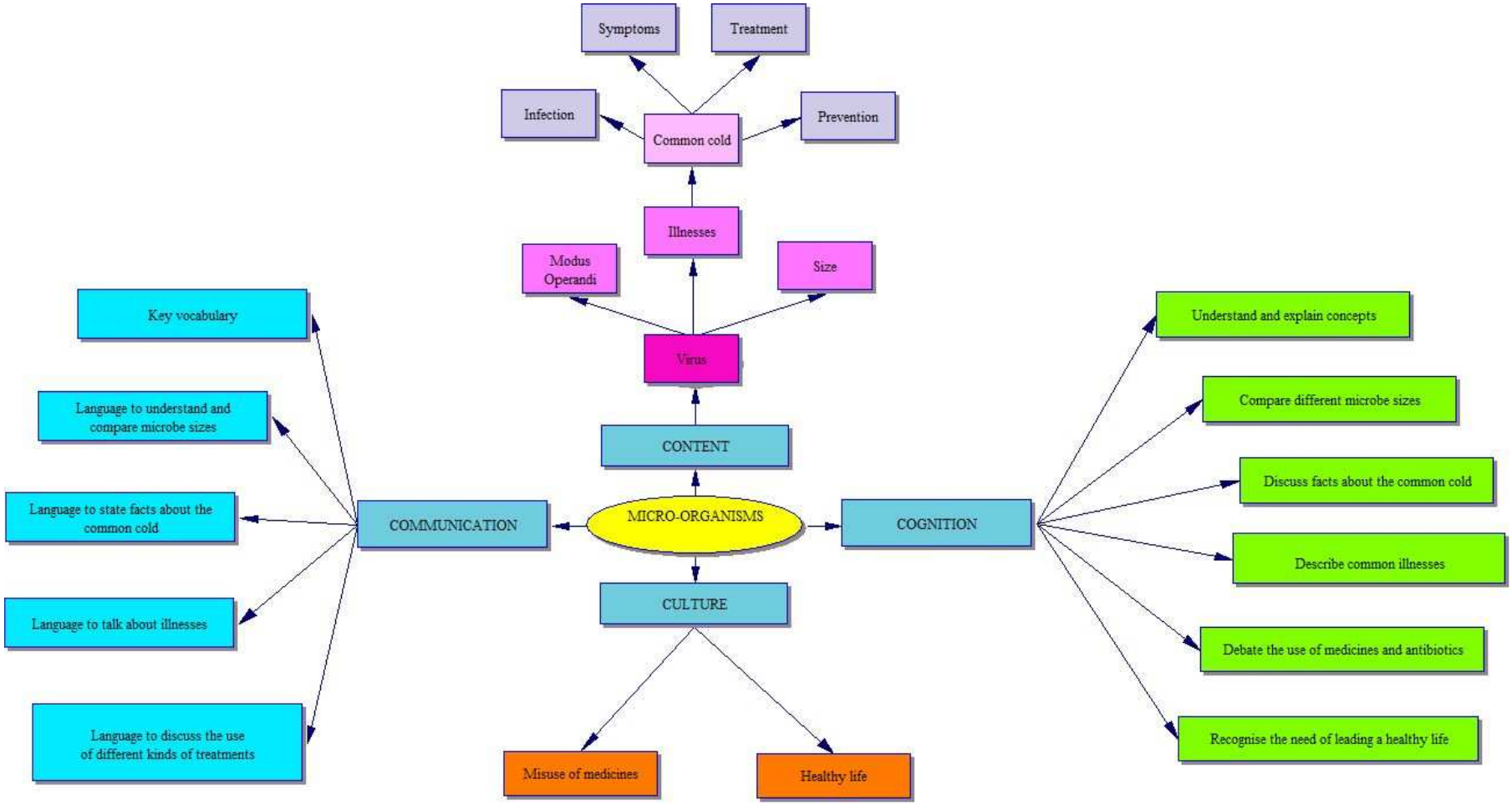
2.2.- Unitats didàctiques

2.2.1.-Micro-organisms



Núria Forns Escola del Mar

CLIL LESSON PLAN TOPIC: **Micro-organisms**

AIMS
1. To understand and explain what a virus is and how they operate within cells.
2. To be aware that viruses cause diseases.

TEACHING OBJECTIVES	LEARNING OUTCOMES	COMMUNICATION	CULTURE
A. CONTENT	A. CONTENT	<u>Language of learning:</u> Key vocabulary <u>Language for learning:</u> Language to compare different microbe sizes. Language to discuss and summarise the steps a virus follows during the process of infection. Language to debate about common illnesses and their possible treatment. Language to discuss the misuse of antibiotics. <u>Language through learning:</u> Use of the dictionary.	Pupils will be made aware of: The misuse of medicines like antibiotics. The advantages of leading a healthy life to prevent infections.
Introduction to micro-organisms. Introduction to viruses. The common cold.	Pupils will have to be able to: Understand what a virus is. Explain how it works in our bodies. Be aware that viruses can cause diseases. Know how a Rhinovirus produces the common cold and its symptoms, how to treat them and how to prevent infection. Use the key vocabulary.		
B. COGNITION To allow opportunities for pupils to: Understand and explain concepts. Compare different microbe sizes. Discuss some facts of the common cold. Talk about common illnesses. Discuss different kinds of treatments.	B. COGNITION Pupils will be able to: Identify and apply key vocabulary. Understand and explain the process of infection by a virus. Discuss how to prevent the infection and how to relieve the infection symptoms. Recognise that some illnesses don't need treatment by antibiotics.		

MICRO-ORGANISMS TEACHING NOTES

1st session

While doing the unit activities, children have to look the new words up in their dictionary and fill in the vocabulary worksheet provided: **Vocabulary.**

Micro-organisms introduction (Power Point slides 2-3)

In pairs, pupils have to observe microbe sizes in

http://www.cellsalive.com/howbig.htm

Then, individually, they have to complete the chart.

Activity 1: Micro-organisms size chart.

Pupils have to answer teacher's questions.

They can use the following language support:

The ..... is smaller/bigger than.....
The..... measures.....
The smallest/biggest micro-organism is .....
What a red blood cell is?
What a ..... is?

2nd session

Warm up: Make the children review last session content.

- What do you know about a virus? PowerPoint Presentation (slides 2-3).
- Do you remember the name of the common cold virus?

Introduction to the common cold. (PowerPoint Presentation slides 4-5-6-7).

Activity 2: Order sentences. How do you catch a cold?

Put these sentences about the common cold in order. Work in pairs.

Pupils have to discuss the order in which the disease manifests itself. In order to explain it to the rest of their group and to the teacher, they can use the following language support:

I think that.....

First .....

Later.....

Then.....

I think the last thing that happens is.....

3rd session

Activities 3: Worksheets:

Rhinovirus Facts, Rhinovirus Modus Operandi, Rhinovirus Prevention, Rhinovirus Symptoms, Rhinovirus Transmission, Rhinovirus Treatment, Rhinovirus Summary Agenda. Jigsaw work.

Pupils have to discuss in their expert group one of the subjects of the common cold. Then, they have to discuss all these subjects together with the other expert groups. They have to do this in a home group, using the summary agenda.

At the end of the activity pupils must be able to explain with their own words any aspect of the common cold.

They can use the language support introduced in the information given to the different groups.

4th session

Activity 4: Illnesses survey. Worksheet.

-Pupils have to work in groups to find out the illnesses they've had.

Use the frame: **Talking about your illnesses.** They can use the following language support:

Have you ever had……..? Yes, I have / No, I haven't

What symptoms did you have? I had……. and…….

Did you go to the doctor? Yes, I did / No, I didn't

What did the doctor prescribe? He said……..

Did he prescribe some medicine? Yes, he prescribed…….. / No, he didn't

If you didn't go to the doctor, how did you recover? I …….

Did you need to go to the hospital? …….

(pills / antibiotic / tablets / syrup / lotion / drops / ointment)

my (body / throat / head,…) (ached / itched,…)

I (coughed / sneezed / blew my nose,…)

-Have each student group complete their data analysis and finalise graphs drawn in a piece of squared paper. Help students prepare for their formal presentations to the class. Ask questions in order to elicit their answers. They can use the following language support:

In my group ..... children had .....
..... children who had ..... went to the doctor.
..... children who had ..... didn't go to the doctor.
The doctor gave them .....
..... children went to the hospital.

Make the students translate the data results to an Excel graph and make a display for the classroom wall.

5th session

Activity 5: Oral work.

True or False? Watch the Power Point Presentation (slides 8-9-10)

Read the statements and make sure children understand them.

Make the children discuss in pairs if they're right or wrong and answer their worksheets individually.

They could use the following language support and that introduced in previous sessions.

I think .....it's true/false, because.....

I think that doctors will..... They do it because.....

I think that if you've got ..... the doctor will/ won't give you.....

If you've got.....you need/don't need to take.....

If you've got ..... you must .....

ASSESSMENT

The following assessment activities will help teachers to evaluate how pupils have achieved the aims and the procedures of the unit.

It will also aid children to be aware of their progress both in their work and in their relationship with their peers.

The basic aim is the understanding of the content but it's important too, to take into account how they communicate their knowledge to their peers and to the teacher.

Oral assessment:

Listening and taking notes during the speaking activities.

Writing activities :

Assessing their everyday work and individual worksheets achievement.

Activity 6: **Micro-organisms assessment**. At the end of the lesson each pupil has to fill in the gaps in the Unit Test worksheet using the words in the box.

Self-assessment

Activity 7: Self-assessment worksheet. Fill in the grid in the assessment worksheet. Pupils have to assess their attitude towards their work and write the contents they didn't know at the start of the topic. They have to summarise what they have learned.

References:

http://www.cellsalive.com/

http://www.britannica.com/eb/art-15673

www.purdue.edu/UNS/images/rossmann.virus.jpeg

www.esmas.com/.../conocetucuerpo/335750.html

Unit 1. Micro-organisms Activity 1 **Micro-organism size chart**

How big are microbes? This activity can help you understand the size of these tiny organisms. The head of a pin is about 2mm in diameter. Use the animation in: http://www.cellsalive.com/howbig.htm to compare the relative sizes of cells and organisms sitting on a pinhead.

Micro-organism	**Size**	**Shape**
Dust mite	300 micrometres	
Ragweed pollen	20 micrometres	
Lymphocyte	10 micrometres	
Red blood cells	7 micrometres	
Baker's yeast	4 micrometres	
E.coli	2 micrometres	
Staphylococcus	1 micrometre	
Ebola virus	900 nanometres	
Rhinovirus	20 nanometres	

Unit 1. Micro-organisms Activity 2 **Order sentences**

Put these sentences in order using numbers:

The cells break and new viruses spread into your bloodstream and into your lungs.

By coughing and sneezing you are probably spreading the virus up to someone else's nose.

An infected person sneezes near you.

Your body tries to protect your lungs by coughing, sneezing and making mucus.

The virus goes to your hands and then to your nose.

Your immune system reacts and your symptoms disappear. You did not need antibiotics.

The virus invades the cells in your mucous membrane and rapidly reproduces new viruses.

Unit 1. Micro-organisms Activity 3

Rhinovirus Facts

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the following **agenda** to help you discuss the information given below it.

AGENDA

1 What is a Rhinovirus?

2 Where do they mainly work?

3 Which season are they the most active?

4 How long can the virus survive?

5 What's the best temperature for them to grow?

6 Can you think some way to prevent your body from getting the virus?

7 You are going to present your answers to the rest of the class. Decide what each person in your group will do.

Rhinovirus is one of the 200 viruses that cause the common cold.

They do it especially well in schools. They are most active in early autumn, spring and summer.

Rhinoviruses can live up to 3 hours on your skin. They can also survive up to 3 hours on objects such as telephones and door handles.

Rhinoviruses grow best at temperatures of about 36 degrees which is the temperature inside the human nose.

Unit 1. Micro-organisms Activity 3

Rhinovirus – Modus Operandi

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the following **agenda** to help you discuss the information given below it.

AGENDA

1 How do Rhinoviruses enter your body?

2 Which cells of your body do they like best?

3 How do they replicate themselves?

4 How long before you start to experience the symptoms?

5 Can you think of some way to prevent your body from getting the virus?

6 You are going to present your answers to the rest of the class. Decide what each person in your group will do.

Rhinoviruses go up your nose. Once inside, they invade a cell in the mucus membrane. Then they make copies of themselves and the cell dies.

The new viruses escape and infect other cells. This causes a rapid infection. The incubation period is generally 8-10 hours before you can experience the symptoms.

Unit 1. Micro-organisms Activity 3

Rhinovirus Transmission

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the following **agenda** to help you discuss the information given below it.

AGENDA

1 Can you name a way of spreading a Rhinovirus?

2 Can you name another way of spreading a Rhinovirus?

3 When is an infected person the most contagious?

4 Why is that?

5 Can you think of some way to prevent your body from getting the virus?

6 You are going to present your answers to the rest of the class. Decide what each person in your group will do.

You can transmit Rhinoviruses both of these ways:

- Touching your skin or the things around you, like tables, door handles and books that have the Rhinovirus on them, and then touching your nose or eyes or mouth.
- Inhaling droplets full of Rhinovirus from the air when a contagious person coughs or sneezes near you.

It seems that the most contagious period of the disease is between the second and fourth day of the infection because then the amount of viruses is the highest.

Unit 1. Micro-organisms Activity 3

Rhinovirus Symptoms

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the following **agenda** to help you discuss the information given below it.

AGENDA

1 What do you catch when a Rhinovirus enters your body?

2 When do the symptoms start?

3 What are the common cold symptoms?

4 Why do you cough, sneeze and make mucus?

5 How long do you recover from a common cold?

6 Can you think some way to prevent your body from getting the virus?

7 You are going to present your answer to the rest of the class. Decide how your group is going to do it.

When you become infected with a Rhinovirus, you will suffer a common cold.
The symptoms usually begin 2 to 3 days after infection and often include:

- Nose dripping
- Sneezing
- Coughing
- Sore throat
- Congestion
- Headache
- Light fever

To protect your lungs your body has to expel germs by making mucus, sneezing and coughing.
The symptoms can last from 2 to 14 days but you'll probably recover in about a week.

Unit 1. Micro-organisms Activity 3

Rhinovirus Treatment

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the following **agenda** to help you discuss the information given below it.

AGENDA

1 Is there a treatment to kill a Rhinovirus? If not, say why.

2 Is there a cure for the common cold? If not, say why.

3 How does your body react to the infection?

4 What can you do to reduce the symptoms?

5 How does your body react to the infection?

6 You are going to present your answers to the rest of the class. Decide what each person in your group will do.

There are no treatments to kill a Rhinovirus because they are attached to a cell and, in order to kill them, you would damage the cell too.

Therefore, there is not a cure for the common cold.

You can only relieve its symptoms while your immune system fights the infection.

Some ways to reduce symptoms caused by a rhinovirus infection include:

- Drinking plenty of fluids.
- Resting in bed.
- Taking tablets, a syrup or vitamins.

Unit 1. Micro-organisms Activity 3

Rhinovirus Infection Prevention

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the following **agenda** to help you discuss the information given below it.

AGENDA

1 Why should you wash your hands regularly?

2 Why should you keep your hands away from your nose, mouth and eyes?

3 Why should you limit your exposure to infected people?

4 Which habits could you practice to stay healthy?

5 You are going to present your answers to the rest of the class. Decide what each person in your group will do.

To prevent your body from getting a Rhinovirus infection you can:

- Wash your hands regularly.
- Keep your hands away from your nose, mouth and eyes.
- Limit exposure to infected people.
- Practice healthy habits.

Unit 1. Micro-organisms Activity 3

Viruses can produce diseases

SUMMARY AGENDA

In your expert group you discussed one of the subjects: Rhinovirus facts, Rhinovirus modus operandi, Rhinovirus symptoms, Rhinovirus transmission, Rhinovirus treatment, Rhinovirus infection prevention. You will now discuss all these subjects together with the other expert groups. You will do this in a home group, using the agenda below.

AGENDA

8 What is a Rhinovirus?

9 How long can the virus survive?

10 How do Rhinoviruses enter your body?

11 How do they replicate themselves?

12 What are the common cold symptoms?

13 Why do you cough, sneeze and make mucus?

14 Is there a cure for the common cold? Why?

15 What can you do to reduce the symptoms?

16 What does your body react?

17 How can you spread the virus?

18 When is an infected person the most contagious and why?

19 Can you think some way to prevent your body from getting the virus?

Unit 1. Micro-organisms Activity 4 **Illnesses survey**

You are going to do a group survey about the illnesses you have had.

Illnesses	**Rest in bed**	**Traditional medicine**	**Medicine from chemist**	**Visited doctor -given medicine**	**Visited doctor - no medicine**	**Stay in hospital**
Cold						
Influenza (Flu)						
Sore throat						
Measles						
Hay fever						
Chicken pox						
Head lice						
Tonsillitis						
Diarrhoea						
Cough						
Insect bite						
Verruca						

Unit 1. Micro-organisms Activity 4 **Talking about your illnesses**

Have you ever had……? Yes, I have / No, I haven't

What symptoms did you have? I had……. and…….

Did you go to the doctor? Yes, I did / No, I didn't

What did the doctor prescribe? He said……..

Did he prescribe some medicine? Yes, he prescribed…….. / No, he didn't

If you didn't go to the doctor, how did you recover? I……

Did you need to go to the hospital? ……...

(vitamins / antibiotic / tablets / syrup / lotion / drops / ointment)

my (body / throat / head,…) (ached / itched,…)

I (coughed / sneezed / blew my nose,…)

Unit 1. Micro-organisms Activity 5 **Oral work**

True or False?

Work in pairs and discuss these statements.

	True	False
Antibiotics will cure anything. Doctors try not to give them to you because they're so expensive.		
I'm better now. I'll just save the rest of my antibiotics for the next time I'm ill.		
He was coughing and sneezing everywhere. You'd think the doctor would have given him antibiotics!		
It's only a cold. Antibiotics won't help me to get better.		
Antibiotics only kill bacteria, not viruses.		
All drugs are bad for you. I can't see any point in taking antibiotics.		
It's no good her taking medicines from the chemist and going to bed. She needs to get better quickly.		
You'll never get better if you don't go and see the doctor. You have to have antibiotics.		

Unit 1. Micro-organisms **Micro-organisms assessment**

Fill in the gaps. Use **some** of the words in the box.

sneezing	common cold	24	hands	
Rhinoviruses	mucous membrane		coughing	paralysis
3	infect	copies		

Rhinovirus is one of the 200 viruses that can cause the ……..

They can survive up to …….. hours on our skin and things that are around us.

……. go up your nose.

They attach to a cell in the …….. and they start to make …….. of themselves.

The symptoms of the common cold include amongst others ……., sneezing and making mucus.

You can transmit the virus …….. near another person.

You should wash your ……. regularly when you have a common cold.

Self-assessment worksheet **Topic:**

My work			
My work was neat			
I was careful			
I tried hard			
I paid attention			
I worked hard			

Myself and others			
I listened			
I cooperated with my group/partner			
I thought for myself			
I considered others			
I was willing/able to ask for help			
I shared with others			

I didn't know:.....

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I have learned:.....

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Vocabulary

Look all the words you don't know up in **your dictionary** or **online**.
Write down the appropriate entry.

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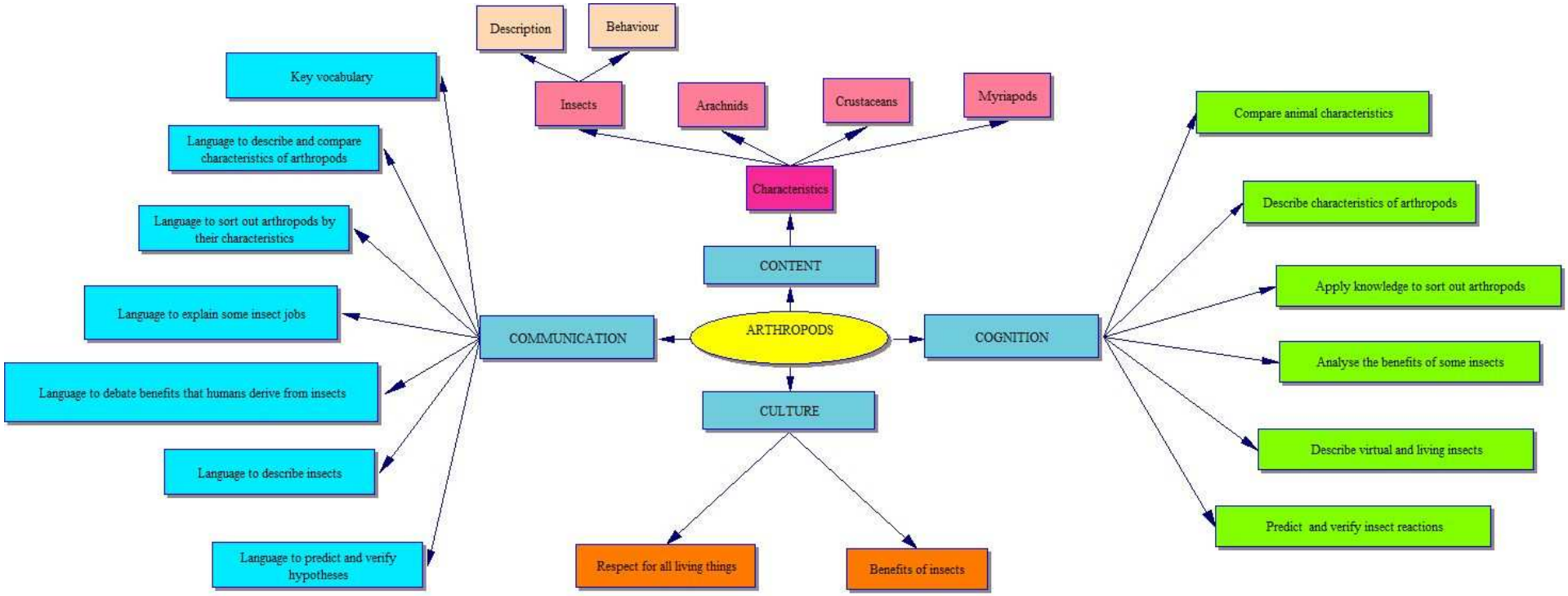
2.2.2.- Arthropods



Núria Forns Escola del Mar

CLIL LESSON PLAN TOPIC: **Arthropods: Insects**

AIMS
1. To study characteristics of the arthropods.
2. To study insects.

TEACHING OBJECTIVES	LEARNING OUTCOMES	COMMUNICATION	CULTURE
A. CONTENT	A. CONTENT	<u>Language of learning:</u> Key vocabulary <u>Language for learning:</u> Language to make predictions. Language to verify their hypotheses. Language to explain that an insect can be both beneficial and a pest. Language to describe and compare arthropods and insects. <u>Language through learning:</u> Use of the dictionary.	Pupils will be made aware of: Recognise that is essential that humans are respectful towards insects and animals in general. The benefits of insects rather than the damage they can cause.
Introduction to arthropods. Characteristics of arthropods. Groups of arthropods. Introduction to insects. Beneficial insects.	Pupils will have to be able to: Use the key vocabulary. Know the characteristics of arthropods and insects. Understand why an animal is or is not an arthropod. Describe what living insects look like and how they behave. Understand that most insects are beneficial.		
B. COGNITION To allow opportunities for pupils to: Know many varieties of arthropods and their four groups. Know why some animals are arthropods. Know why some animals are insects. Observe virtual and live insects. Know some benefits of insects	B. COGNITION Pupils will be able to: Apply key vocabulary. Decide what animals are arthropods or insects sorting out their characteristics. Predict what they think an ant will do while in observation. Consider in what ways insects are beneficial.		

ARTHROPODS TEACHING NOTES

1st session

Introducing the arthropods. Slides 4 to 8 on this web page: http://evolution.berkeley.edu/evolibrary/article/0_0_0/arthropods_04.

Teachers have to show the slides while explaining the characteristics of arthropods, asking questions and making sure children understand the content.

Then, pupils have to watch the Presentation **arthrocharact** (slides 1-5) and answer the teacher's questions:

Activity 1: **Odd one out**. Working in pairs. Children will discuss in pairs the reasons why the animals are different or the same and decide which of them are arthropods.

They can use the following language support.

The …… is different because it has got……

The .....and the..... are the same because they've got……..

I think …… is an arthropod because it has got …….....

I think …… is not an arthropod because it hasn't got ……...

2nd session

Children will watch the Presentation (Slides 5 to 9) to find out about the four groups of arthropods and their characteristics. The teacher will help pupils to understand the content. Children will take notes in their notebooks in order to do the next activity. *They will know the words vertebrate and invertebrate from previous knowledge*.

Activity 2 : With the notes taken previously, children will fill the gaps in .. **Arthropod characteristics**. Then check their work with the Power Point slides.

Activity 3 : **Sorting tree**. Pupils will have to fill in the gaps . They can draw a species of every class: a spider, a bee, a lobster.

At the end of the session they should be able to give reasons why a beastie is an insect, a crustacean, a vertebrate or an arthropod.

Activity 4: They can answer the quiz **Arthropod dance** as a fun activity. The answer is as it follows:

Four insects (24 legs) and three spiders (24 legs). No other combination will work. (From Lowell House, Brain games,p.48)

3rd session

Work with insects. Let the children observe virtual insects in:

http://www.ento.vt.edu/~sharov/3d/virtual.html and infer the characteristics of insects watching the last slide of the presentation.

Then, watch the presentation in this web page:

http://www.urbanext.uiuc.edu/insects/01.html

Use the more significant slides in order to make children be aware of what an insect is.

They will do some of the activities on the presentation as well as filling in the **Activity 5**: Worksheet: **All about insects**.

Let children guess which animals are insects on slide 11.

They have to explain why some insects play an important role in the environment looking at slide 35.

They will have to write down why some insects are beneficial to humans looking at slides 36 to 42.

They will discuss why some insects are good and bad at the same time. Then check it after watching slide 43.

There is a game to play on the penultimate slide.

They can use the following language support:

I think that number …… is an insect because he's got ……

I think that number ……. is not an insect because……..

I think …….. is a predator because…….

I think …….. is a recycler because……..

……. are beneficial because they …….

…… are good because they ……,

but they are bad because …….

4th session

Team work. In groups, observe animals on the playground. Record their observations on **Activity 6**: **Arthropod observation** and write down the species of the animal and what it is doing.

Make sure children understand that they can not harm the animals they are going to observe.

Help them with the language *of* and *for learning*.

5th session

Ant nests and trails observation. Team work.

Discuss in class what to look for when observing ants. Help them with the language *of* and *for* learning.

In teams, find and observe active nests on the playground. Use a magnifying glass.

Discuss possible obstacles that ants may find on their trail. Predict what the ants will do. Each team lay an obstacle on an ant trail.

Record observations on **Activity 7. Finding obstacles.**

They can use the following language support

We have to look for *their nest, trails they follow, what they collect,..*
The ant is doing ……
We have decided to use…….. as an obstacle.
I think the ants will *overcome he obstacle, desist, keep trying.*

ASSESSMENT

The following assessment activities will help teachers to evaluate how well the pupils have achieved the aims and the procedures of the Unit. It will also aid children to be aware of their progress both in their work and in their relationship with their peers.

The basic aim is the understanding of the content but it's important too, to take into account how they communicate their knowledge with their peers and with the teacher.

Oral assessment:

Listening to and taking notes during the speaking activities.

Writing activities :

Assessing their everyday work and individual worksheets achievement.

Activity 8: **Arthropods assessment** . At the end of the lesson each pupil has to fill in the gaps in the Unit Test worksheet using the words in the box.

Activity 9: **Self assessment worksheet**. Fill in the grid in the assessment worksheet. Pupils have to assess their attitude towards their work and write about the contents they didn't know at the start of the topic. They have to summarise what they have learned.

References

http://www.urbanext.uiuc.edu/kids/index.html

http://insected.arizona.edu/home.htm

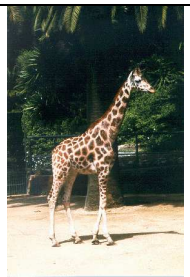
http://evolution.berkeley.edu/evolibrary/article/0_0_0/arthropods_intro_01

http://recursos.cnice.mec.es/bancoimagenes4/

http://www.zoobarcelona.com/

Unit 2. Arthropods Activity 1 **Odd one out**

Choose a row or a column. Compare the animal characteristics with that of arthropods. Find the odd one out. Say why.

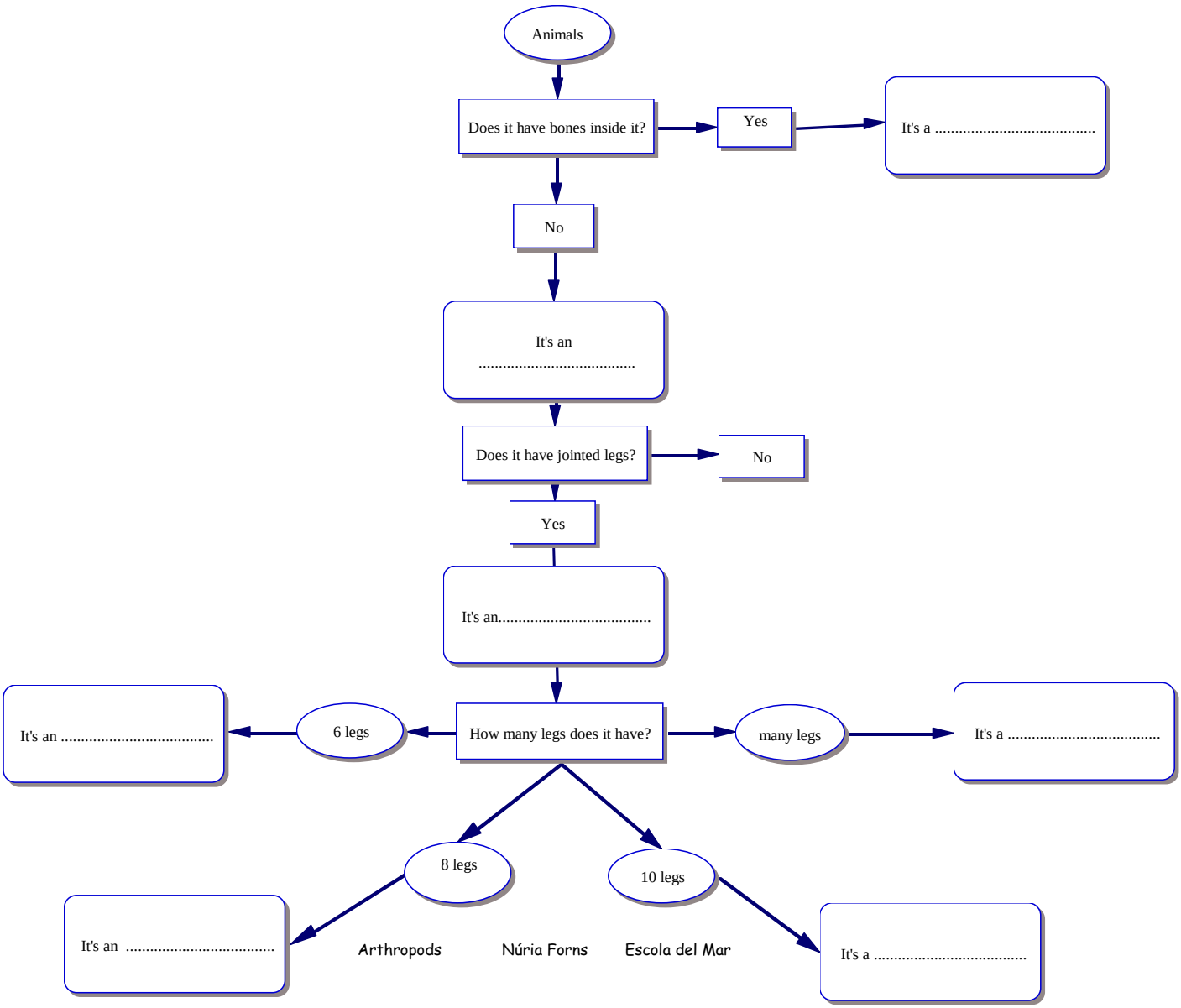
		
		
		

The……..
is different because……..
……..…
……..

The …….. and the ……
are the same because……..
……..
……..

Unit 2. Arthropods Activity 2 **Arthropod characteristics**

	Body /parts	Antennae	Pair of legs	Pair of wings	Examples
Insects					
Arachnids					
Crustaceans					
Myriapods					


Animals
Does it have bones inside it?
Yes
It's a .....
No
It's an .....
Does it have jointed legs?
No
Yes
It's an.....
How many legs does it have?
6 legs
It's an .....
many legs
It's a .....
8 legs
10 legs
It's an .....
It's a .....
Arthropods
Núria Forns
Escola del Mar

Put your brain in gear!

Think and answer. Drawings are allowed.

Insects and Spiders

As you know, one way to tell an insect from a spider is to count its legs.

All insects have six legs, and all spiders have eight legs.

So if some insects went to a dance, and there were 48 dancing legs, how many insects and how many spiders were at the dance?

(From Lowell House, Brain games,p.48)

Unit 2. Arthropods Activity 5 **All about insects**

Work with your partner. Discuss your answers.

1. Which are insects?

1	2	3	4	5	6

2. Guess which animals have these jobs and why.

Predator

Food maker

Recycler

Silk maker

Composter

3. Guess why these insects are good and bad.

Ant
Mosquito
Bee
Praying mantis
Fly
Butterfly/Moth
Lady bug

Unit 2. Arthropods Activity 6 **Arthropod observation**

Observation sheet. Ask for help if you need it.

Draw the animal.

Name

What does the ..... look like?

The ..... is..... Its colour is.....

It has.....

What do you see the ..... doing?

The..... is .....

Unit.2 Arthropods Activity 7 **Finding obstacles**

Observation sheet.

Draw the ant and the obstacle **after** the observation.

What do you think the ant will do?

I think that the ant will .....

What is the ant really doing?

The..... is .....

Unit 2. Arthropods **Arthropod assessment**

Fill in the gaps. Use **some** of the words in the box.

insects	beneficial		abdomen	4	exoskeleton
vertebrates	2	head	recycle	antennae	
arthropods	6	10	arachnid		

Insects belong to a group called .....

Ants are ……

They have three body regions:....., thorax and .....

They have a rigid skin, the .....

Ants have two …… on their head.

The thorax holds ……. jointed legs and ……..or……. wings.

Ants can be …… because they ……nutrients.

Self-assessment worksheet **Topic:**

My work			
My work was neat			
I was careful			
I tried hard			
I paid attention			
I worked hard			

Myself and others			
I listened			
I cooperated with my group/partner			
I thought for myself			
I considered others			
I was willing/able to ask for help			
I shared with others			

I didn't know:.....

.....

.....

.....

.....

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.....

I have learned:.....

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Vocabulary

Look all the words you don't know up in **your dictionary** or **online**.

Write down the appropriate entry.

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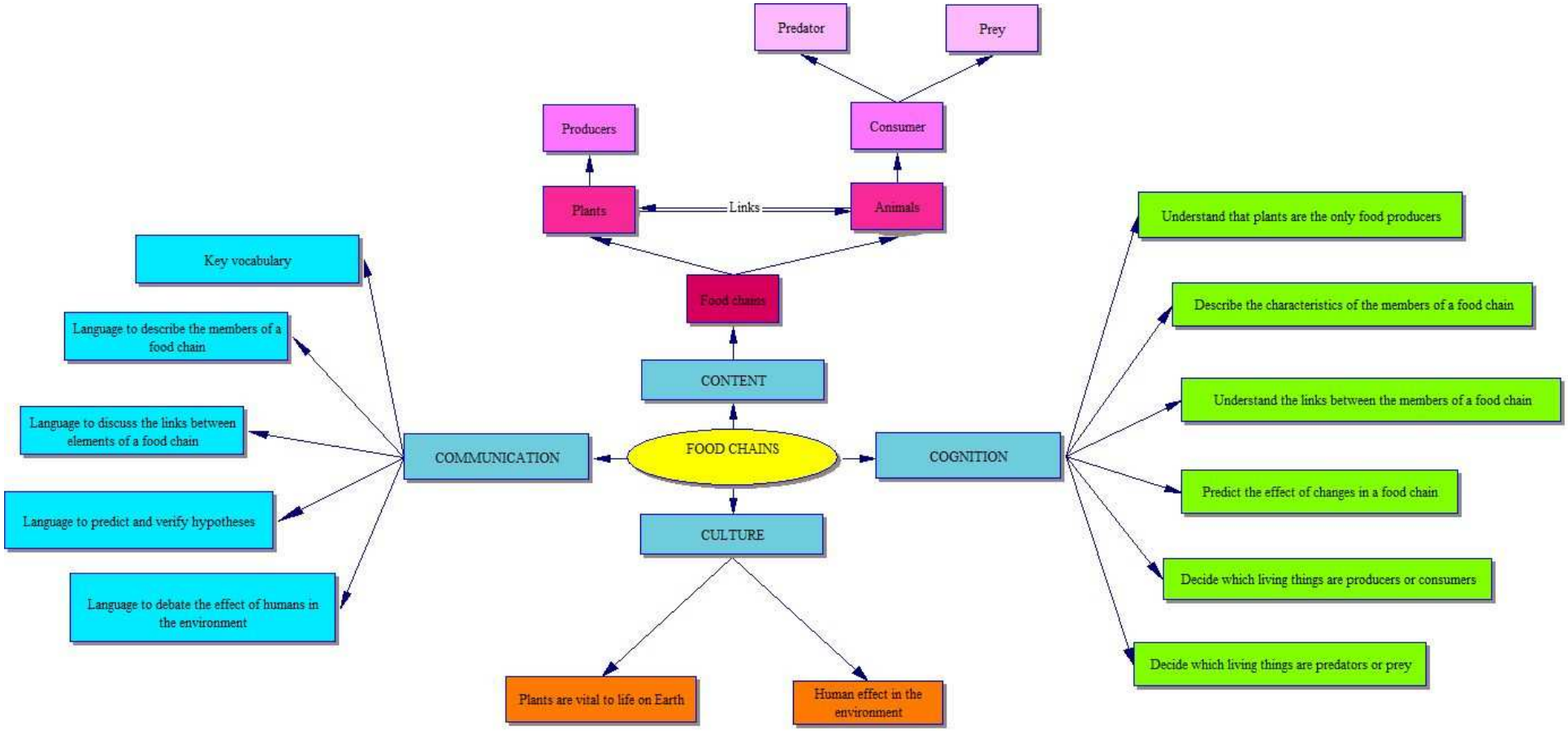
2.2.3.- Food chains



Núria Forns

Escola del Mar

CLIL LESSON PLAN TOPIC: **Food chains**

AIMS

3. To understand that plants are essential for living things.
4. To understand what a food chain is.

TEACHING OBJECTIVES	LEARNING OUTCOMES	COMMUNICATION	CULTURE
A. CONTENT Previous knowledge about plants and photosynthesis. Animals and plants are linked by food chains. Producers and consumers. Predators and prey.	A. CONTENT Pupils will have to be able to: Understand the links between the living things of a food chain. Understand that a living thing can be a producer or a consumer. Know why a living thing is the predator or the prey. Understand the alterations when one part of the food chain changes.	<u>Language of learning:</u> Key vocabulary <u>Language for learning:</u> Language to describe the members of a food chain. Language to discuss links in a food chain. The language they need to discuss the effect of changes in a food chain. Language to decide why a living thing is a producer or a consumer and a predator or the prey. <u>Language through learning:</u> Use of the dictionary. Language they will need to explain their decisions when working in pairs.	Pupils will be made aware of: The importance of plants to human life. The consequences of man's actions to the environment.
B. COGNITION To allow opportunities for pupils to: Understand that plants are the only food producers. See different kinds of food chains. Understand the links between animals and plants. See when a living thing is a producer or a consumer. Know when an animal is the predator or the prey.	B. COGNITION Pupils will be able to: Use the key vocabulary. Give reasons why plants are vital to life. Explain what a food chain is. Tell different kinds of food chains. Discuss what would happen if one link of the food chain disappears. Give reasons why some living things are producers, consumers, predators or prey.		

FOOD CHAINS TEACHING NOTES

1st session

Introduction of food chains. Children must be aware that only plants can produce food and therefore all living things depend on their existence.

Online activity. Children have to do the first activity on this website:

http://www.bbc.co.uk/schools/ks2bitesize/science/activities/food_chains.shtml

They have to follow the instructions. Look the words up in the dictionary and write the appropriate entries in the **vocabulary** worksheet.

2nd session

Jigsaw work. **Activity 1**: Work in groups.

Each pupil has to fill in the worksheet: **Characteristics of living things**.

They have to discuss in their expert group one of the species of the food chain they are learning about.

Activity 2: Work in groups.

They will then discuss all these subjects together with the other expert groups. They will do this in a home group, using the worksheet:

Food chains summary agenda.

At the end of the activity pupils must be able to explain in their own words any aspect of the food chain.

They can use the language support introduced in the species information. They may need to look the words up in their dictionary.

They can use the following language support:

The..... is a .....

It lives in.....

It eats mostly .....

..... eat .....

Something curious about..... is.....

3rd session

Activity3: Living things presentation. Work in groups. Pupils have to choose a food chain and describe its members. They will do it using a pattern similar to the one in the pupil's worksheets. Teachers can download the template from the teaching notes.

4th session

ICT and Oral activity

The pupils have to discuss in pairs the links between the elements in the food chain using the vocabulary given in their worksheets. They have to do the SORTER 1 AND SORTER 2 **on line activities**.

They can do a graph to help them when explaining all they know about food chains to the rest of their classmates.

The following frame can help them to explain the links between the food chain members.

The ..... provides the energy.

The …….. uses the …….. to make ……..

The…….. is food for…… and…….. and……..

The origin of the food chain is……

The end of the food chain is……..

The …….. is food for……..

Activity 4 : After the last activity they should be able to put in order the food chains in the **Ordering food chains** worksheet. They should be made aware that an arrow in a food chain means *food for*.

They can use the following language support. There is new vocabulary to look up in a dictionary.

I don't know what …… means.

Let's look …… up in the dictionary.

I think the first link of the chain is..... because.....

The…… eats ……..

so, …….. is food for……..

……..eat……

The arrow means ……

5th session

Activity 5: Find out the predator and the prey.

Children have to discuss in pairs why each animal is prey or predator. Then fill in the worksheet: **Predator and prey**.

They can use the following language support:

I think the ..... is the prey, because it is food for the.....

I think the .....is the predator, because it eats .....

6th session

Activity 6: **Food chain changes.**

Children have to **work in pairs**. They have to read the text ant decide how to fill in the gaps in a way that makes sense.

At the end of the session they have to choose which partner has to read the results to the rest of the class, giving the reasons why they have decided on one answer over another.

They can use the following language support:

I think that more plants survived, because .....

I think that more deer survived, because.....

I think the number of hawks and foxes decreased because...

Other animals like mice and voles decreased in number because

_____

more to eat didn't eat predators ate there were few

ASSESSMENT

The following assessment activities will help teachers to evaluate how well the pupils have achieved the aims and the procedures of the Unit.

Also will aid children to be aware of their progress both in their work and in their relationship with their peers.

The basic aim is the understanding of the content but it's important too, to take into account how they communicate their knowledge between them and with the teacher.

Oral assessment:

Listening and taking notes during the speaking activities.

Writing activities :

Assessing their everyday work and individual worksheets achievement. At the end of the lesson each pupil has to fill the gaps in the Unit Test worksheet using the words in the box**. Activity 7: Food chains assessment.**

Self-assessment

Activity 8: Self assessment worksheet. Fill the grid in the assessment worksheet. Pupils have to assess their attitude towards their work and write the contents they didn't know at the start of the topic. They have to summarize what they have learned.

References:

http://www.bbc.co.uk/schools/ks2bitesize/science/activities/food_chains.shtml

Key Stage Two. Science. The Study Book

Unit 3. Food chains Activity 1 **Characteristics of living things**

For this topic, you will be divided up into groups, called **expert** groups. In your group, use the information given on the web to fill in the worksheet.

Find out about this living thing……

You will need a dictionary to look some words up.

Description

Where does it live?

What does it eat?

What is it eaten by?

An interesting fact about it.

Draw it.

What have you learned about food chains?

SUMMARY AGENDA

In your expert group you discussed the characteristics and living habits of one of these living things: SQUIRREL, TAWNY OWL, OAK TREE, CATERPILLAR, EARTH WORM, SNAIL, TRUSH and FOX.

You will now discuss it with the other expert groups. You will do this in a home group, using the agenda below.

AGENDA

20 How do plants get their food?

21 How do animals get their food?

22 What is the name of the links between animals and plants?

23 How does a food chain start?

24 What would happen if a part of a food chain alters?

25 What is the producer in the food chain you have studied?

26 Can you name two consumers?

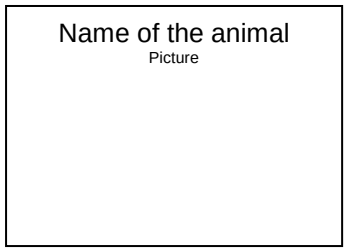
27 Can you name two predators?

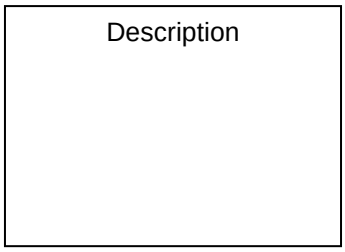
28 Can you name two preys?

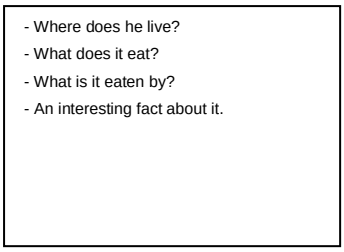
29 Why our chain food starts with an oak tree?

Unit 3. Food chains Activity 3 **Living things presentation**

Working in groups, choose a food chain and make a presentation of its members. You can use a pattern similar to the one below.







Unit 3. Food chains Activity 4 **Ordering food chains**

Put these food chains in the right order. Use your dictionary.

Remember that  means "food for" or "is eaten by".

sun thrush caterpillar cabbage

……

cat sun mouse corn

……..

sun slug cat blackbird lettuce

……

wolf sun deer tree leaves

……

sun fish seaweed seal orca

……..

PREDATOR OR PREY?

In each set of animals below, two are prey and one is the predator. Underline the prey and write down the predator on the dotted line.

cat, hamster, goldfinch ……...

deer, rabbit, puma ……

antelope, crocodile, zebra, ……

slug, blackbird, earthworm ……

Unit 3. Food chains Activity 6 **Food chain changes**

Change one part of the food chain and the rest of the chain will be altered. Discuss with your partner and fill in the gaps. Make sure the text makes sense.

At the end of the session we will check your answers.

In 1953, a lot of rabbits were destroyed by a disease introduced by man. Soon the countryside began to change.

More plants survived because

…….....

So more deer survived because

……

However, the number of foxes and hawks dropped because……..

……

……..

Some animals like mice (mouse) and voles decreased in numbers

because……

……..

Unit 3. Food chains **Food chains assessment**

Fill in the gaps. Use **some** of the words in the box.

consumer	sun	photosynthesis	predator	prey
plant	producer	energy	tiger	secondary

Through a food chain the …….. is transferred from organism to organism.

The energy comes from the ……

Plants use sunlight to make their own food through a process called…….....

A food chain starts with a…….. , which is a ……..because it produces food for other creatures.

An animal that eats a plant is called a ……

An animal that eats another animal is a ……..

and the animal eaten by it is a ……

Self assessment **Unit_____**

My work			
My work was neat			
I was careful			
I tried hard			
I paid attention			
I worked hard			

I didn't know:.....
.....
.....
.....
.....
.....
.....

Myself and others			
I listened			
I cooperated with my group/partner			
I thought for myself			
I considered others			
I was willing/able to ask for help			
I shared with others			

I have learned:.....
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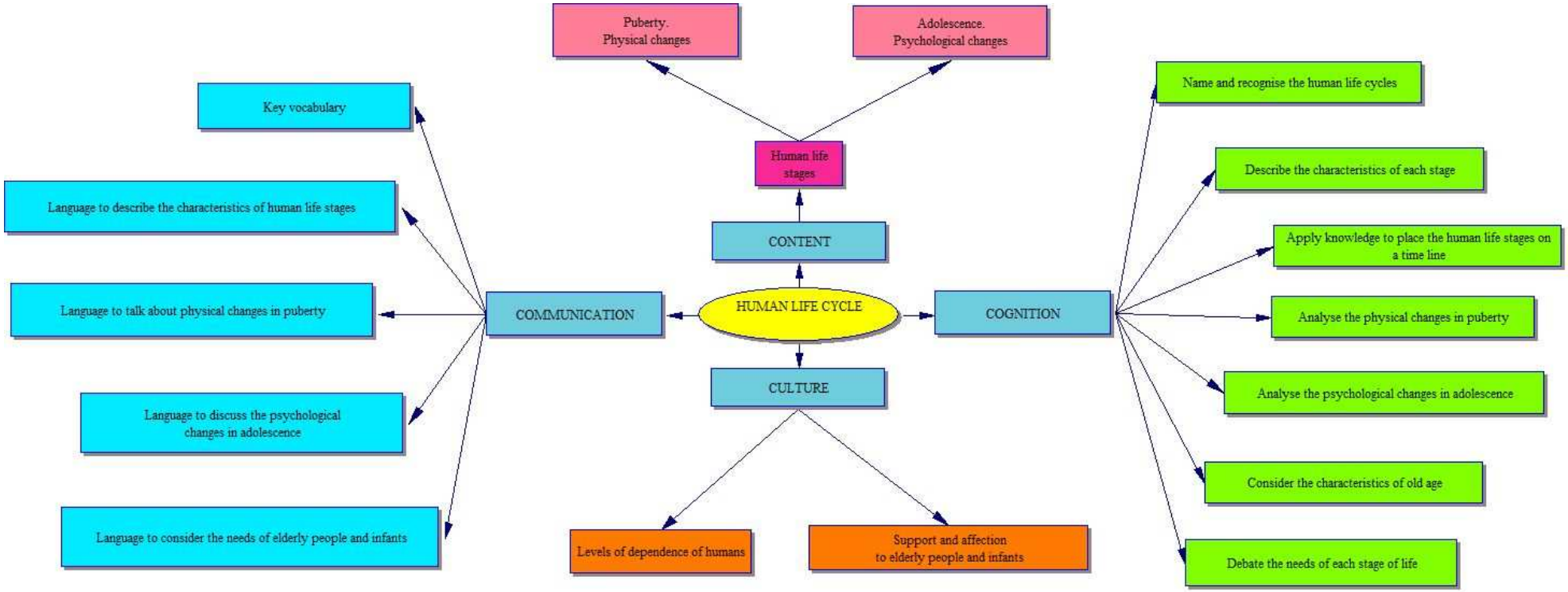
Vocabulary

Look all the words you don’t know up in **your dictionary** or online.

Write down the appropriate entry.

2.2.4.- Human life cycle



Núria Forns Escola del Mar

CLIL LESSON PLAN TOPIC: **Human life cycle**

AIMS

1. To study the stages in the human life cycle.
2. To study puberty.
3. To study old age.

TEACHING OBJECTIVES	LEARNING OUTCOMES	COMMUNICATION	CULTURE
A. CONTENT	A. CONTENT	Language of learning: - Key vocabulary Language for learning: Language to distinguish between the different stages in the human life cycle and their characteristics. Language to discuss and explain the physical and psychological changes that humans undergo throughout their life. Language to debate the need for support and affection in all stages of the human life. Language through learning: - Use of the dictionary.	Pupils will be made aware of: The different degrees of dependence of humans throughout their life. The need for support and affection in all stages of life and very especially in infancy and old age.
Names of the stages in the human life cycle. Different stages in the growth and development of humans. Different capabilities through the different stages of the human life cycle. Characteristics of puberty. Characteristics of old age.	Pupils will have to be able to: Use the key vocabulary. Name all the stages in the human life cycle. Know the main characteristics of the stages of the human life cycle. Recognise the different stages of the life cycle in humans. Place the stages of the human life cycle on a time line. Understand the physical and psychological changes in puberty, adolescence and old age.		
B. COGNITION To allow opportunities for pupils to: Observe examples of the stages of the human life cycle. Know the characteristics of these stages. Learn about the physical and psychological changes in puberty, adolescence and old age.	B. COGNITION Pupils will be able to: Apply key vocabulary. Discuss when a person is in one of the different stages of human life cycle. Decide what characteristics define the different stages in human life. Talk about the physical and psychological changes in puberty, adolescence and old age.		

HUMAN LIFE CYCLE TEACHING NOTES

1st session

Activity 1. Show pupils the Presentation and read the questions in the **Talking about life** oral activity. Give them time to understand them and then read the questions aloud for them. Clarify their doubts and translate into English the answers given in their mother tongue.

This is an activity meant to make the children talk between themselves in order to give the teacher an answer agreed on by the members of the group. It can be a good way to assess their previous knowledge on the topic as well.

2nd session

Activity 2. Order sentences. The next activity can be worked in groups or in pairs. They have to read and discuss which key words match the definitions. Then cut out and glue them in order on another worksheet as explained in the pupils' instructions.

They can look words up in the dictionary.

The language they will use is similar to the one used in previous discussions:

- I think ……. means that ……
- I think that……. (stage) is before/ after ……(stage)

3rd session

Activity 3. ICT Time line. Doing this activity children will learn how to present the main stages of the human life cycle in a time line using ICT resources. As shown in the pupils' worksheet they have to go to this web page:

http://www.teach-nology.com/web_tools/materials/timelines/ and follow instructions.

First they need to decide the key words to use, then the definitions and finally they will add some pictures to illustrate every stage.

They can use the internet or a picture library created by the teacher or the students.

4th session

Activity 4. Interactive body.

Following the student's worksheet instructions, pupils have to go to the following web page: http://www.bbc.co.uk/science/humanbody/body/interactives/lifecycle/teenagers/ and listen to the teacher's instructions.

Teachers can use the interactive presentation at their discretion, deciding to spend more or less time in specific parts of the activity, with which the interactive part can be done in a session, letting the pupils observe at their leisure and leave the written part for another day.

They should make use of the online dictionary:

http://dictionary.cambridge.org/default.asp?dict=S.

5th session

Activity 5. Psychological changes. Mutual dictation

There are two sheets for this activity: Pupil A and Pupil B. Each sheet has the same text but with different missing words. Working in pairs, students have to make questions to find the words to fill in the gaps, checking the information they have filled in themselves.

Students may read the sentence till they get to a gap and wait for their partner to read the missing word/s or, if they are able, students may create a question to ask, and the answer will provide the missing word/s.

The questions can be:

- When is often symbolic to rebel?
- How can you say Pre-Menstrual Syndrome with other words?
- What do teenagers do with their parents?
- Who(m) do teenagers want to impress?
- When are teenagers angry?

or, depending on their level they could be:

- How do you spell ……?
- Can you repeat it for me, please?

At the end of the activity they then have to compare their texts checking the information they have written down and correcting any errors. They should be able to answer questions about the subject.

Key to activity 5:

Unit 4. Life cycles. ***Pupil A / B*** ***Psychological changes***

Try to fill in the missing gaps alone without working with your partner. When you are ready, face your partner and talk to each other to fill in the missing information checking the information you have filled it yourself. Try to ask questions or simply read your part of the text.

Independent minds

Rebelling in ***teenagers*** *is often symbolic. They want to look grown up and impress their* ***friends****. If parents disapprove, it often makes teenage behaviour worse and* ***arguments*** *are common. They defy adult restrictions deliberately as a way of asserting their* ***independence.***

Breaking the rules

*There are very few perfectly **behaved** teenagers. Many of them take part in some kind of **dangerous**, unhealthy or anti-social pursuit. But the good news is - it doesn't last. Statistics for boys show that teenage criminal **behaviour** tends to begin around the age of 13, peak at 17 and then disappear almost completely in early **adulthood.***

Mood swings

*On top of the world in the morning, depressed over **lunch time** and angry in the **evening** - teenagers have a reputation for mood swings that could be caused by hormones. Pre-Menstrual Syndrome or **PMS** is an acknowledged cause of irritability and mild **depression** in adult women and teenage girls as well.*

Staring in the mirror

*Their rapidly changing physical appearance can cause them to become much more **self-conscious**. Teenagers often start to hide themselves away, locking their bedroom doors, working on their **appearance.***

Fight club

*Most teenagers **row** with their parents. The conflict, although frequent, is generally less serious than people think. When young people **argue** with their parents, they are learning the art of **negotiation**, an essential social **skill** for later life. Teenagers certainly seem to know how far they can **push** their parents. When they see they are near breaking point they usually **back** off.*

I need some space...

*Teenagers want to be free of their **parents'** control and take charge of their own **life.** One of the first signs of change many parents notice is that their children start to*

*withhold **information** from them. Research indicates most teenagers still value their parents opinion and will turn to them for **help** when they are in trouble.*

You're not going out in that!

*Teenagers often see things quite **differently** to their parents, and this can cause arguments. An issue such as the **clothes** their children should wear is a matter of convention for adults and a matter of personal **freedom** for a teenager. For adolescents **wearing** what they want to is a sign of their independence and maturity.*

6th session

Activity 6. Ageing. Reading, writing and speaking activity.

Children have to watch some slides of the presentation in this web page: http://www.sciencemuseum.org.uk/on-line/lifecycle/26.asp.

The titles below are the slides needed to do the next pupil's worksheet.

- Ageing
- How long will you live?
- The world's oldest people
- What happens when you age?
- Can you prevent ageing?

Pupils have to work in groups, understand the meaning of the presentation, discuss the answers to the questions and follow the instructions to go to the next slide. They will write the answer in their individual worksheet and read some of them to the rest of the class.

7th session

Activity 7. Listening.

Click the hyperlink to the video clip in the last slide of the PowerPoint presentation.

Children have to work in small groups. Half of them take notes and the other half listen and try to understand. They watch the clip twice. Then, they swap tasks and watch the clip one more time.

When they are ready, hand out the transcription to them with some gaps in it. They have to fill in the gaps. They may use the dictionary.

Finally they have to check the answers and correct any errors.

Transcription from:

http://www.bbc.co.uk/mediaselector/check/learningzone/clips/clips/p_scie/p_scie_ec_00061?size=16x9&bgc=C0C0C0&nbram=1&bbram=1&nbwm=1&bbwm=1

From our **earliest** days **we grow** and **change**. And our **features** change **too** as we get **older.**

- He **had** the **prettiest**, waviest **hair.** That's **different now**, isn't it?
- Yes, **it is.**
- And his **skin** was **smooth**, no **wrinkles.**

  And he didn't have **any** little pot **here**.

ASSESSMENT

The following assessment activities will help teachers to evaluate how well the pupils have achieved the aims and the procedures of the Unit. It will also aid children to be aware of their progress both in their work and in their relationship with their peers.
The basic aim is the understanding of the content but it's important too, to take into account how they communicate their knowledge with their peers and with the teacher.

Oral assessment:
Listening to and taking notes during the speaking activities.

Writing activities :
Assessing their everyday work and individual worksheets achievement.

Activity 8: **Human life cycle assessment**. At the end of the lesson each pupil has to fill in the gaps in the Unit Test worksheet using the words in the box.

Activity 9: **Self assessment worksheet**. Fill in the grid in the assessment worksheet. Pupils have to assess their attitude towards their work and write about the contents they didn't know at the start of the topic. They have to summarise what they have learned.

References

http://www.libraryvideo.com/guides/K7087.pdf

http://www.bbc.co.uk/science/humanbody/body/interactives/lifecycle/teenagers/

http://www.bbc.co.uk/science/humanbody/mind/index.shtml?psychology

http://www.bbc.co.uk/learningzone/clips/

http://www.teach-nology.com/web_tools/materials/timelines/

http://www.sciencemuseum.org.uk/on-line/lifecycle/

Unit 4. Human life cycle Activity 1 **Talking about life**

Oral activity

Watch the presentation and think about answers to these questions. Use your dictionary.

Slide 2. What do you think they are? Do you remember any other kind of cells you have seen in your Science lessons? Read and tell what their mission is when they are inside a human body.

Slide 3. Look at the baby in the picture. Read and say what happens in the first stage of the human life cycle. Do you think the baby can do many things by itself? How is this stage called? How do children need to be treated?

Slide 4. What are the differences between this child and the first one? Think and say one thing that he can do with every sense: sight, hearing, sense of smell, taste and sense of touch. What is the name of this stage? How long does it last?

Slide 5. Look at the boy in the picture. What is he doing? How old do you think he is? Do you have any brothers or sisters that age? Explain things that they can do. Do you think they know when they are being naughty?

Slide 6. Is that the stage of human life you are in now? Are you as dependent as an infant? What can you do by yourself? Write a list with your partner. What are the changes in your body since you were an infant? Write a list.

Slides 7 and 8. Look at these people. What stage of life are they in? How long does it last? What kind of changes do they undergo? Can you give some examples?

Slide 9. Are people in that stage independent from their parents? What kind of responsibilities must they assume? Make a list with your partner.

Slide 10. Do you know someone in this stage of life? What is the approximate length of time of this stage? Are elderly people's abilities increasing or decreasing? What do you think they contribute to our society? How can we give support to our elders?

Unit 4. Human life cycle Activity 2 **Order sentences**

Discuss in your group the definitions below. Write in each box the key word. Then cut out and glue them in order on a new worksheet.

adolescence adulthood birth cells childhood infancy old age puberty toddler stage	
	The second stage of the human life cycle, lasting about one year, when a person is almost totally helpless, but through the five senses, learns a lot about their environment.
	The fourth stage of the human life cycle, lasting from about age 12 to 18; a confusing time when a person undergoes many physical, emotional and intellectual changes, and is preparing for adulthood.
	The last part of adulthood, when a person loses physical capabilities but improves on experience.
	The first stage of the human life cycle, when the newborn infant comes out of its mother's body.
	The earliest part of childhood, lasting from ages 1 to 3, during which time the child learns to become more independent, more active and to begin to learn the difference between right and wrong.
	The tiny, microscopic, building blocks of life, from which all living things are made; humans begin life as one cell and grow as one cell divides into trillions.
	The earliest part of adolescence, when boys and girls are physically able to reproduce and begin to show the adult characteristics of their gender.
	The third stage of the human life cycle, lasting about ten years to age 11 or 12.
	The fifth stage of the human life cycle, lasting from the end of adolescence through old age, when people must assume many responsibilities, become more independent, and may start their own family.

Unit 4. Human life cycle Activity 3 **ICT Time line**

Summarise all you have learned using the time line generator in :

http://www.teach-nology.com/web_tools/materials/timelines/ to create the human life cycle. Decide in pairs the key words you will use.

- First, identify the VERTICAL TIME LINE. Click below it.
- Second, follow the instructions.

  Write down the title: THE HUMAN LIFE CYCLE

  Decide the length of time of some stages of human life, their name and brief description.

  e.g. *From 0 to 1. Infancy. The person is helpless and starts to learn.*

  Then choose a border graphic.

  Click on the button below to generate your Time Line.

  Finally print it.
- Third, find pictures of each stage, either from home or searching the internet.

  Add those pictures to the Time Line you have created.
- Finally, display your work on the classroom wall.

Unit 4. Human life cycle Activity 4 **Interactive body**

Watch the interactive activity in:
http://www.bbc.co.uk/science/humanbody/body/interactives/lifecycle/teenagers/
Follow the instructions and answer these questions.

1. Point to the hotspots on the interactive bodies. Write the names of things that change during puberty in the girl's body:……
……
Now in the boy's body…….....
……..
Are they the same?.....
What is different in girls?.....
And in boys?.....

2. What part of the body triggers the production of hormones and therefore, puberty?.....
Is the same body part in girls and boys?.....

3. What happens to the boys' and girls' faces?…….....
……

4. Say three adjectives that describe a teenager's sweat. Look them up in your dictionary……
……

5. Fill the gaps in the following paragraph:

The breast grows as _ _ _ gathers inside. The areola _ _ _ _ _ _ _ and milk ducts start forming inside the _ _ _ _ _ _. The breast become _ _ _ _ _ _ _ and the _ _ _ _ _ _ flattens.
What is the length of the menstrual cycle?.....
When boys speak, their _ _ _ _ _ _ _ _ _ _ _ vibrate as the air is pushed out of their _ _ _ _ _.As boys' vocal cords get _ _ _ _ _ _, they vibrate _ _ _ _ slowly, producing a _ _ _ _ _ pitched sound.
_ _ _ _ _ flows into the erectile tissue in the _ _ _ _ _, making it hard.

Unit 4. Human life cycle Activity 5 **Psychological changes**

Pupil A

Try to fill in the missing gaps by yourself, without working with your partner. When you are ready, face your partner and talk to each other to fill in the missing information checking the information you have filled it by yourself. Try to ask questions or simply read your part of the text.

Independent minds

Rebelling in _ _ _ _ _ _ _ _ _ is often symbolic. They want to look grown up and impress their **friends**. If parents disapprove, it often makes teenage behaviour worse and _ _ _ _ _ _ _ _ _ _ are common. They defy adult restrictions deliberately as a way of asserting their **independence.**

Breaking the rules

There are very few perfectly _ _ _ _ _ _ _ teenagers. Many of them take part in some kind of **dangerous,** unhealthy or anti-social pursuit. But the good news is - it doesn't last. Statistics for boys show that teenage criminal _ _ _ _ _ _ _ _ _ tends to begin around the age of 13, peak at 17 and then disappear almost completely in early **adulthood.**

Mood swings

On top of the world in the morning, depressed over _ _ _ _ _ **-** _ _ _ _ and angry in the **evening** - teenagers have a reputation for mood swings that could be caused by hormones. Pre-Menstrual Syndrome or _ _ _ is an acknowledged cause of irritability and mild **depression** in adult women and teenage girls as well.

Staring in the mirror

Their rapidly changing physical appearance can cause them to become much more _ _ _ _ **-** _ _ _ _ _ _ _ _ _ _ . Teenagers often start to hide themselves away, locking their bedroom doors, working on their **appearance.**

Fight club

Most teenagers _ _ _ with their parents. The conflict, although frequent, is generally less serious than people think. When young people **argue** with their parents, they are learning the art of _ _ _ _ _ _ _ _ _ _ _ , an essential social **skill** for later life. Teenagers certainly seem to know how far they can _ _ _ _ their parents. When they see they are near breaking point they usually **back** off.

I need some space...

Teenagers want to be free of their _ _ _ _ _ _ _ **‘** control and take charge of their own **life.** One of the first signs of change many parents notice is that their children start to withhold _ _ _ _ _ _ _ _ _ _ _ from them. Research indicates most teenagers still value their parents opinion and will turn to them for **help** when they are in trouble.

You're not going out in that!

Teenagers often see things quite _ _ _ _ _ _ _ _ _ _ _ to their parents, and this can cause arguments. An issue such as the **clothes** their children should wear is a matter of convention for adults and a matter of personal _ _ _ _ _ _ _ for a teenager. For adolescents **wearing** what they want to is a sign of their independence and maturity.

Unit 4. Human life cycle Activity 5 **Psychological changes**

Pupil B

Try to fill in the missing gaps by yourself, without working with your partner. When you are ready, face your partner and talk to each other to fill in the missing information checking the information you have filled it by yourself. Try to ask questions or simply read your part of the text.

Independent minds

Rebelling in **teenagers** is often symbolic. They want to look grown up and impress their _ _ _ _ _ _ _ . If parents disapprove, it often makes teenage behaviour worse and **arguments** are common. They defy adult restrictions deliberately as a way of asserting their _ _ _ _ _ _ _ _ _ _

Breaking the rules

There are very few perfectly **behaved** teenagers. Many of them take part in some kind of _ _ _ _ _ _ _ _ _ , unhealthy or anti-social pursuit. But the good news is - it doesn't last. Statistics for boys show that teenage criminal **behaviour** tends to begin around the age of 13 , peak at 17 and then disappear almost completely in early _ _ _ _ _ _ _ _ _.

Mood swings

On top of the world in the morning, depressed over **lunch time** and angry in the _ _ _ _ _ _ _ - teenagers have a reputation for mood swings that could be caused by hormones. Pre-Menstrual Syndrome or **PMS** is an acknowledged cause of irritability and mild **depression** in adult women and teenage girls as well.

Staring in the mirror

Their rapidly changing physical appearance can cause them to become much more **self-conscious**. Teenagers often start to hide themselves away, locking their bedroom doors, working on their _ _ _ _ _ _ _ _ _ _ **.**

Fight club

Most teenagers **row** with their parents. The conflict, although frequent, is generally less serious than people think. When young people _ _ _ _ _ with their parents, they are learning the art of **negotiation**, an essential social _ _ _ _ _ for later life. Teenagers certainly seem to know how far they can **push** their parents. When they see they are near breaking point they usually _ _ _ _ off.

I need some space...

Teenagers want to be free of their **parents'** control and take charge of their own _ _ _ _ One of the first signs of change many parents notice is that their children start to withhold **information** from them. Research indicates most teenagers still value their parents opinion and will turn to them for _ _ _ _ when they are in trouble.

You're not going out in that!

Teenagers often see things quite **differently** to their parents, and this can cause arguments. An issue such as the _ _ _ _ _ _ _ their children should wear is a matter of convention for adults and a matter of personal **freedom** for a teenager. For adolescents _ _ _ _ _ _ _ what they want to is a sign of their independence and maturity.

Unit 4. Human life cycle Activity 6 **Ageing**

Watch the presentation in http://www.sciencemuseum.org.uk/on-line/lifecycle/26.asp.

Follow the instructions in your worksheet.

In groups discuss the following questions and give answers arrived at by consensus.

1. Ageing.

- What are scientists investigating?
- Why do you think is important to find out what happens with the body's cells?

Click the **first** question on your right.

2. How long will you live?

- Why did many children die before five?
- Why do you think the average life span has risen for humans?

Click the **second** question on your right.

3. The world's oldest people.

- Look at the time line of Elizabeth Israel's life.
- Say the three most important events for humans. How old was she?

Click the **first** question on your right.

4. What happens when you age?

- Say three characteristics of ageing.
- Why can this be both a happy time and a difficult time?

Click the **second** question on your right.

5. Can you prevent ageing?

- What can help you to live longer?
- Is living longer the main aim of scientific investigation?

Unit 4. Human life cycle Activity 7 **Listening**

Pupil A

Take notes of the main words in your worksheet. Then, with your partner, fill in the gaps.

From our _ _ _ _ _ _ _ _ days _ _ _ _ _ _ _ and _ _ _ _ _ _ _ . And our _ _ _ _ _ _ _ _ change _ _ _ as we get _ _ _ _ _**.**

- He _ _ _ the _ _ _ _ _ _ _ _ _ _ , waviest _ _ _ _ **.** That's _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ , isn't it?
- Yes, _ _ _ _ **.**
- And _ _ _ _ _ _ _ _ was _ _ _ _ _ _ _ , no _ _ _ _ _ _ _ _ _ **.**
  And he didn't have _ _ _ little pot _ _ _ _ .

Unit 4. Human life cycle Activity 7 **Listening**

Pupil B

Watch and listen. Then, with your partners, fill in the gaps.

From our _ _ _ _ _ _ _ _ days _ _ _ _ _ _ _ and _ _ _ _ _ _ _ . And our _ _ _ _ _ _ _ _ change _ _ _ as we get _ _ _ _ _.

- He _ _ _ the _ _ _ _ _ _ _ _ _ _ , waviest _ _ _ _ . That's _ _ _ _ _ _ _ _ _ _ _ _ _ _ , isn't it?
- Yes, _ _ _ _ .
- And _ _ _ _ _ _ _ _ was _ _ _ _ _ _ _ , no _ _ _ _ _ _ _ _ _ .

  And he didn't have _ _ _ little pot _ _ _ _ .

Unit 4. Human life cycle **Human life cycles assessment**

1. When does a person begin to walk, talk and become more independent? Circle the right answer.

a) At birth b) In the infancy c) In the adolescence d) In the toddler stage

2. At what age do you become an adult? Circle the right answer.

a) At 6 b) At 18 c) At 14 d) At 65

3. Name all the stages of the human life cycle.

_____

_____

_____

3. What do you think you should know and be able to do by the end of your childhood stage?_____

_____

_____

4. What happens to the human boy or girl during puberty? Circle the right answers.

a) They start working.
b) They are able to reproduce.
c) They start sprouting teeth.
d) They go through a lot of physical and psychological changes.

5. Why do we say that adulthood starts the cycle all over again?

_____

_____

Self assessment **Unit_____**

My work			
My work was neat			
I was careful			
I tried hard			
I paid attention			
I worked hard			

I didn't know:.....
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Myself and others			
I listened			
I cooperated with my group/partner			
I thought for myself			
I considered others			
I was willing/able to ask for help			
I shared with others			

I have learned:.....
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Vocabulary

Look all the words you don't know up in **your dictionary** or **online.**
Write down the appropriate entry.

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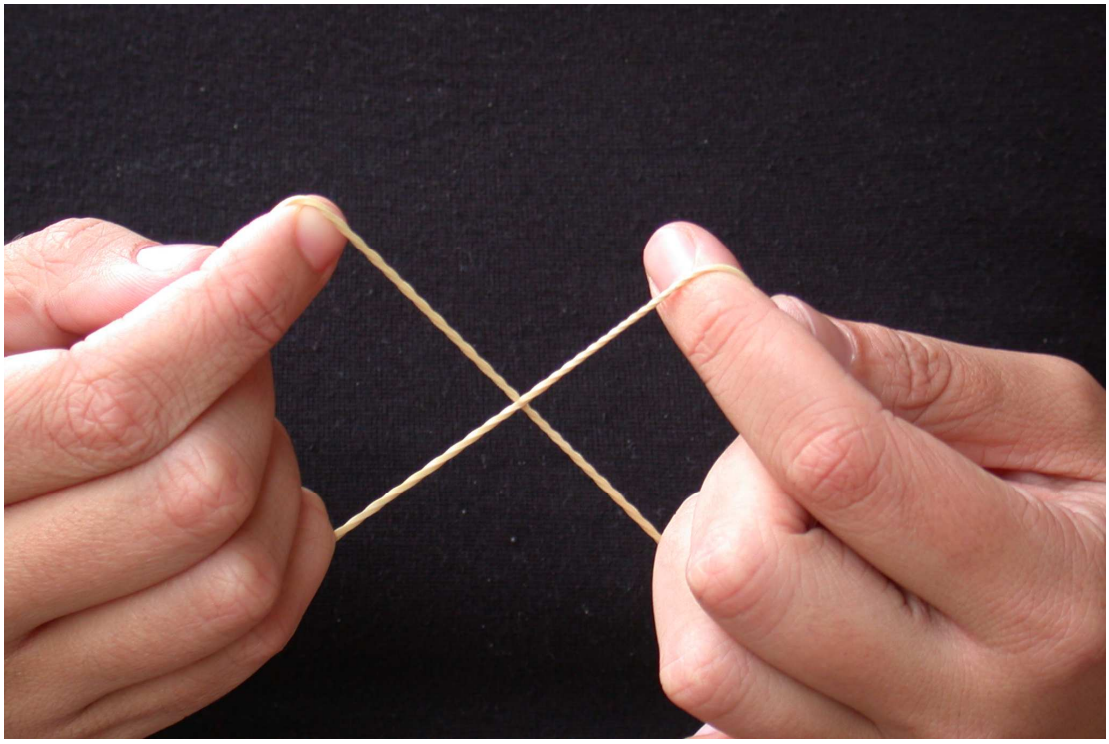
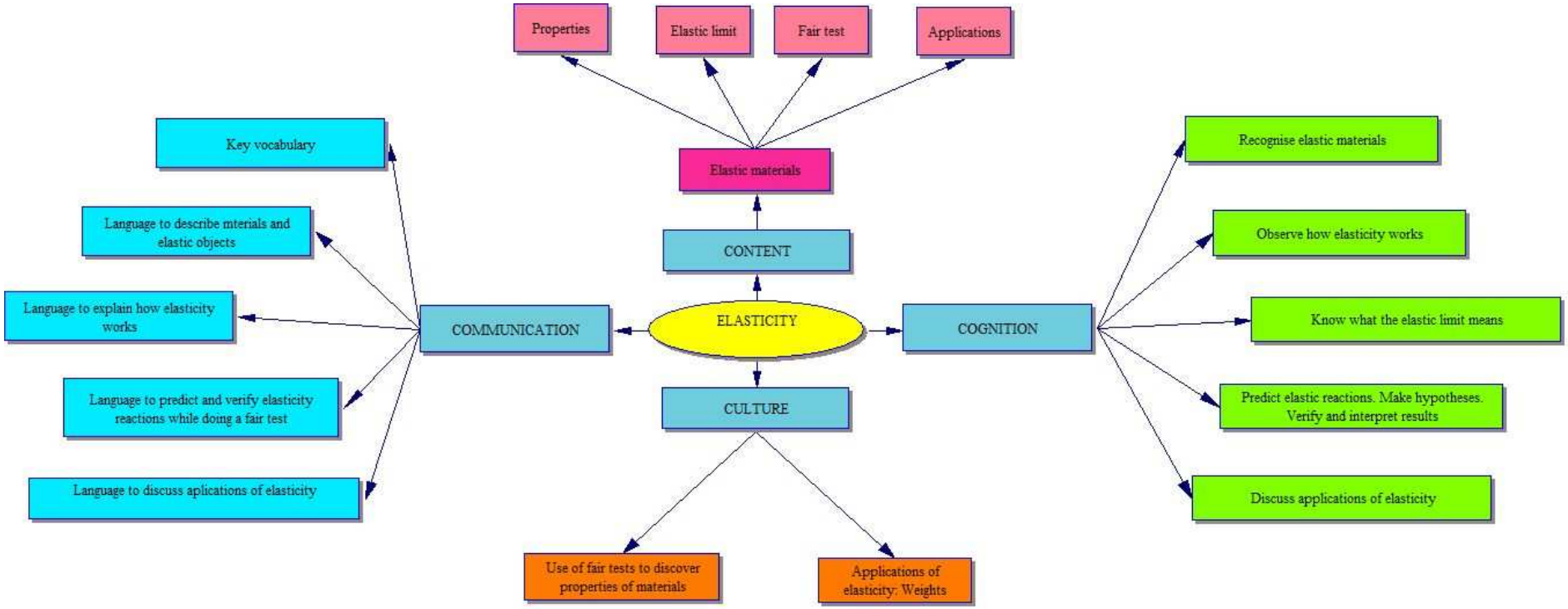
2.2.5.- Elasticity





Núria Forns Escola del Mar

CLIL LESSON PLAN TOPIC: **Materials. Elasticity**

AIMS: To know one property of materials: Elasticity.
To conduct a fair test about elasticity.

TEACHING OBJECTIVES	LEARNING OUTCOMES	COMMUNICATION	CULTURE
A. CONTENT	A. CONTENT	Language of learning: - Key vocabulary Language for learning: Language to predict, discuss and summarise the steps they have to follow to carry out a fair test. Language needed to discuss and decide the uses of elasticity. Language through learning: Use of the dictionary. The language that will probably arise when carrying out the fair tests.	Pupils will be made aware of: The importance of carefully following the steps in a fair test in order to reach a valid result. The importance of carrying out fair tests to know more about how materials react The uses of elasticity in everyday life: weights
Previous knowledge about the properties of materials. Elasticity. Elastic limit(E) Elasticity applications.	Pupils will have to be able to: Know how elasticity works. Know when a material is elastic. Know what the elastic limit is. Know what we can use elasticity for Name some elastic materials.		
B. COGNITION	B. COGNITION		
To allow opportunities for pupils to: See some elastic materials. Know what elasticity means. Observe how elasticity works. Know some applications of elasticity. Conduct two fair tests about elasticity.	Pupils will be able to: Explain how an elastic material reacts when manipulated. Explain the steps they have to take to conduct the fair tests. Predict what will happen while carrying the fair tests. Summarise the results. Discuss what they can use elasticity for.		

ELASTICITY TEACHING NOTES

1st session

From pupil's previous knowledge about materials and their properties in L1, they have to observe and test some common objects and discuss their properties. Then decide which of them are elastic. **PowerPoint slides 1-3**

Activity 1: Describe properties. Oral activity: They have to express what they can find out about elastic materials.

They can use the following language support:

This material (*can/ can't*) be squeezed.

This object (*keeps/doesn't keep)* its shape when squeezed.

This object is (*soft, hard, fragile, flexible,..)*

If I pull this material it …….(*stretches/ doesn't stretch*).

I think this material (*is/is not*) ……elastic because…….

When I stretch the rubber band down I feel……..(a pull up)in my hand.

I think this material is plastic (*but not /and*) elastic because…….

Then watch **slides 4,5** in order to carry out a fair test in the next session.

2nd session

They are going to carry out a fair test on elasticity by finding out how a rubber band can stretch.

Pupils have to write down what they want to find out, what things will remain the same in the experiment and what will change, and set down the things they will need for the experiment.

They have to fill in the worksheet provided. **Activity 2** : **1. Let's investigate elasticity!**

They would need a dictionary to look up the meanings of the words all through the lesson and then write them down on the **vocabulary** worksheet.

They can use the following language support and the vocabulary used when explaining the PPT presentation.

We want to find out how …….

The things that have to be the same are…….

To do a fair test we only can change …… at a time.

First we will ……..(*take one rubber band*), ……..

Then we will start ……(*pouring water*)…… at a time.

3rd session

After watching **PPT slide 6**, they will have to make predictions, discuss them in groups and write them down on their individual worksheets. **Activity 3**: **2. Let's investigate elasticity!**

They have also to write down the steps they are to follow for their tests to be fair.

Slide 7 will help them understand the process.

4th session

In this session children have to follow the steps in order to carry out the fair test that they prepared in the previous sessions. Watch **presentation slides 8,9.**

Activity 4: **3. Let's investigate elasticity!** They have to fill in the worksheet provided.

They have to record the results and explain their conclusions to their group, the other groups and to the teacher.

They can use the following language support:

We found out that:

The **……** the amount of water in the container, the **……** the rubber band was.

higher/lower longer/shorter

The …… was ……

elastic limit centimetres

5th session

In this session pupils have to discuss in groups and summarise what they have learned about carrying a fair test.

They have to read, discuss and decide the right order of the different sentences on the worksheet provided. **Activity 5: 4. Let's investigate elasticity!**

Then they will create a new document cutting and pasting the sentences and the pictures taken while doing their investigation.

6th session

The next activities are designed to practise fair testing and applying elasticity for a practical purpose: weighing some objects.

With these activities they would learn one of the applications of elasticity.

Watch **presentation slides 10,11.**

Activity 6: Pupils have to fill in the worksheets: **1.Which is the heaviest?** and **2.Which is the heaviest?** simultaneously, deciding what to do, making predictions and stating results.

As in the other experiment they can take pictures of the proceedings, write sentences that explain them and make a display for the classroom.

ASSESSMENT

The following assessment activities will help teachers to evaluate how well the pupils have achieved the aims and the procedures of the Unit. It will also aid children to be aware of their progress both in their work and in their relationship with their peers.

The basic aim is the understanding of the content but it's important too, to take into account how they communicate their knowledge with their peers and with the teacher.

Oral assessment:

Listening to and taking notes during the speaking activities.

Writing activities :

Assessing their everyday work and individual worksheets achievement. At the end of the lesson each pupil has to fill the gaps in the Unit Test worksheet using the words in the box**. Activity 9**: **Elasticity assessment** .

Activity 10: **Self assessment worksheet**. Fill in the grid in the assessment worksheet. Pupils have to assess their attitude towards their work and write about the contents they didn't know at the start of the topic. They have to summarise what they have learned.

Resources:

http://www.standards.dfes.gov.uk/schemes2/science/sci3c/sci3cq7?view=get

.The World of Science. Key Stage 2.

Bounce, Stretch and Spring. Julie Fitzpatrick.

Unit 5.Elasticity Activity 1 **Describe properties**

Observe the objects you can see in the classroom and in the presentation.

Test their properties. Pull them, let go of them, rub them, squeeze them.

Then talk in groups about them.

Use the following frame:

This material can/ can't be squeezed.

This object (*keeps/doesn't keep)* its shape when squeezed.

This object is (*soft, hard, fragile, flexible,..)*

If I pull this material it …….(*stretches/ doesn't stretch*).

I think this material is ……..(*elastic*) because……

I think this material is not …… because …….

When I stretch the rubber band down I feel……..(a pull up)in my hand.

I think this material is (*plastic) but /and (elastic*) because…….

We want to find out ……..

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To keep our test fair we are keeping these things the same ……..

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We are only changing……..

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To carry out our test we will need……

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First we will……

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Then we will……

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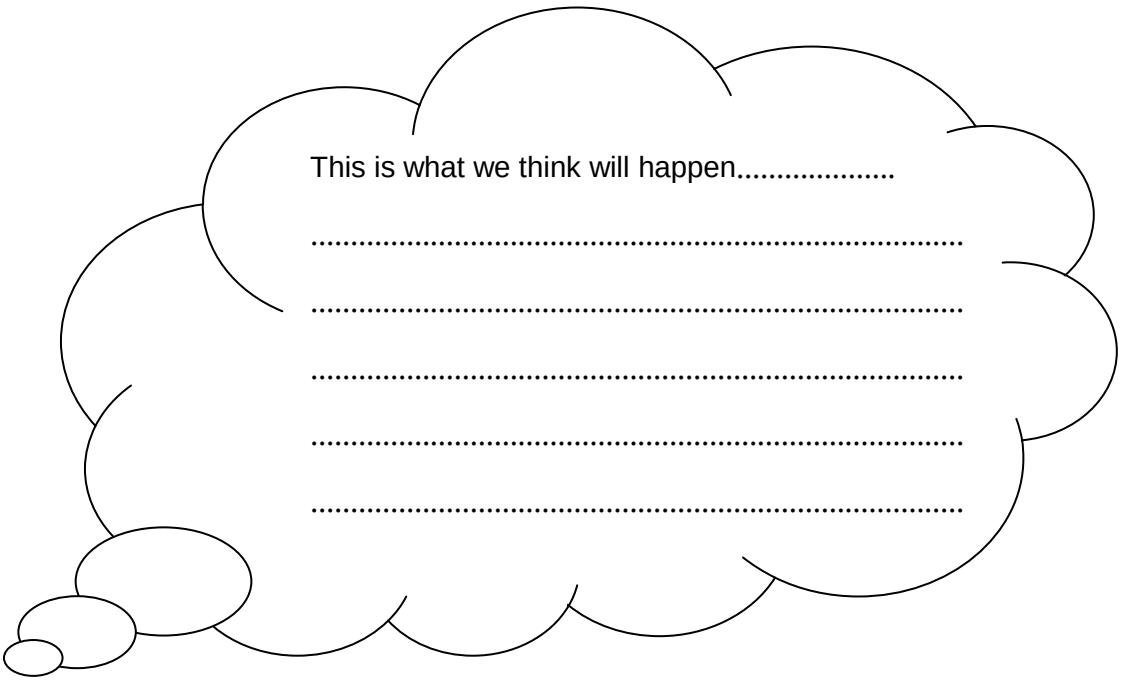

Unit 5. Elasticity Activity 4 **3.Let's investigate Elasticity!**

Group Date

Let's record our results.

Amount of water in container	Length of the rubber band
None	..... cm
50 ml	..... cm
100 ml	..... cm
150 ml	..... cm
200 ml	..... cm
250 ml	..... cm
..... ml	elastic limit

We found out that……

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Unit 5. Elasticity Activity 5 **4.Let's investigate Elasticity!**

Create a new document with pictures taken while doing your experiment. Use the worksheet provided.
Cut and paste in order the following sentences. Add the appropriate pictures.

When the rubber band reaches its elastic limit it snaps.
You need to have all the things ready before you start your experiment.
Measure the different lengths of the rubber band.
Hook a plastic container onto the bottom of the rubber band with a clip.
Thread some string through a rubber band and hang it over a hook or a cane.
Pour water into the container, 50 ml at a time.
Record the results.

Unit 5. Elasticity Activity 6 **1.Which is the heaviest?**

Draw the objects and record your measurements.

Object	Length of the rubber band

Unit 5.. Elasticity Activity 7 **2.Which is the heaviest?**

Question	Prediction	Apparatus	Keeping it fair- only change…..	Results
Does the weight of the object make a difference to the length of the rubber band?		• A piece of wood • A piece of iron • Toys • •		The longer the rubber band, the heavier the object.
Does the volume of the object give an indication of its weight?		• • • • •		

Unit . Elasticity **Elasticity assessment**

Fill in the gaps. Use **some** of the words in the box.

elastic limit	worksheet	swimsuits	stretches
elasticity	materials	pulling	

If you stop …… an elastic material, it goes back to its original shape.

When you pour water into the plastic container the rubber band ……..

Some materials like tights, jeans, or……. can be elastic.

When an elastic material reaches its …….. it can not go back to its original shape.

To know which of two objects is the heaviest we can use …….

Self assessment **Unit_____**

My work			
My work was neat			
I was careful			
I tried hard			
I paid attention			
I worked hard			

I didn't know:.....
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Myself and others			
I listened			
I cooperated with my group/partner			
I thought for myself			
I considered others			
I was willing/able to ask for help			
I shared with others			

I have learned:.....
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Vocabulary

Look all the words you don't know up in **your dictionary** or **online**.
Write down the appropriate entry.

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