I hope it doesn't take the rest	promised land
even though I know the river is	of my life	In the middle of the night
wide	Until I find what it is I've been	I go walking in my sleep
I walk down every evening and	looking for	Through the desert of truth
stand on the shore	(in the middle of the night	To the river so deep
I try to cross to the opposite	I go walking in my sleep	We all end in the ocean
side	Through the jungle of doubt	We all start in the streams
So I can finally find what I've	To the river so deep	We're all carried along
been looking for	I know I'm searching for	By the river of dreams
In the middle of the night	something	In the middle of the night
I go walking in my sleep	Something so undefined	
Through the valley of fear	That it can only be seen	
To a river so deep	By the eyes of the blind	
I've been searching for	In the middle of the night	

5. Did you like this song? If yes, why? If not, why?



I like I don't like	the whole song the lyrics the rhythm this kind of music
I think this song is	a good way to start too long too spiritual difficult to follow nice



2.2. RUNNING DICTATION

- 1) First watch a short video:
<http://www.youtube.com/watch?v=hJftAYYXpVw>
- 2) Report orally to the class some things you have seen in the video
- 3) Now, make groups of 3 students
- 4) Decide who is student A, student B and student C.
 - a. Student A is going to read sentences 1, 4, 7
 - b. Student B, sentences 2, 5, 8
 - c. Student C, sentences 3, 6, 9.
- 5) If you are student A you start: walk around the class looking for sentence n. 1, read the sentence, memorize it and dictate it to the other two students in your group.
- 6) Student B, do the same with the sentence n. 2, then student C with sentence n. 3.
- 7) Go on until you have dictated the 9 sentences.



1. Discharge
2. (m³/s).
3.
- tributaries channel
4. width depth
.....
5. factors
6. relief,
.....
7. Velocity
8. m/s:
.....
9. hydrograph

So, you have completed the text. ***Congratulations!***

- 8) Watch the video again.
- 9) If the teacher asks you, answer orally the questions about the text, using the key words.
Pay attention because these are the same questions you'll have as homework!!!!

**2.2.A. HOMEWORK-(difficult) DISCHARGE AND VELOCITY**

- ▶ 1. What is the discharge of a river? How is it measured?

- ▶ 2. Which river features increase from the source to the mouth?

- ▶ 3. What factors affect the discharge?

- ▶ 4. What is velocity and how is it measured?

- ▶ 5. What does a Hydrograph show?

2.2. B. HOMEWORK (easy) DISCHARGE AND VELOCITY**TRUE OR FALSE?**

1. The discharge of a river is its speed.
2. Discharge decreases from the source to the mouth
3. The land use is a factor that can affect the discharge of a river
4. Velocity is the speed of the river; it's measured in m^2/s .
5. A hygrometer shows the changes in river discharge over time.



2.3. LET'S DRAW A HYDROGRAPH!



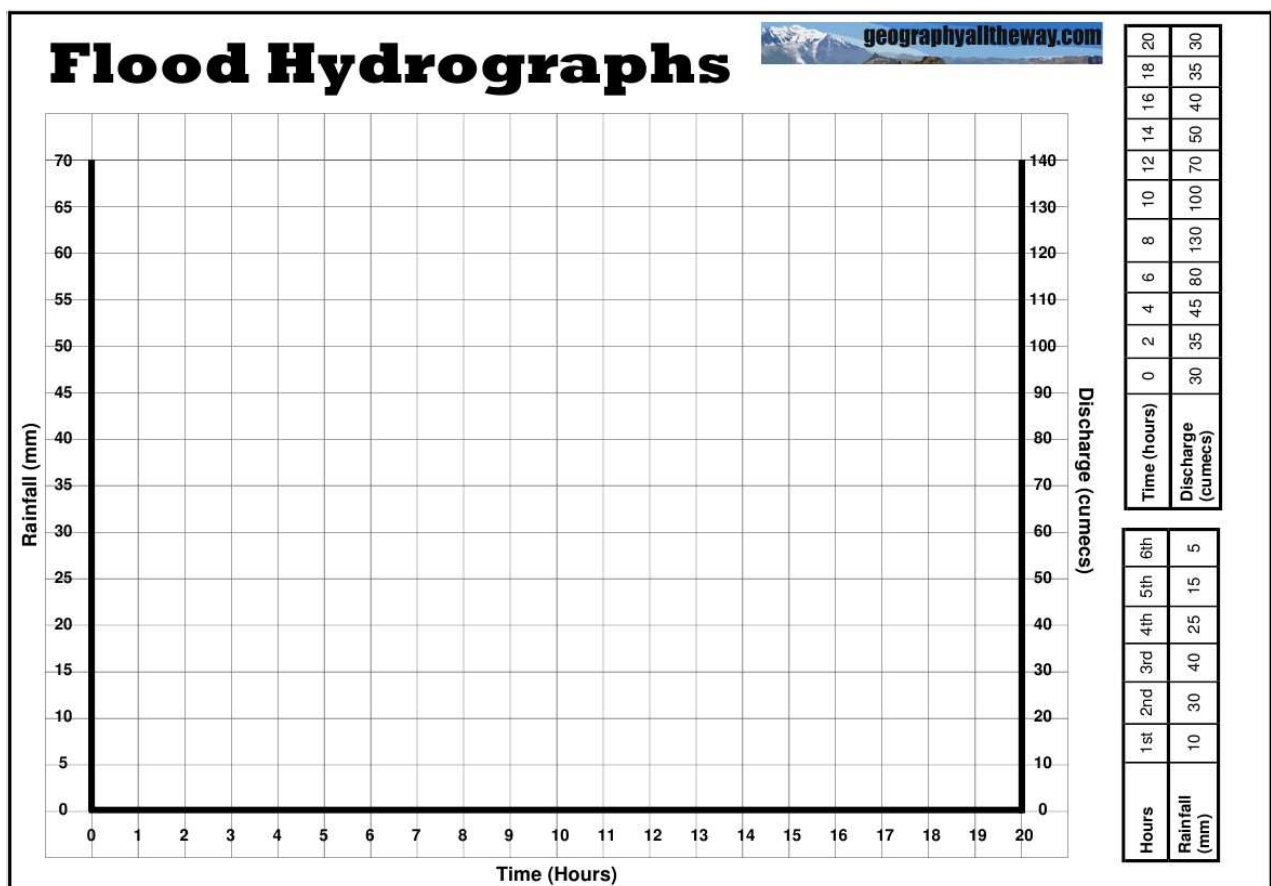
1. Read the following text and listen carefully to the teacher's explanations:

After a rainstorm, the water level in a river rises, dropping back to normal once the storm is over. A **Hydrograph** is a graph showing the flow in a river after a storm. It shows two variables: rainfall and river discharge.

Because rainwater takes time to flow overland and through the ground to the river, there is a delay or **lag time** for the flow to rise to its peak.



2. Read the data at the side of the graph.
3. Draw the hydrograph using bars for the rainfall and a line for discharge.



4. Complete these sentences:

If it heavily, the will increase

When themelts, the can increase suddenly



5. Answer the following questions:

- a) What information does the horizontal axis of the graph show?
- b) In which units is the rainfall expressed?
- c) And the Discharge?
- d) Which day had the most rainfall?
- e) When does the discharge peak?
- f) How long is the **lag time**?
- g) Why is the data expressed differently for rainfall and for discharge?
- h) If the water level was dangerous, what could people do to prevent problems? Give three bits of advice.
- i) Why are Hydrographs very useful for local people?

Use the helping table to answer questions h) and i)



I think it

I don't think it

I think they

I don't think they

They are useful because they

will

could

should

can help

might indicate

rise

fall

peak

.....

suddenly

steeply

gently

**2.4. DISCOVERING A RIVER**

Gemma is a second year student at a secondary school in Sheffield. She is travelling with her class through Catalunya on an exchange, to find out about the river Ter. She likes to take notes about everything, but she is not very tidy and she has mixed up the notes of the different days.

Can you help her to order her notes?



Work in groups of 6 students.

1. Each of you has 6 different explanations corresponding to 6 different parts of the trip.
2. Order the text.
3. Fill in the gaps and label the diagram below:

LONG OF A RIVER

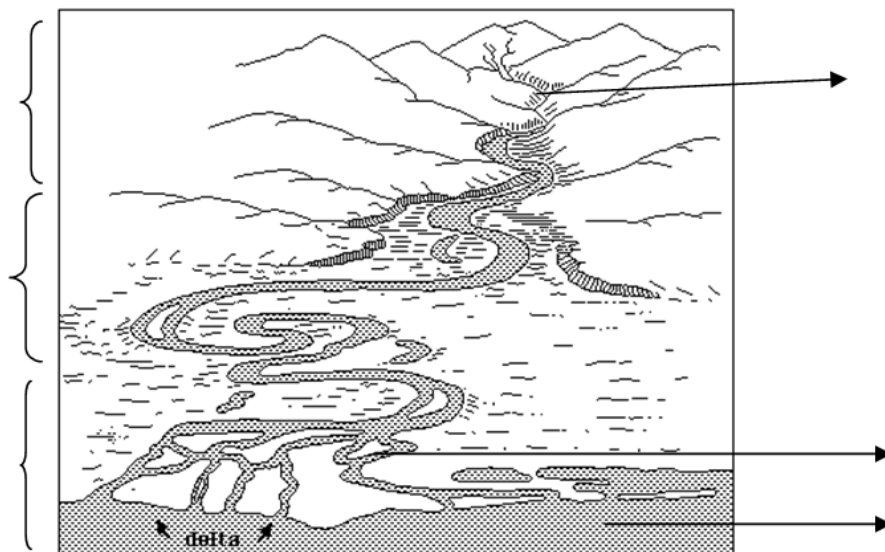
The long of a river is a cross-section from its to its

The course of a river can be divided into 3 main sections: course, course and course.

Rivers begin flowing in areas and flow downwards to areas

Upper, source, middle, profile, highland, mouth, lowland, profile

Diagram 2.6i A Model of a River Valley





2.5. VALLEY CROSS-PROFILES

The shape of a river valley changes between the source and the mouth.

Look at the pictures below:

1



2




3



Work in pairs

- Describe to your partner the pictures of the valleys 1,2 and 3 using the key words.
- Write at least 3 sentences for each picture
- Fill in the table below:

	A. UPPER VALLEY	B. MIDDLE VALLEY	C. LOWER VALLEY
PICTURE N.			
SHAPE			
SIDES			
EROSION			
BEDLOAD			

KEY WORDS

Make sure you understand these words:

Erosion/deposition

Narrow/wide

Angular/round

V-shaped/U-shaped

Steep/gentle/flat

Downwards/sideways

Boulders/cobbles/pebbles

Sand/silt/clay



4. Now, imagine that you are a drop of rainfall water, falling in the very source of the river. Explain your journey to your partner; explain him/her how you move, places you pass, rocks or sediments you find.

Use words from the following lists:

TO LIST	VERBS	ADVERBS	THINGS	ADJECTIVES
First Next After Secondly Then Again finally	I come out I flow I run I swirl I fall I foam I end I reach	Quickly Slowly peacefully smoothly roughly	Rocks Pebbles Mountains Valley Rapid Waterfall canyon Meander Sand	V-shaped Beautiful Quiet Deep Steep



1.
2.
3.
4.
5.
6.
7.
8.
9.
10.



2.6. LET'S PLAY: AIRLINE AISLES

1. Get into teams of 10 or 12 (the same number of words chosen)
2. Sit in the chairs in lines.



3. One of you stands at the front of the teams.
4. Say one definition for a key word.
5. You, the student in the front seat of the line for your team, try to call out the correct answer in the time given, to get one point for your team.
6. You can ask only the student sat just behind you
7. You have a limited time to answer (30-40 s.)
8. The person in the front seat for that round then moves to the back seat. Everyone else moves forward one seat. So the front row now has a new seat of competitors. Return to step 3 above.



2.7. BE A GODFATHER OR A GODMOTHER!

Now, you are going to be the GODFATHER or GODMOTHER again. Do you remember how to do it? (See activity 1.7.) Choose a word from the list below. Write your word on a card (with a drawing if you like) and on the other side write the definition, according to the text. Be a good godfather or godmother!



Listen to a partner read his/her definition to you, then write the word which describes their performance. Tick the table below:

Excellent: You don't hesitate

Good: you need some help

Well: you answer, but you need be helped, with clues

Need more work: you can't find the word

NAME.....		DATE.....		
WORD	EXCELLENT !	Good, but keep trying!	Good, but you can improve!	Need more work
1. Bedload				
2. Condensation				
3. Discharge				
4. Groundwater				
5. Highland				
6. Hydrograph				
7. Infiltration				
8. Lower course				
9. Lowland				
10. Middle course				
11. Mouth				
12. Precipitation				
13. Rainwater				
14. River long profile				
15. Source				
16. Upper course				
17. Velocity				
18. V-shaped valley				



2.8. RIVER-PROCESSES. SELF-ASSESSMENT

AT THIS POINT IN YOUR LEARNING ABOUT RIVER CONCEPTS YOU SHOULD BE ABLE TO ANSWER SOME QUESTIONS, BUT ARE YOU?

Revise the content for Running water by looking at "explore Key terms in the following website:

http://wps.prenhall.com/esm_tarbuck_escience_11/32/8320/2130030.cw/index.html

NOW, YES! YOU MIGHT KNOW EVERYTHING! DO YOU? TEST YOURSELF

I CAN IDENTIFY AND DEFINE (circle)

1.	Parts of the hydrologic cycle	Yes	quite well	not very well
2.	long profile of a river	Yes	quite well	not very well
3.	Upper course	Yes	quite well	not very well
4.	Middle course	Yes	quite well	not very well
5.	Lower course	Yes	quite well	not very well
6.	V-shaped valley	Yes	quite well	not very well
7.	Steep valley	Yes	quite well	not very well
8.	Highland	Yes	quite well	not very well
9.	Lowland	Yes	quite well	not very well
10.	Discharge	Yes	quite well	not very well

I HAVE IMPROVED:

1.	my writing skills	a lot	quite	not much
2.	my listening skills	a lot	quite	not much
3.	my reading skills	a lot	quite	not much
4.	my spoken English	a lot	quite	not much

**3.1. RIVER-BASIN**

1. Read the text below carefully:

A **river basin** is an area drained by a river and its tributaries. Other river features include:

Watershed is an area of higher land separating two drainage basins.

Source is the place where a river begins.

Tributary, a smaller river joining a large river

Confluence is the place where two rivers join together.

Mouth, the place where a river enters a lake or the sea

Streams, creeks or brooks are the names given to small rivers

Drainage pattern is the way Rivers are arranged on the landscape, the most common are dendritic, parallel or radial.



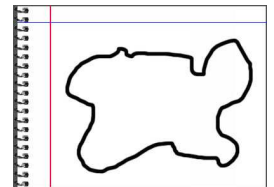
2. Look at this map; the blue shows the river-basin of the Trent River. According to the text, identify these features in the map:

Source, mouth, one tributary, one confluence and the watershed

3. Which drainage pattern does the river Trent show?
4. Let's calculate the surface of this huge river-basin: You'll need: a centimeter grid paper, a calculator

- A. Draw an irregular form on one paper. How can you calculate the estimated surface?
 B. Do it!
 C. Explain the way you did it with a partner
 D. Share your ideas to the class
 E. Watch the video:

http://www.dailymotion.com/video/xeajqi_how-to-calculate-areas-of-irregular_tech



- F. Now you can calculate the area of the river basin in km^2 .
 G. Convert the results in miles^2 and in Ha, by using the table provided:

METRIC		IMPERIAL
1 Km^2	100 ha	0.3861 miles^2
1 ha	10,000 m^2	2.4711 acres

IMPERIAL		METRIC
1 mile^2	640 acres	2.59 km^2
1 acre	4840 yards^2	4046.9 m^2



3.2. WATERFALLS AND RAPIDS

Alba and Marc are two Catalan teenagers; they are talking about their past holidays.

1. Read their conversation aloud:

Alba: Last August I visited Niagara Falls in Canada!



Marc: Lucky you! But I think they are Cataracts and they are in the USA

Alba: It's the same! Cataracts, cascades, waterfalls...

Marc: I visited Ordesa and there was a waterfall as well, called Horsetail.

Alba: I thought that in Ordesa there were rapids...

Marc: So, do you think cascades, rapids, cataracts and horsetails are different things?

Alba: Maybe they are a little bit different...

Marc: Let's surf in the web!

Alba: (to the teacher) May we look for waterfall information in the internet?

Teacher: Yes, you can find good information from books and in internet.

2. Read the text in the box. The diagram can help you to understand some difficult new words:

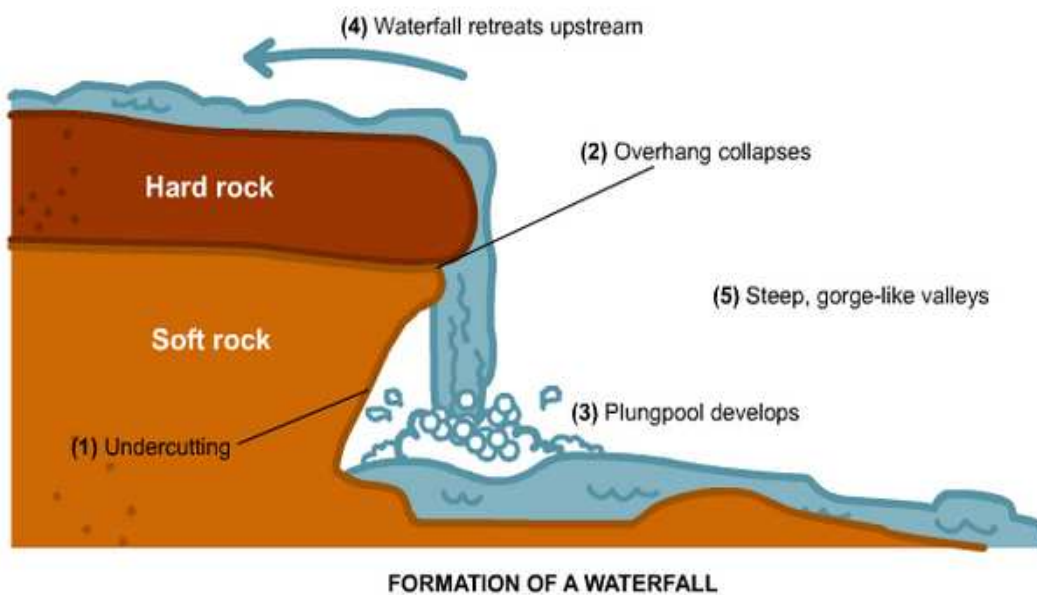
A **waterfall** is a place on a river where water flows vertically. Waterfalls are a common feature in the upper course of many large rivers. A waterfall occurs when a layer of hard resistant rock lies over a layer of softer rock, which will erode more easily.

Rapids are a series of small waterfalls; these can be found where a waterfall has retreated, the hard rock layer is undercut causing the waterfall to move upstream. They are found where there are alternative bands of hard and soft rocks.



3. Looking at the diagram order these 5 sentences:

<i>a</i>	It leaves a steep sided gorge as it retreats	
<i>b</i>	The rocks collapsed fall into the plunge pool, this causes more erosion of the soft rocks and a deeper plunge pool.	
<i>c</i>	As water falls, it erodes the softer rock much quicker therefore it undercuts the harder rock.	1
<i>d</i>	The hard, overhanging rock eventually collapses.	
<i>e</i>	This goes on continuously and causes the waterfall to move upstream.	



4. Go to the following website and write a description of these 4 types of waterfalls.

http://worldwaterfalls.com/waterfall_types.php

CASCADES HORSETAIL RAPIDS CATARACTS

5. Work in pairs and look for famous world waterfalls in the following website:

<http://www.world-waterfalls.com/>

6. Make cards for 4 waterfalls, with the name, the country and the height in English system (feet) and in metric system (meters).



NAME:

COUNTRY:

HEIGHT: *feet*

HEIGHT: *meters*

NAME:

COUNTRY:

HEIGHT: *feet*

HEIGHT: *meters*

NAME:

COUNTRY:

HEIGHT: *feet*

HEIGHT: *meters*

NAME:

COUNTRY:

HEIGHT: *feet*

HEIGHT: *meters*



3.3. MIDDLE COURSE: FLOODPLAINS





All the rivers in the world are different but, in their middle course there are special features that make this part of the river very useful for agricultural purposes: these are **floodplains**, **meanders**, **ox-bow lakes** and **fluvial terraces**.



1. Watch the video about the middle course of a river and then listen to the teacher's explanations.
<http://www.bbc.co.uk/scotland/learning/learningzone/clips/4312/>
2. Make groups of 3 students. One student is the reader, another one, the organiser and the last one, the speaker.
3. Each group has a table with four pictures and the rest of the cells empty (for each picture there is a name, a definition, a process of formation and a possible use of the river).
4. You have got also four envelopes with:
 - The 4 Key words
 - 1,2,3,4. The 4 definitions
 - A,B,C,D the 4 process of formation
 - a,b,c,d, the 4 river uses
5. Match the 16 cards with the 4 pictures. You have 20 minutes.
 - The **organizer**: has the envelopes, the empty table and the bluetag (or Velcro). Decide how to start and watch the time
 - The **reader**: reads the cards and discusses and decides the order with the group.
 - The **speaker**: reports the results to the rest of the class, and answers possible questions from the other groups or from the teacher.
6. Orally, compare and correct the results of the different groups.
7. Look at the completed tables.
8. Keep them for the homework!





<p>meander</p>	<p>1.</p> <p>They are large bends in a river, which normally occur in the middle and lower courses where the water is moving more slowly. The river forms S-shaped bends.</p>		<p>A.</p> <p>As the river enters the middle course the gradient of the river becomes less steep. Lateral erosion becomes more important and the river starts to swing from side to side</p>	<p>a.</p> <p>They can be used for canoeing</p>
<p>fluvial terrace</p>	<p>2.</p> <p>They are elongated deposits of fluvial sediments that border the sides of floodplains and fluvial valleys all over the world. They lie parallel to and above the river channel and its floodplain.</p>		<p>b.</p> <p>They are due to changes in elevation or changes in the base level or in the volume of the fluvial flow (changes in climate).</p>	<p>B.</p> <p>Good location for settlements because they are above the flood level. Often there is extraction of gravel and sand for building. Many prehistoric sites are found here.</p>
<p>ox-bow lake</p>	<p>3.</p> <p>It's horseshoe-shaped and often temporary. It's formed when a meander of a river is cut off from the main channel.</p>		<p>c.</p> <p>Over time, the loop of a meander becomes tighter. If it becomes too tight, the river may cut across the neck of the meander to form a straight river channel.</p>	<p>C.</p> <p>Large reservoir of water and nutrients for orchards and vegetable plots</p>
<p>floodplain</p>	<p>4.</p> <p>It's a flat area around a river that regularly floods. Each time a river floods, silt (alluvium) is deposited here.</p>		<p>d.</p> <p>They are due to a combination of erosion and deposition on either side of a river</p>	<p>D.</p> <p>They are very fertile and good for farming and agriculture, often highly populated, and farming employs many people.</p>

**3.3. B. HOMEWORK. MIDDLE COURSE: FLOODPLAINS**

1. Relate the following concepts with the features of the river:

Canoeing S-shaped bends Lateral erosion vegetable plots
 fluvial sediments flat area changes in climate
 neck of the meander extraction of gravel horseshoe-shaped

meander	fluvial terrace	ox-bow lake	Floodplain



2. Write five sentences for five key words.



3. Draw the formation of an ox-bow lake in three steps:

1	2	3
The river starts swinging	The loop of the meander becomes tighter	The river takes a straighter and faster course

**3.4. WHERE THE RIVER ENDS, THE BEACH STARTS**

Do you remember Lluís, Gemma, Alba, Marc and their teacher?

When they started their journey along the river they were not very enthusiastic, but finally they reached the mouth of the river. They have been discovering interesting places and now they are wiser than before. They are a little bit lost.

Can you place them exactly in the right place in the Ebre's Delta?

1. Work in pairs. Cut down the images and place them to the right place on the Delta picture.
2. From the sentences in the speech bubbles, write an explanation for the word Delta.
3. Compare with another couple of peers.
4. Report orally to the class.
5. Find a definition in a book and compare with yours.
6. Look for the definition of estuary, as well

YOUR DELTA DEFFINITION

OTHER DELTA DEFFINITION

DICTIONARY: DELTA

DICTIONARY: ESTUARY

Write down 2 similarities and 2 differences between deltas and estuaries

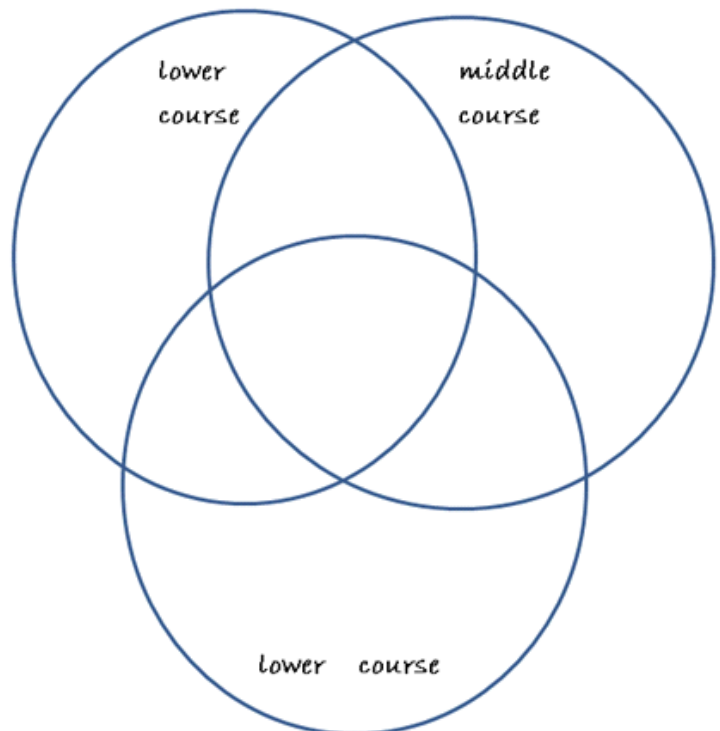
similarities	differences
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**3.4. B. WHERE CAN WE FIND...?**

Alba, Gemma, Marc and Lluís have finally arrived to the mouth of the river, they are tired but happy, as well, because now they recognise almost every feature of the river: landscapes: valleys, rocks, sediments, meanders... And what about you? Can you recognise the river landscapes?

1. Read all the river features carefully. Some of them are in the upper course, others in the middle course and others in the lower course; some of them can be found in 2 of these parts and others all along the river.
2. Sort the words into the diagram
3. Compare with a partner.

- 1) Waterfalls
- 2) Meanders
- 3) Tributaries
- 4) Ox-bow lakes
- 5) Pebbles
- 6) Sand
- 7) Boulders
- 8) Delta
- 9) Flood plain
- 10) V-shaped valley






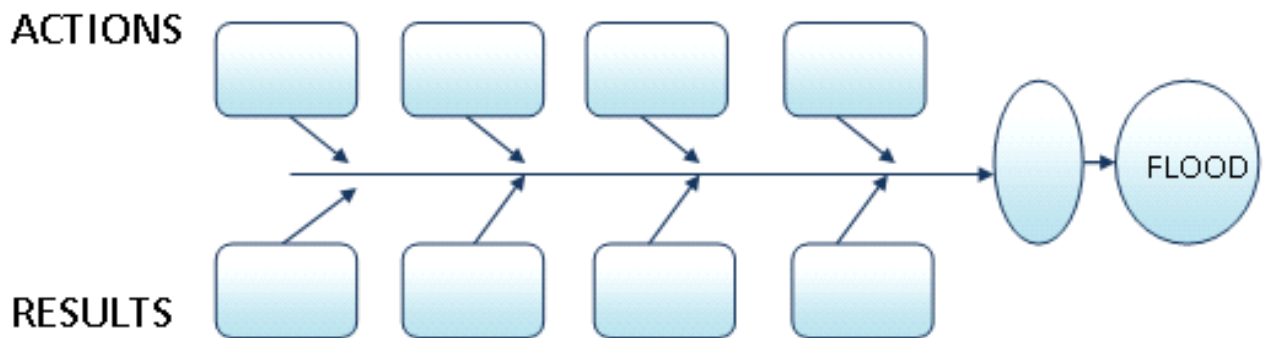
3.5. FLOODINGS

Sometimes rivers cause problems. If there is a rapid increase in discharge over a short period of time a FLOOD may happen, then the river overflows its bank.

- a) Work in pairs; think about facts (caused by people or by natural causes) that can increase river discharge. Make a list of causes:

1. 
2.
3.
4.
5.
6.
7.

- b) Report your ideas to the class.
- c) Working in plenary, classify all these causes into actions and results (e.g. ACTION: deforestation, RESULT: less plants absorbing water).
- d) Fill in the Diagram:



- e) Flood causes extensive damage. Think about the consequences of a flood and fill in the next diagram:



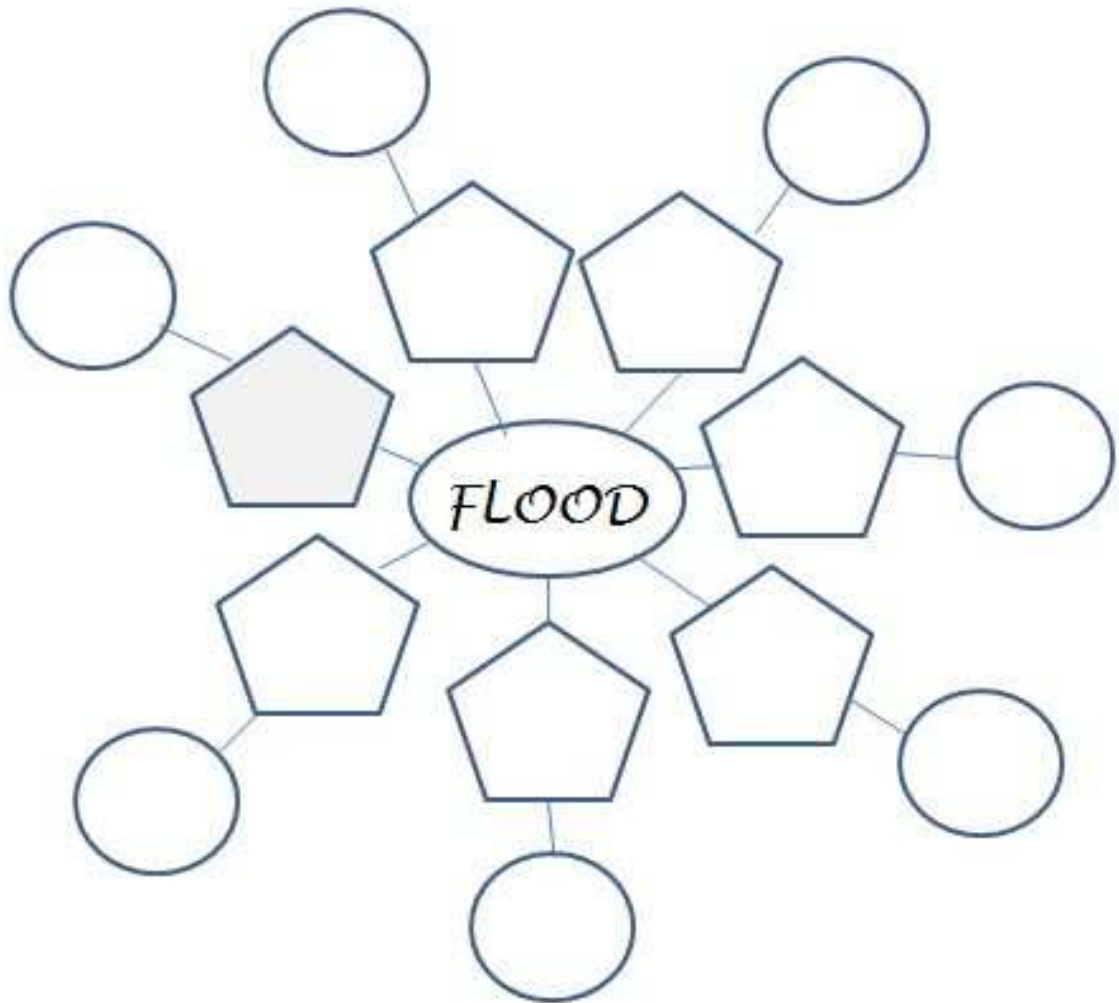
Write one consequence in each bubble



Write one example in each star (you can finish this part as a homework by surfing internet)



CONSEQUENCES OF RIVER FLOODS



f) Write three sentences explaining your ideas about the causes and consequences of Floods Use the table below. EXAMPLE: If a flood occurs people may be unable to go to work.

1.
2.
3.

If it's a flood	crops	will	die
If a flood happens	people	could	be broken
After a flood	cars	may	be lost
If the water level increases	animals		be sunk
In case of floods	ships		drown
	homes		

HOT QUESTION TO DISCUSS IN PAIRS:
 Could FLOODS produce benefits for people?

**3.6. RIVER USES**

Can you imagine life in Catalonia without the river Ebre?
Do you think your life depends on the river?



1. Watch a short video from Youtube, showing how our ancestors used the river Ebre or tributaries to transport logs of wood tied with branches to form a "rai"(raft). The men who did this job were called "raiers" (raftsman)

http://www.youtube.com/watch?v=mckFrdI_x74&feature=player_embedded



2. Work in pairs and write 5 uses of the river. Think of the river next to your house (even if it's a creek), then of the main river in your province, and then of the main river in your nation.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____



Individually, read a text about the uses of the river.

NogueraPallaresa

This area of the Catalan Pyrenees is a hot spot of Catalonia water sports, and a mecca for European rafters.







The Rafting and Kayaking centre for the Pyrenees, and Europe, is located in the NogueraPallaresa.

This river, which is the most powerful in the Spanish Pyrenees, offers over 40 km of navigable water throughout the year.

A good place to get information about rafting and other Catalonia water sports on the NogueraPallaresa is in Sort, the capital of the county of Pallars Sobirà, or in Val d'Aran.



ON YOUR HANDS

- 1) In plenary think of other river uses. 
- 2) Classify them into generic uses and examples.
- 3) Make groups of 5 (until 6 groups) 
- 4) Trace one handprint on a piece of cardboard
- 5) Carefully cut it out. 
- 6) In the palm write the generic name of uses (sports, heritage, agriculture, power, wildlife). 
- 7) Talk about possible examples for your group (canoeing, herons, educational, water reservoir...)
- 8) Write one word in each finger (if you can't find 5 examples ask the teacher for help). 
- 9) Then on the back, draw a picture of one example of river uses
- 10) Each group explains to the class its hand and the examples. 

**3.6. B. RIVER USES. HOMEWORK A (difficult)**

Fill in the blanks with the words provided below:

The River Ebre is..... for:



Drinking water - Water from the River Ebre and its t.....feeds r..... that provide many of us with our drinking water.



Ebre provides..... to adjacent farms and supports agriculture.



The River Ebre has played an important part in theof many goods in the past. The Ebre has been used for trade as early as the Roman..... With the growth of road and rail the rivers are used for **transport**.



There are manystations by the side of the River Ebre, and its tributaries. The power stations use coal to heat water until it turns into steam. The steam turnsthat make **electricity**. Huge amounts of water are needed by the stations which is why they are built (by) near big rivers.



Leisure - You can have a lot ofon a river. You can go rowing, canoeing, boating, water-skiing and.....



Construction - Gravel andfrom the Ebre are used in buildings.

fishing Reservoirs used less transport
 period sand tributaries fun
 power turbines irrigation

3.6. B. RIVER USES. HOMEWORK B (easy)

Which word is better:

The River Ebre is. (Used/good) for:



Drinking water - Water from the River Ebre and its (tributaries/sources).feeds (reservoirs/lakes). that provide many of us with our drinking water.



Ebre provides(atering/irrigation) to adjacent farms and supports agriculture.



The River Ebre has played an important part in the transport of many (things/ goods) in the past. The Ebre has been used for trade as early as the Roman (time/period) With the growth of road and rail the rivers are used (less/more) for transport.



There are many (electrical/power).stations by the side of the River Ebre, and its tributaries. The power stations use coal to (heat/refresh) water until it turns into steam. The steam turns turbines.that make electricity. Huge amounts of water are needed by the stations which is why they are built (by) near big rivers.



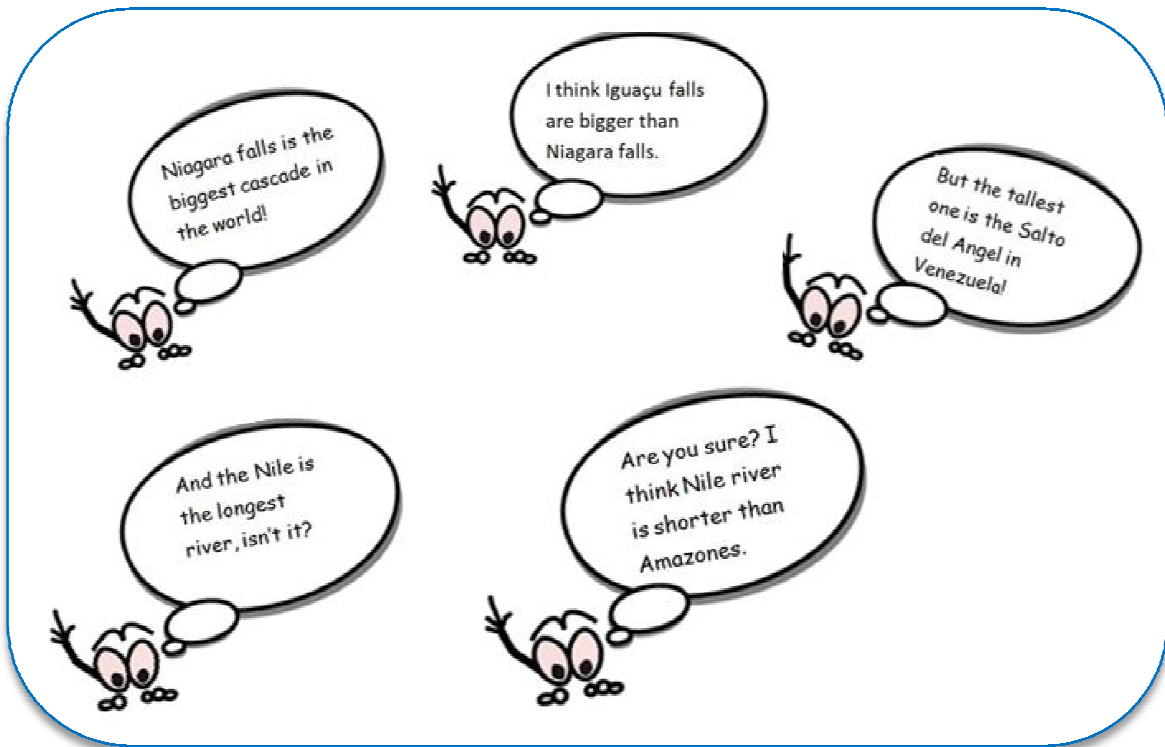
Leisure - You can have a lot of (diversion/fun).on a river. You can go rowing, canoeing, boating, water-skiing and (drinking/fishing)



Construction - Gravel and (rocks/sand).from the Ebre are used in buildings.



3.7. AMAZING WORLD WATER RECORDS



1. Work in groups of 3 (student A, B and C)



2. Read this dialog. Who is right? Who is wrong? You can find these and other amazing facts by surfing the following webs:

<http://www.worldatlas.com/geoquiz/thelist.htm>

<http://www.world-waterfalls.com/home.php>



3. Take notes about 16 famous rivers, waterfalls, deserts, or lakes around the world.

RIVERS	WATERFALLS	LAKES	DESERTS



4. According to your notes, complete your sentences:

STUDENT A:

The Waterfall is....., its is feet/ m.

The..... lake is.....; its depth is..... feet

The desert is.....; its Isinches per year

The river is.....; its length is..... Km.

STUDENT B:

..... river is than.....

..... Lake is..... than.....

..... waterfall is..... than

..... Desert is than.....

STUDENT C:

For me isthan.....

I think.....must be.....than.....

Probably..... isthan.....

In my opinion..... Is.....than.....

WORDBANK:

STUDENT A	STUDENT B	STUDENT C
tallest/height	Longer	More beautiful
deepest/depth	Deeper	Less dangerous
driest/rain fall	Taller	More interesting
longest/length	drier	Less visited





5. Share your water facts with the members of your group




6. Indicate one waterfall, one river, one lake and one desert on one of these two maps:

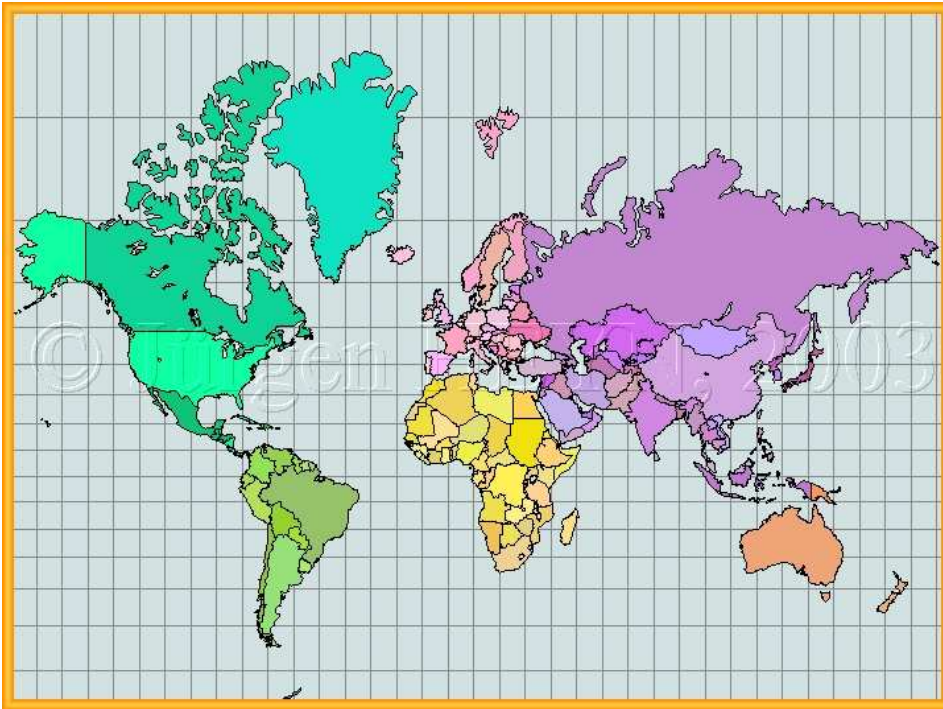
Use these symbols:  (green) waterfalls

 (yellow) desert

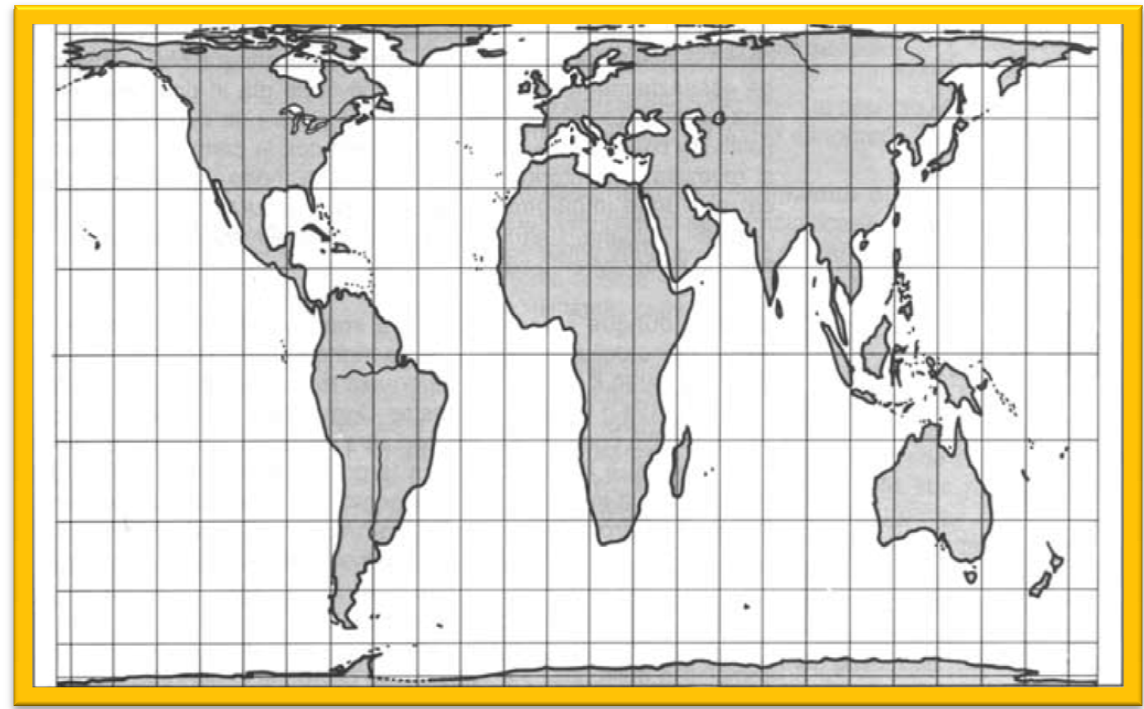
 (blue) river

 (black) lake

MAP A: THE WORLD ACCORDING TO MERCALLI



MAP B: THE WORLD ACCORDING TO PETERS



<http://www.heliheyn.de/Map2Web/Pictures/MercatorProjection.jpg>

<http://www.ieslosremedios.org/~pablo/webpablo/webctma/5humanidad/Mapasdelmundo.html>

7. Do the maps have the same representation of the world?
8. Which map did you choose and why?
9. Now, you can move to the next point:

RIVERS OF THE WORLD: <http://www.ilike2learn.com/ilike2learn/Rivers/Longest%20Rivers.html>

RIVERS EUROPE GAME . <http://www.xtec.net/~ealonso/flash/eurrios1i.html> and <http://www.xtec.net/~ealonso/flash/eurrios2i.html>

**3.7.B. AMAZING WORLD WATER RECORDS HOMEWORK**

1. Go to the website and label the rivers:

<http://www.enchantedlearning.com/geography/rivers/labelrivers/>

2. RIVER QUIZ

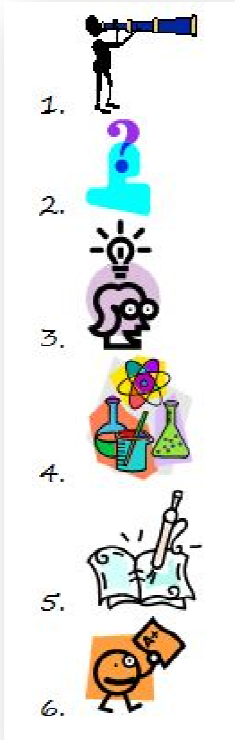
- 1) What is the longest river in the world? _____
- 2) What is the longest river in North America? _____
- 3) What is the longest river in South America? _____
- 4) What is the longest river in Africa? _____
- 5) What is the longest river in Asia? _____
- 6) What is the longest river in Europe? _____
- 7) What is the longest river in Oceania? _____
- 8) What is the longest river in China? _____
- 9) What is the longest river in England? _____
- 10) What is the longest river in Iberian Peninsula? _____
- 11) What is the longest river in Catalunya? _____
- 12) What is the widest river in the world? _____
- 13) What is the most beautiful river in your country? _____
- 14) What is the longest river in South America? _____
- 15) What continent has no rivers? _____
- 16) What is the name of the beginning of a river? _____
- 17) What is the name of a river or stream that flows into a larger river? _____
- 18) River deltas usually have what shape? _____
- 19) What is the name of the area where a river meets the sea or ocean? _____
- 20) What is the name of the natural cycle in which water travels from the earth to the atmosphere and back again? _____



4.0. CARRYING OUT A SCIENTIFIC EXPERIMENT

Work in groups of 3. Look at the symbols and answer these questions:

a) What could these symbols mean?










b) Are they in a random order?

c) Are they connected with laboratory experiments?

d) Report, discuss and correct, if necessary, your answers with the rest of the class?

e) Imagine you are going to investigate something. Using the same symbols describe the steps you have to follow.

**4.1. SAND: NOT JUST THE RIVER LOAD**

 <p>OBSERVATION: Look at some grains of sand. Look at different sands.</p>	 <p>PROBLEM: What is sand? Are all sands the same? Where does sand come from? Do all sands look the same?</p>	 <p>IDEA: Look at the sand grains under the stereomicroscope. Observe how they react if you add some chemical substances</p>
 EXPERIMENT		
 <p>EQUIPMENT:</p> <ol style="list-style-type: none"> 1. Stereomicroscope 2. Sand samples 3. Petri plate 4. Millimetre paper 5. Hydrochloric acid 6. Oxygenated water 	 <p>METHOD:</p> <ol style="list-style-type: none"> 1. Put a few grains of sand in a Petri plate. 2. Look at them under the stereomicroscope. 3. Describe the average shape of the grains (rounded or angular) 4. Describe the colour of the grains (most of them, some of them...) 5. Calculate, with the help of the millimetre paper, the average size of the grains. 6. Add some drops of a diluted solution of hydrochloric acid and report what happens 7. Add some drops of Oxygenated water and observe what happens. 8. Classify the fragments of minerals and rocks 	
 <p>Vocabulary required: magnifying glass, estimating, sandy grains, shiny, mica moscovite or biotite sheets, feldspath, matt, rock fragments, millimetre paper, hydrogen peroxide, sample, size, drop, organic matter</p>	<p>Effervescence produced by the reaction between carbonates and ClH, according to the reaction:</p> $\text{CaCO}_3 + 2\text{HCl} \longrightarrow \text{CO}_2 (\text{gas}) + \text{CaCl}_2 + \text{H}_2\text{O}$ <p>Effervescence produced by the reaction between oxygenated water and organic matter, according to the reaction:</p> $\text{H}_2\text{O}_2 + \text{organic matter} \longrightarrow \text{O}_2$ <p>Types of minerals and rocks: quartz (white and shiny), mica moscovite or biotite (shiny white or black sheets), feldspath (matt, white or pink), rock fragments, slate (black and flat),...</p>	

**RESULTS**

SAMPLE SAND NAME	Shape of the grains (angular, sub angular, rounded)	Size of the grains (diameter in mm.)	Mineral composition Organic fraction	Other observations.	DRAWING OF SOME GRAINS
1.					
2.					
3.					
4.					

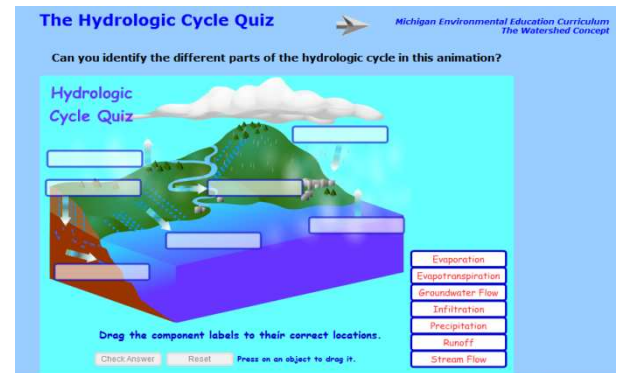
**CONCLUDE****COMMUNICATE**

**4.2.. WHAT HAPPENS TO THE RAIN WATER?**

Watch the following animation to revise the hydrologic cycle.

<http://tecalive.mtu.edu/meec/module01/HydrologicCycleQuiz.htm>

2. Now, label this diagram:



With one easy experiment you can discover what happens to rainwater..



Material. You will need: absorbent paper, a sponge or sand, modeling clay or plasticine, a fish tank or a dissection tray and water in a watering can..



Procedure: (in groups of 3)

- ✓ Put into the bowl a plastic sheet or any impermeable material into the bowl and tilt it slightly.
- ✓ Cover one half of the surface with a layer, 2-3 cm. of fine sand or a sponge (used in gardening) and the other half with plasticine or modeling clay.
- ✓ Insert some tubes of absorbent paper (to represent trees) vertically in the sand or the sponge.
- ✓ Use a watering can and gently water just the surface, but avoid watering “trees”.
- ✓ You are recreating rain so, where is all this water going to?
- ✓








EXPECTED RESULT: The water falling on the sand (or sponge) will percolate and will reach the impermeable layer, becoming underground water if it's static, or underground river or stream if it moves. The water falling on the plasticine or modeling clay will run off on the surface. Some water will be absorbed by the absorbent papers (trees)



YOUR RESULT: Explain accurately what happened to the water in the experiment.

The water that fell on...	the sand/ the sponge	percolated	into the ground	and it became	underground water
	the plasticine	ran off	the surface		a creek

**4.3. LET'S GO TO THE RIVER!**

 <p>OBSERVATION: We are on the bank of the river. (How) There's so much water! We can see the stream passing by and how the trunks float on the water.</p>	 <p>PROBLEM: How many litres of water are running by? And what is its speed? Is this stream strong or weak? Is the river deep in this place</p>	 <p>IDEA:</p> <ol style="list-style-type: none"> Situate the length of your stream study according to the map (latitude, longitude) Measure the cross-section area of the channel. Measure the stream speed and calculate the discharge. 				
 EXPERIMENT						
 <p>EQUIPMENT:</p> <ol style="list-style-type: none"> Boots Change of clothes Base-map of scale 1:10,000 or 1:5,000 Tape measure with cm. marking Stick with marks each 10 cm. Paper and pencil Length of cord Small empty bottle Chronometer Calculator  <p>Vocabulary required: Stream, discharge, river bank, tape measure, length, width, depth,</p>	 <p>METHOD: (work in groups of 3). There are groups A and groups B</p> <table border="1" data-bbox="689 678 2098 1426"> <thead> <tr> <th data-bbox="689 678 1391 726"><u>GROUPS A. CROSS-SECTION AREA m²</u></th> <th data-bbox="1391 678 2098 726"><u>GROUPS B. VELOCITY m/s</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="689 726 1391 1426"> <ol style="list-style-type: none"> Hold the tape measure at one end while one partner in front of you, on the other river bank, holds the other end. Take and note 10 measurements of the river width at different points Calculate the average width in meters. Put the stick in the water, if possible in the middle, and look at the depth the water reaches. Take 10 measures and calculate the average depth in meters. Imagine our river channel is similar to a half ellipse, then the area is R (width) $\times r$ (depth) $\times \pi / 2$ The answer to the equation is approximately the cross-section area in m² </td> <td data-bbox="1391 726 2098 1426"> <ol style="list-style-type: none"> Stand at one point of the bank river; one partner walks ten meters away. When your partner say 3,2,1,...0 you put the chronometer on. At the same time he throws one empty plastic bottle in the stream (it's supposed to float) When the bottle arrives in front of you, stop the chronometer. Repeat the procedure 10 times. Calculate the average. Now you get the time in seconds for 10 meters. Divide 10 between the average result (for example if the bottle lasted 30 s. for the 10 m, then is $10/30 = 0.33$ m/s). The result is the speed of the stream. </td> </tr> </tbody> </table>		<u>GROUPS A. CROSS-SECTION AREA m²</u>	<u>GROUPS B. VELOCITY m/s</u>	<ol style="list-style-type: none"> Hold the tape measure at one end while one partner in front of you, on the other river bank, holds the other end. Take and note 10 measurements of the river width at different points Calculate the average width in meters. Put the stick in the water, if possible in the middle, and look at the depth the water reaches. Take 10 measures and calculate the average depth in meters. Imagine our river channel is similar to a half ellipse, then the area is R (width) $\times r$ (depth) $\times \pi / 2$ The answer to the equation is approximately the cross-section area in m² 	<ol style="list-style-type: none"> Stand at one point of the bank river; one partner walks ten meters away. When your partner say 3,2,1,...0 you put the chronometer on. At the same time he throws one empty plastic bottle in the stream (it's supposed to float) When the bottle arrives in front of you, stop the chronometer. Repeat the procedure 10 times. Calculate the average. Now you get the time in seconds for 10 meters. Divide 10 between the average result (for example if the bottle lasted 30 s. for the 10 m, then is $10/30 = 0.33$ m/s). The result is the speed of the stream.
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RESULTS

AREA m ²		SPEED m/s		AVERAGE AREA m ²	AVERAGE SPEED m/s	DISCHARGE in m ³ /s	DISCHARGE in litres
1.		1)				DISCHARGE = AREA X SPEED DISCHARGE =X..... DISCHARGE =m ³ /s	How many litres are in 1 m ³ /s? 1 l. = 1 dm ³ /s 1 m ³ /s = 10 ³ dm ³ /s = 1000 litres DISCHARGE = l
2.		2)					
3.		3)					
4.		4)					
5.		5)					
6.		6)					
7.		7)					
8.		8)					
9.		9)					
10.		10)					



CONCLUDE



COMMUNICATE

With your group make a poster drawing the river and writing down the results



5. FINAL PRESENTATION

We are at the end of our trip along a river.

Rivers: fascinating, exciting, amazing, beautiful and endlessly varied! Steep and fast at first they finish flat and slow in the sea. They provide us with water, food, energy and fun. Rivers gave us a lovely, exciting journey.

Now it is your turn!

Show your classmates what you learnt about rivers!

Work in pairs

Prepare a poster or a PowerPoint presentation

(a maximum of 10 slides)

1. Find a title for your presentation
2. Think of the ideas you want to share looking for them in your book or notebook
3. Look for pictures to illustrate your ideas
4. Match each idea with one picture
5. Prepare the oral presentation at home
6. Control the time of your oral exhibition.
7. Do it!

