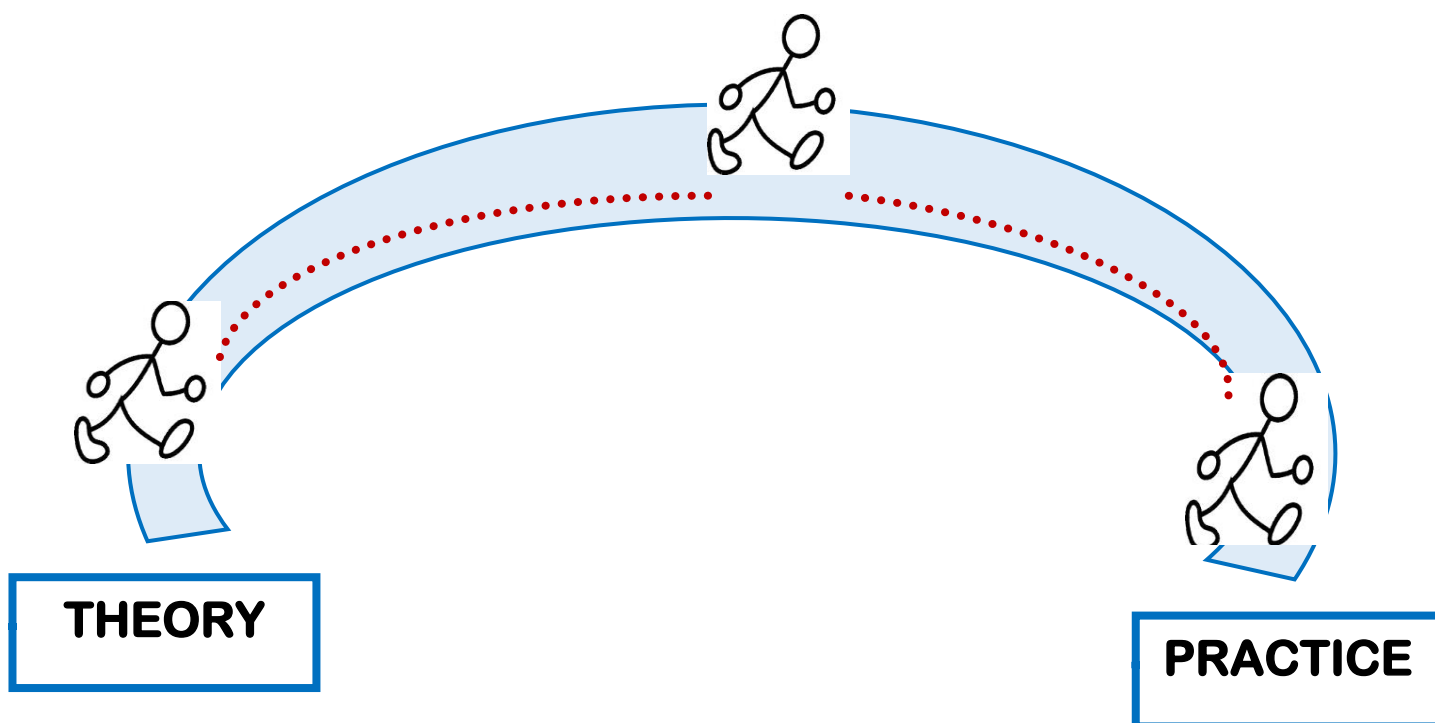


CLIL - From theory to practice



“In theory, theory and practice are the same.
In practice, they are not.”

(Albert Einstein)

Menu

- Breaking the ice



- The basics of CLIL

What is it exactly?

Why is it useful?



Test
yourself

- Key CLIL concepts

Hard vs Soft CLIL

The 4 Cs of CLIL

CALP (Cognitive Academic Language Proficiency)

Scaffolding



Test
yourself

- Selecting, adapting, designing materials for CLIL

Scaffolding in practice

Visual organizers & ideational frameworks

Altering texts - A practical example

- Recapping, recycling, revising

Our CLIL dictionary

Picture review

Question loop

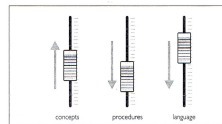
Revision quiz



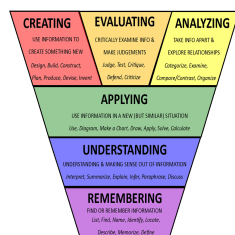
- The 3 dimensions of CLIL

The 'mixing desk' metaphor

The HOW – Procedural choices



HOTS & LOTS



Test yourself

- Popular CLIL activity types

- Useful websites & videos for ideas and materials

Listen carefully and ... spot the lie!

 <p>Brisighella</p>	 <p>married</p>	 <p>pets Maggie and Phil Amleto, Gigio and Gigena</p>   
 <p>Via. Mons. Tarlombani, 7 www.rioloweb.it</p>	 <p>Scotland Greece</p>	<p>tennis swimming</p>  
 <p>music</p>	 <p>cooking</p>	 <p>books</p>
<p>Università per Adulti 25 years</p> 	<p>December 2023 Lancaster University</p> 	<p>travelling</p> 

Wonderful World
(Sam Cooke)



Listen and circle the subjects you hear.

Don't know much about **History** / **I.C.T.** / **Citizenship**

Don't know much **Technology** / **Biology** / **Business**

Don't know much about a **Maths** / **Science** / **Psychology** book

Don't know much about the **French** / **German** / **Italian** I took

But I do know that I love you

And I know that if you love me too

What a wonderful world this would be



Don't know much about **Chemistry** / **Geography** / **Philosophy**

Don't know much **Trigonometry** / **Physics** / **Special Needs**

Don't know much about **Algebra** / **Art** / **Astronomy**

Don't know what a slide ruler is for.



But I do know that one and one is two,

And if this one could be with you,

What a wonderful world this would be.

For I don't claim to be an "A" student,

But I'm trying to be.

So maybe by being an "A" student baby

I can win your love for me.

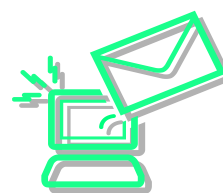


I don't claim to be an "A" student,

But I'm trying to be.

So maybe by being an "A" student baby

I can win your love for me.



Don't know much about **P.S.H.E.** / **History** / **Italian**

Don't know much **Biology** / **Cookery** / **Hospitality**

Don't know much about a **Music** / **Law** / **Science** book

Don't know much about the **P.E.** / **French** / **German** I took

But I do know that I love you,

And I know that if you love me too,

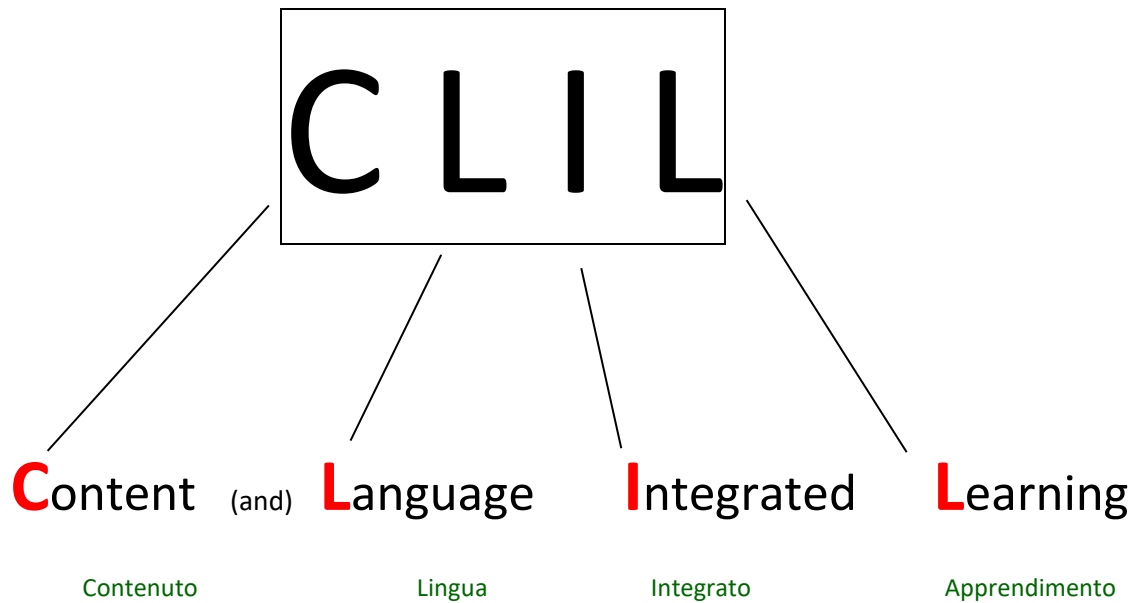
What a wonderful world this would be.

What a wonderful world this would be.

The 'Wonderful World' of

C.L.I.L.

What is it exactly?



Apprendimento Integrato di Lingua e Contenuto

A foreign language used to teach/consolidate topics from other subjects

Una lingua straniera usata per insegnare / consolidare argomenti di altre materie

CLIL is an approach which involves learning subjects such as History,
CLIL è un approccio che comporta l'apprendimento di materie quali storia
Science or others through any language other than the first language.

scienze o altre attraverso una qualsiasi lingua diversa dalla prima lingua.

In CLIL the learning of a language and other subjects is integrated.

Nel CLIL l'apprendimento di una lingua e altre materie è integrato.

In the class there are two main learning objectives,

Nella classe ci sono due principali obiettivi d'apprendimento,

one related to the subject and one related to the language.

uno collegato alla materia e uno collegato alla lingua.

Why is it useful?

Because ...

Perché ...

- it allows for **MEANINGFUL USE** of the language.
permette un uso significativo della lingua.

CLIL offers a '**natural**' situation for language development -

Il CLIL offre una situazione 'naturale' per lo sviluppo della lingua -

it provides a situation in which the student's attention

fornisce una situazione in cui l'attenzione dello studente

is not on the language itself.

non è sulla lingua stessa.

In CLIL the language is seen as a '**vehicle**', a tool of communication.

Nel CLIL la lingua è vista come un 'veicolo', uno strumento di comunicazione.

-
- CLIL increases **motivation** in the students, who feel they
Il CLIL aumenta la motivazione negli studenti, i quali sentono che
are using L2 for some realistic purpose and not just for its own sake.

stanno usando la L2 per un qualche scopo realistico e non fine a se stessa.

This may, in turn, promote **self-confidence**, as in CLIL classes students

Questo può, a sua volta, promuovere fiducia in se stessi, poiché nelle lezioni CLIL gli studenti

experience that communication is more important than accuracy.

sperimentano che la capacità di comunicare è più importante dell'essere accurati.

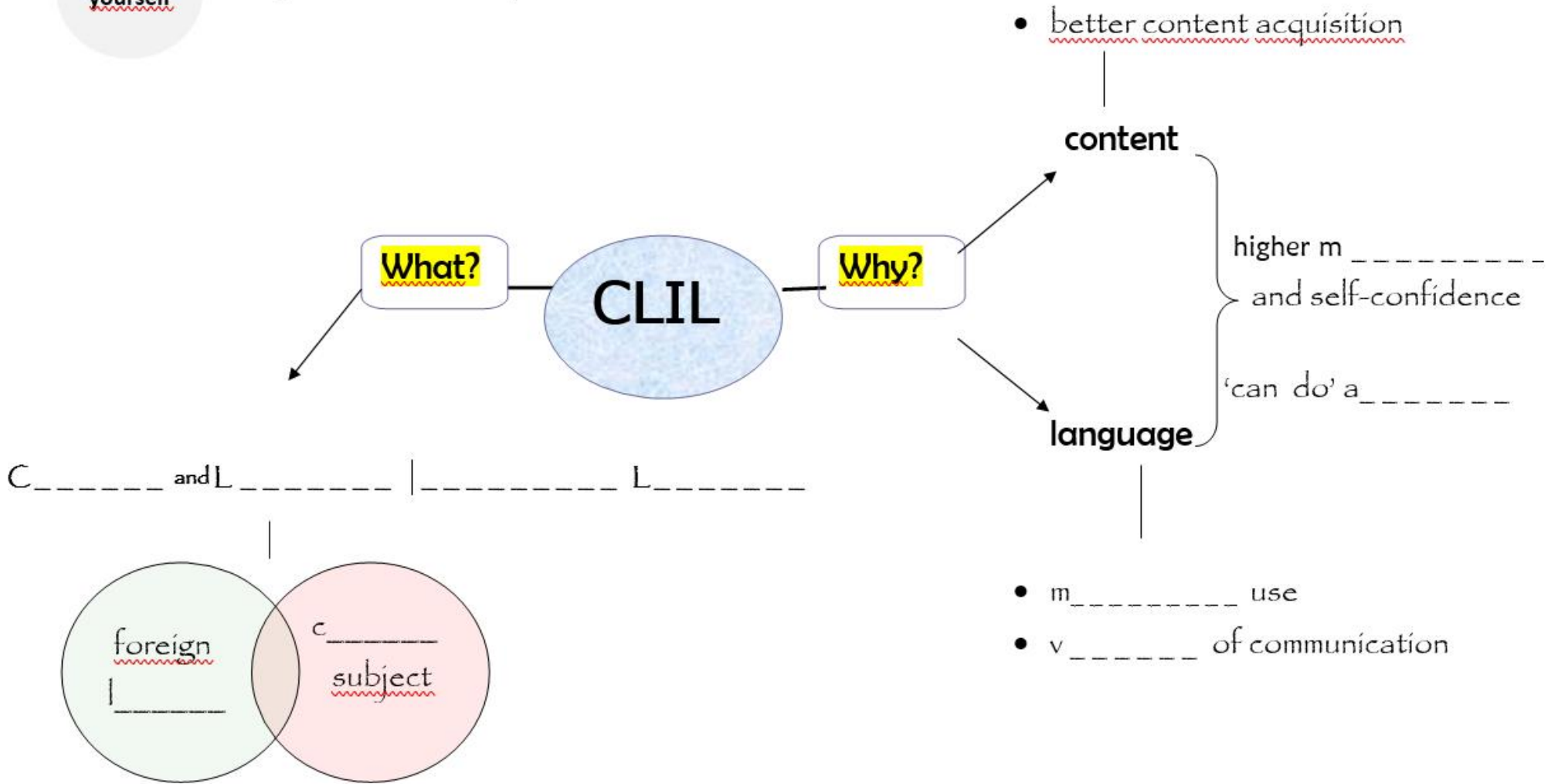
It encourages a '**can do**' **attitude** towards language learning.

Incoraggia un atteggiamento del 'SO FARE' verso l'apprendimento della lingua.

-
- CLIL helps the students **better acquire the content** of the other subject.
Il CLIL aiuta gli studenti a meglio acquisire il contenuto dell'altra materia.

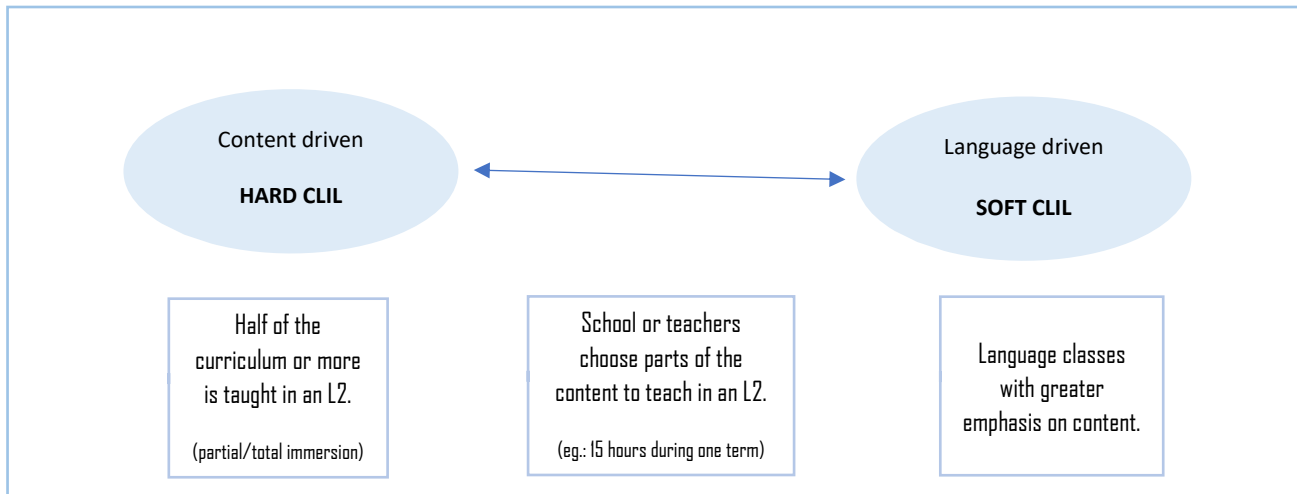
Test yourself

Complete the CLIL mind map.

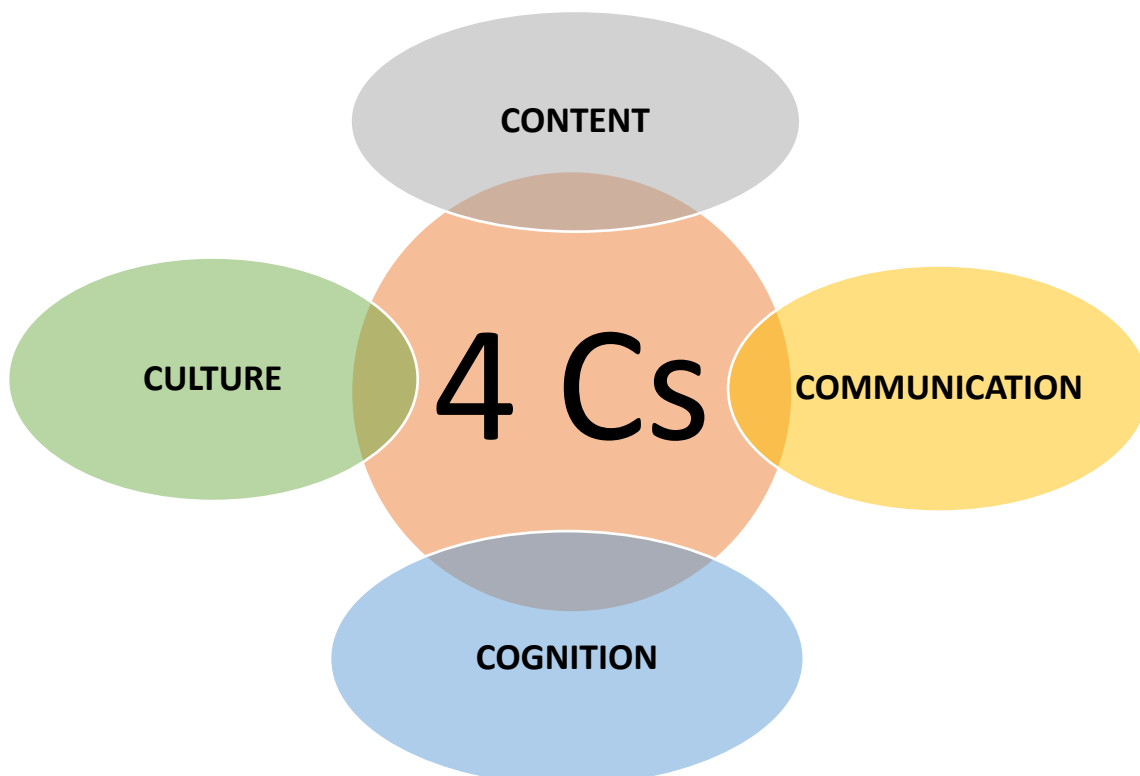


Key CLIL concepts

➤ Hard vs Soft CLIL



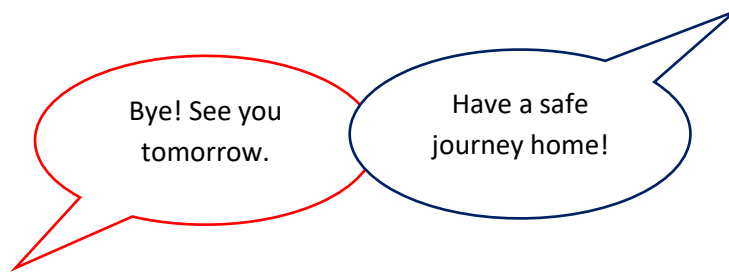
➤ The 4Cs of CLIL



➤ CALP (Cognitive Academic Language Proficiency)

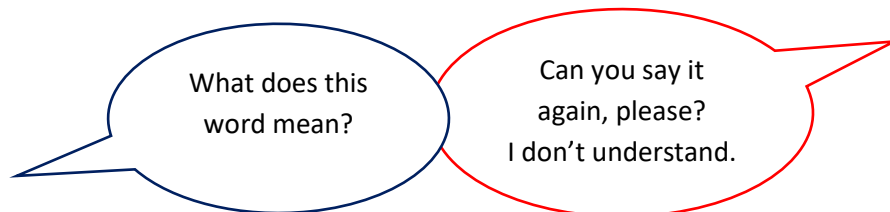
Students experience **3 types of language** in their learning process:

BICS (Basic Interpersonal Communicative Skills) used in **social, conversational situations**



CLASSROOM ENGLISH

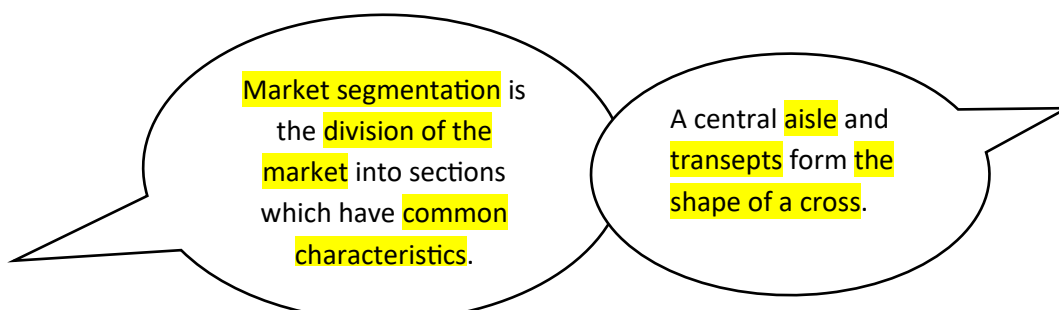
used to **communicate and interact during the lessons.**



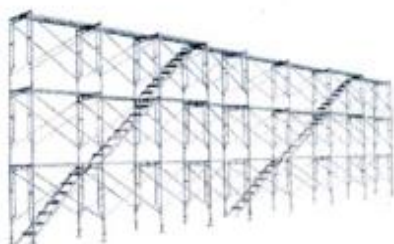
CALP (Cognitive Academic Language Proficiency)



the **academic** language used in CLIL , which helps students first acquire content and then **demonstrate their learning.**



SCAFFOLDING



It is essential to help students acquire the **LANGUAGE (CALP)** they need to be able to talk about **CONTENT** and show what they have learnt.

Always ask yourself:

What would I like my students to be able to **say** and write at the end of the CLIL module?

Where will they need support =
SCAFFOLDING?

SCAFFOLDING is ...

a form of **temporary support** to help learners understand and acquire new content. The kind of support we provide is very important for the outcome of the tasks.

**Test
yourself**

Listen, read and spot the 3 'content' mistakes.

CLIL stands for 'Content and Language Integrated Learning'.

It is a way of teaching and learning subjects in a non-native language, " ... a dual-focused educational approach in which an additional language (which) is used for the learning and teaching of **both** content and language", thus becoming a **vehicle** of communication.

It is a relatively recent set of practices which had its origin in Europe in the 1980s and has since then gradually spread in many different forms.

The two key forms are 'hard' and 'soft'. **Hard CLIL** programmes are normally taught by subject teachers with a strong emphasis on the acquisition of content knowledge, occupying all or most of the curriculum time allocated to the subject. **Soft CLIL**, on the other hand, is normally a shorter programme, taking up only a small part of the curriculum time allocated to the subject and often involving language teachers.

To be effective, any 'hard' or 'soft' CLIL class should be **student-centred**, with the teacher in the role of the facilitator and the students doing things, actively engaged with the lesson and materials. In fact, a CLIL lesson should be based on 5 main components – **Content, Communication, Competences, Collaboration, Culture**.

As a facilitator, the teacher can't help being familiar with a key CLIL concept – **scaffolding**. Scaffolding refers to a permanent supporting structure that students can use and rely on in order to achieve learning outcomes. Using pictures, breaking material into chunks, reframing information, providing language support are all examples of scaffolding strategies.

Actually, providing language support is essential in CLIL. But what kind of language do CLIL students need special support with? **CALP** is the answer, that's to say the **academic language** of the subject that will help them first **acquire** content and then **demonstrate their learning**.

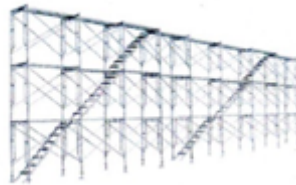
CALP (Cognitive Academic Language Proficiency) is one of the three types of language that students use and experience in their learning process. The others are **BICS (Basic Interpersonal Communication Skills)** – everyday social, conversational language – and **Classroom Language**, which 'frames the lesson' and involves routines such as giving and checking instructions or assigning roles for group work.

Selecting, adapting, designing materials for CLIL

Scaffolding is at the heart of CLIL methodology and essential to design effective CLIL materials.

SCAFFOLDING

Scaffolding is used by teachers to support learners. It refers to a temporary supporting structure that students learn to use and rely on, in order to achieve learning outcomes.



Scaffolding helps students to access previously acquired learning, to analyse it, to process new information, to create new relational links, and to take their understanding several steps further.

Some practical examples of scaffolding strategies:

Brainstorming a topic

*Using **graphic organizers** and **ideational frameworks***

*Breaking material into **chunks** and reframing information*

*Using **visual** and realia*

*Using **word banks, glossaries, writing frames***

Having students transform text into pictures or graphics

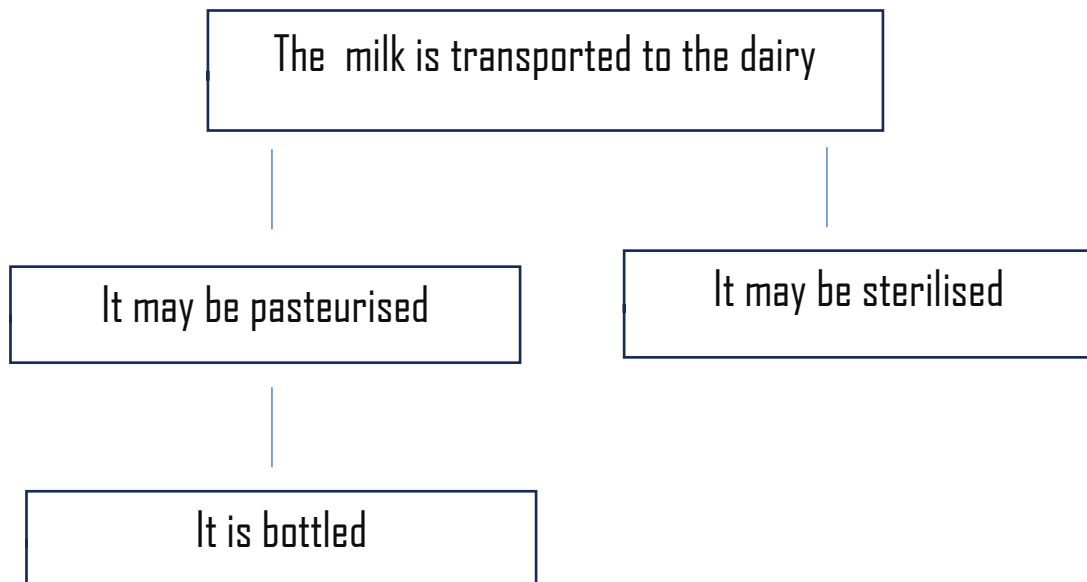
Modelling and offering samples of similar assignments

Ideational frameworks



John Burgess (Ideational Frameworks in Integrated Language Learning, 1994)

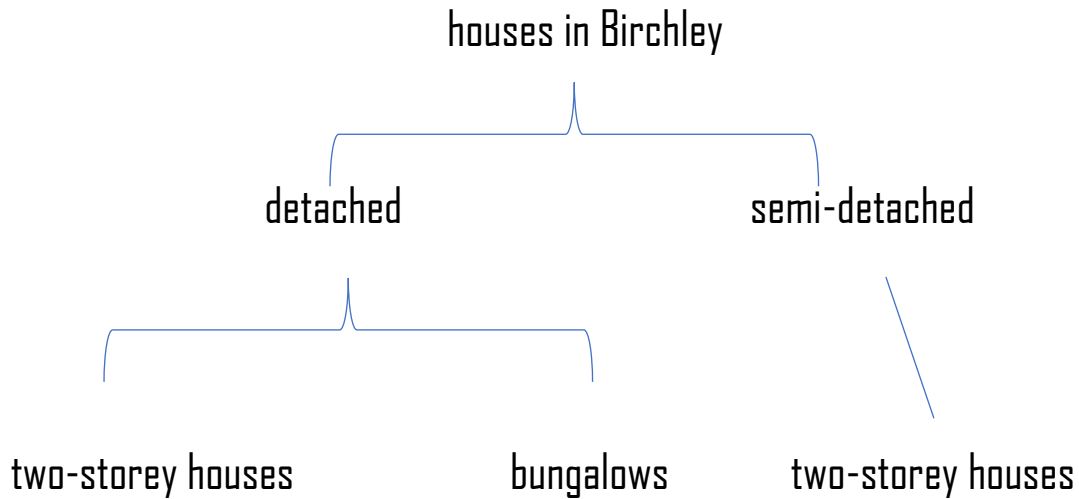
FLOW CHARTS



GRIDS

name	location	shape	material	age	condition
Tap 1	in the cellar	straight	chromed brass	about 10 years	okay
Tap 2	on the back wall	S-shaped	brass	about 50 years	worn, corroded

TREE DIAGRAMS


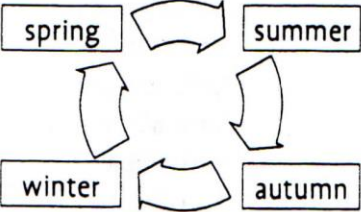
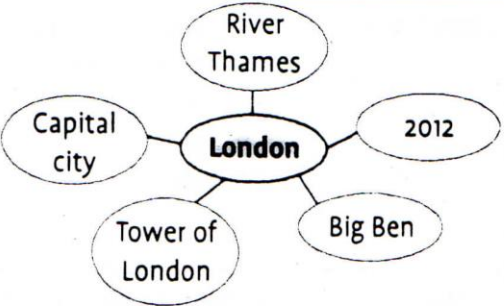
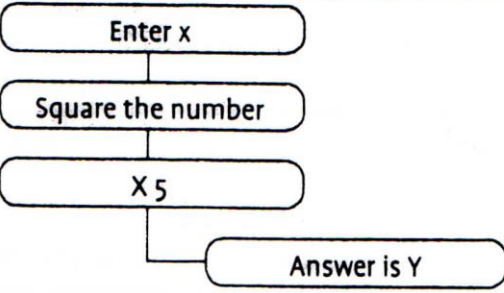



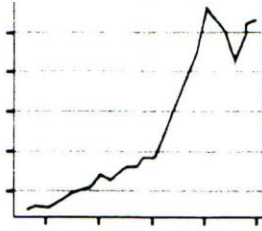

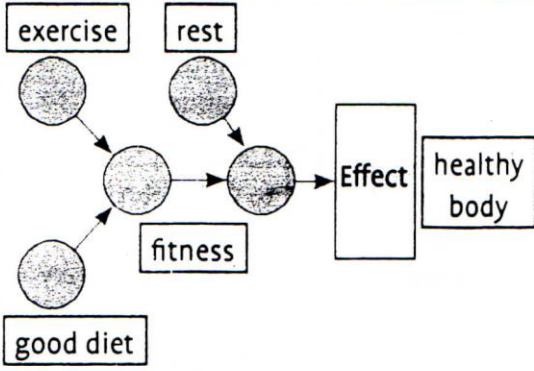
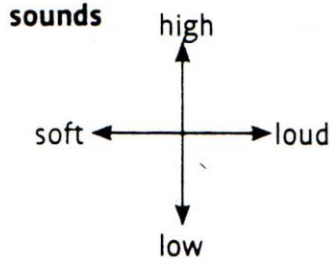
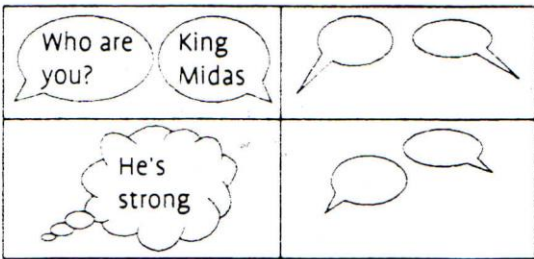

There are two sorts of houses in Birchley: detached and semi-detached ones. Some of the detached houses are two-storey houses, and some of them are bungalows. On the other hand, the semi-detached ones are all two-storey houses.


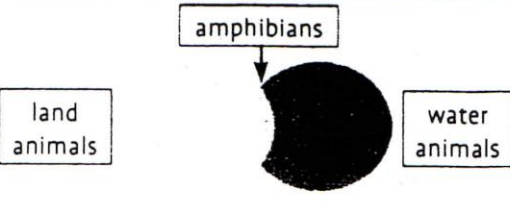

According to Burgess, these 3 ideational frameworks are the best models we have of how the mind organizes ideas in information sets.

Learners need examples of language which are used with different organisers.

There are several common patterns:

Name	Type of task and examples of language used	Visual organiser									
bar chart	to show frequency or quantity using rectangles which are the same width, but different heights										
binary key	to divide information into two parts using a series of questions, each of which has only two possible answers Language closed questions	<p style="text-align: center;">Is it a mammal?</p> <pre> graph TD A[Is it a mammal?] -- Yes --> B[Can it fly?] A -- No --> C[Can it swim?] </pre>									
Carroll diagram	to sort yes/no information according to two sets of opposite criteria Language for example, such as subject vocabulary	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">living</td> <td style="text-align: center;">non-living</td> </tr> <tr> <td style="text-align: center;">natural</td> <td style="text-align: center;">tree</td> <td style="text-align: center;">stone</td> </tr> <tr> <td style="text-align: center;">manufactured</td> <td></td> <td style="text-align: center;">computer</td> </tr> </table>		living	non-living	natural	tree	stone	manufactured		computer
	living	non-living									
natural	tree	stone									
manufactured		computer									
cycle	to show a series of events which happen again and again in the same order Language then, next, after that, later										
mind map	to show facts and their relationships about specific people, places, objects or events – the information does not need to be in any particular order Language and, also, in addition, as well as, too										
flow diagram or flow chart	to show the order of a process or the order of how decisions are made Language then, next, after that, later, eventually, finally										
grid (squares set out in rows and columns)	to show locations of places, e.g. on maps										

line graph	to show a trend or data using X and Y axes											
pie chart	to show different amounts or frequencies as parts of a circle											
process / cause-effect diagram	to show a cause-effect network which leads to a specific outcome or to show a sequence of steps leading to a product Language <i>as a result, because of, therefore, so</i>											
quadrants	to show connections between concepts, e.g. a sound can be high and soft, high and loud, low and soft, low and loud; sounds can also vary within these quadrants Language <i>and, but not, quite, not very</i>											
storyboard	to plan and write a draft of events in a story, sometimes with speech and thought bubbles Language direct speech											
T-chart	to show two sides of a topic such as: for and against an argument; the advantages and disadvantages of something; facts and opinions	<table border="1" data-bbox="869 1579 1404 1724"> <tr> <td>for</td> <td>against</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	for	against								
for	against											
table	to categorise information or for summarising Language subject vocabulary or phrases	<table border="1" data-bbox="869 1747 1404 1904"> <tr> <td>temperature</td> <td>wind direction</td> <td>wind speed</td> <td>rainfall</td> <td>sky</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	temperature	wind direction	wind speed	rainfall	sky					
temperature	wind direction	wind speed	rainfall	sky								
time-line	to show events, usually in chronological order Language dates, times, notes	<p data-bbox="885 1937 1396 2038"> The leaf was eaten by a snail. Then a bird ate the snail. Later a cat ate the bird. </p> 										

<p>tree diagram</p>	<p>to classify words and show their relationships, often with examples Language <i>under, below, above, at the top, on the same level, an example is</i></p>	 <pre> graph TD MD[Managing director] --> FD[Finance director] MD --> MKD[Marketing director] MD --> HRM[HR manager] FD --> ACC[Accountant] MKD --> AM[Advertising manager] </pre>
<p>Venn diagram 1</p>	<p>to show similarities and differences – similarities are in the intersection between the circles; differences are in the parts of the circles which do not intersect Language <i>such as, the same, different</i></p>	
<p>Venn diagram 2</p>	<p>to show part of a larger group Language <i>subject vocabulary</i></p>	

HOW CAN WE ADAPT MATERIALS FOR CLIL?

We need to select and adapt CLIL materials carefully because we need to help learners understand subject content. There are many way of doing this at **text**, **sentence** and **word** levels.



- At **text** level we can include **VISUALS** and **VISUAL ORGANIZERS**.

We must make sure the page layout is clear.

- At **sentence** level we can include **DEFINITIONS** and **SHORT EXPLANATIONS**.

- At **word** level we can **highlight** **key content vocabulary**, underline it, use CAPITAL LETTERS or use **bold** font.

Word	Definition	Example
Glacier	A large mass of ice that moves slowly down a slope.	The glacier in the Alps is very old.
Iceberg	A large mass of ice that has broken off from a glacier and is floating in the sea.	The iceberg was seen in the North Atlantic.
Ice cap	A large mass of ice that covers a wide area of land.	The ice cap in Antarctica is very thick.

We can also add **WORD BANKS** and **GLOSSARIES** of key content words

BEFORE...

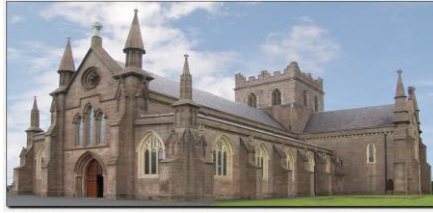
One of the earliest instances of the term *ecclesia cathedral* is said to occur in the act of the council of Terragona in 516. Another name for a cathedral church is *ecclesia mater*, indicating that is the mother church of a diocese. Also, as the supposed chief house of God in a region, the cathedral church was called the *Domus Dei* and from the name the Germanic Dom – prefix for church is derived, and the Italian Duomo.

The history of the body of clergy attached to the cathedral church is obscure, as in each case local considerations affected its development , all that can be attempted is to give a general outline of the main features which were more or less common at all. Originally the bishop and cathedral clergy became definitely organized, and were divided into two classes. One was that of a monastic establishment of some recognized order of monks, often the Benedictines while the other class was that of a college of clergy, bound by no vows except those of their ordination of statutes or canons.

Most cathedrals have a cruciform groundplan with a nave crossed by a transept with an aisle that is occasionally as high as the nave. The place where the nave and transept meet is called the crossing and is often surmounted by a small spire called a fleche, a dome or, particularly in England, a large tower, with or without a spire.

...AFTER

The cathedral church



What is

The cathedral church is the mother church of a ***diocese** /'daɪ.ə.sɪs/.

In the past it was called *ecclesia cathedral* or *ecclesia mater*. One of the earliest examples of the term *ecclesia cathedral* is said to appear in an ***act of council** in Terragona, Spain, in 516.

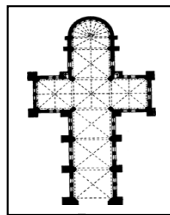
How is the cathedral church organized?

The history of the body of ***clergy** attached to the cathedral church is unknown. Therefore, we can only try to give a general outline.

Originally the bishop and cathedral clergy were divided into two classes. One class included monastic establishment of some order of ***monks**, often the Benedictines /,benɪ'dɪktɪnz/. The other class included clergy with no ***vows** /vaʊz/ except those of their ordination.

What is the structure of a cathedral?

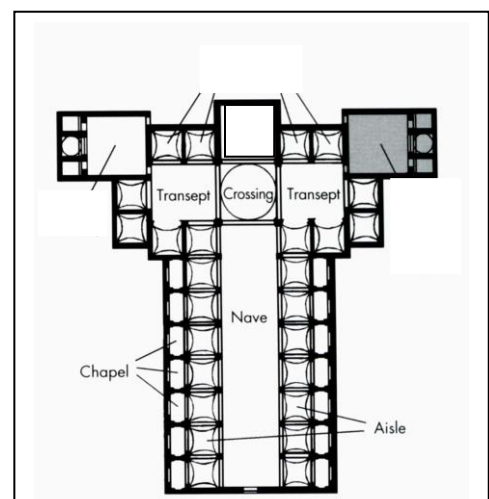
Most cathedrals have a **cruciform**



groundplan with a **nave**

crossed by a transept with an aisle that may be as high as the nave. The place where the nave and transept meet is called the **crossing** and is often surmounted by a small spire (called a **fleche**), a dome or, particularly in England, a large **tower**, with or without a spire.

- *A **diocese** is a district – area - for which a bishop (*vescovo*) is responsible. (in the Christian Church).
- *An **act of council** is a law made by a group of people who are responsible for local government in a town or country.
- * **Clergy** (*clero*) = the people who perform religious services in the Christian Church.
- * **Monk** (*monaco*)
- * **Vows** (*voti*)

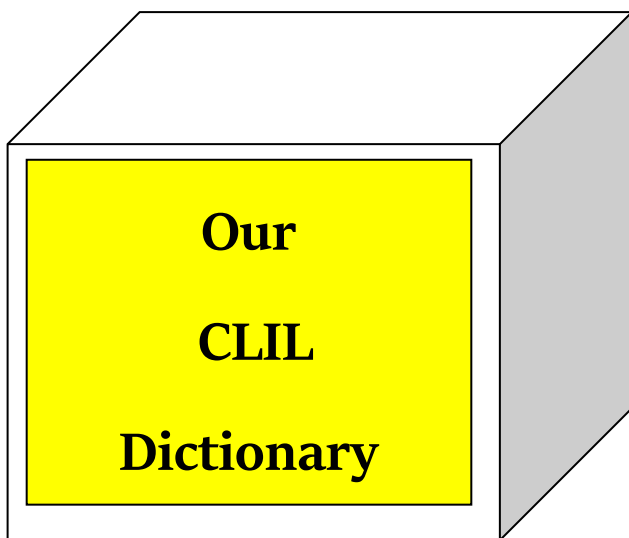


Recapping, recycling, revising

➤ Our CLIL dictionary

How can we help CLIL learners **recycle** and **revise** useful language regularly?

An idea is

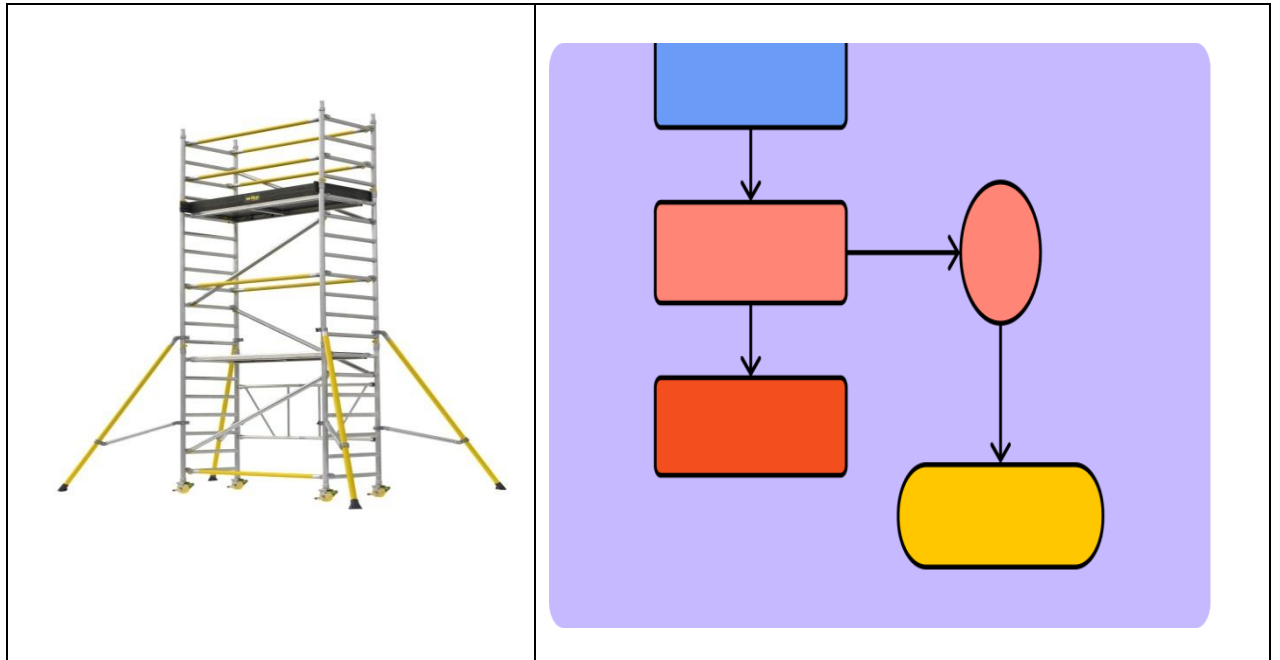


- ✓ Pick and translate
- ✓ Pick and give a definition
- ✓ Pick and make a sentence

= collecting new vocabulary on pieces of paper and putting them into a box (our CLIL dictionary)

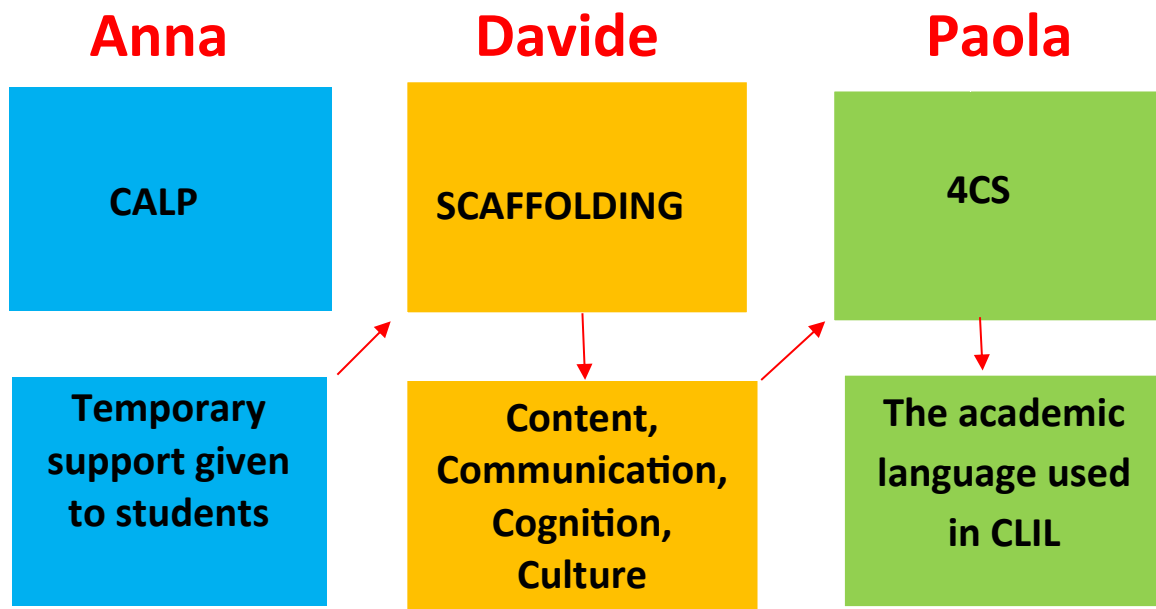


➤ **Picture review**



- Label
- Give as much information as possible

➤ **Question loop**



REVISION QUIZ

1. C.L.I.L. stands for

2. In C.L.I.L. the learning of a **S+--+--** and a

F+---N L+---E is integrated.

3. In C.L.I.L. the language is a

(**E - H - C - E - I - L - V**)

4. In C.L.I.L. **communication** is more important than accuracy. TRUE/FALSE

In C.L.I.L. **accuracy** is more important than communication. TRUE/FALSE

5. **CALP** =

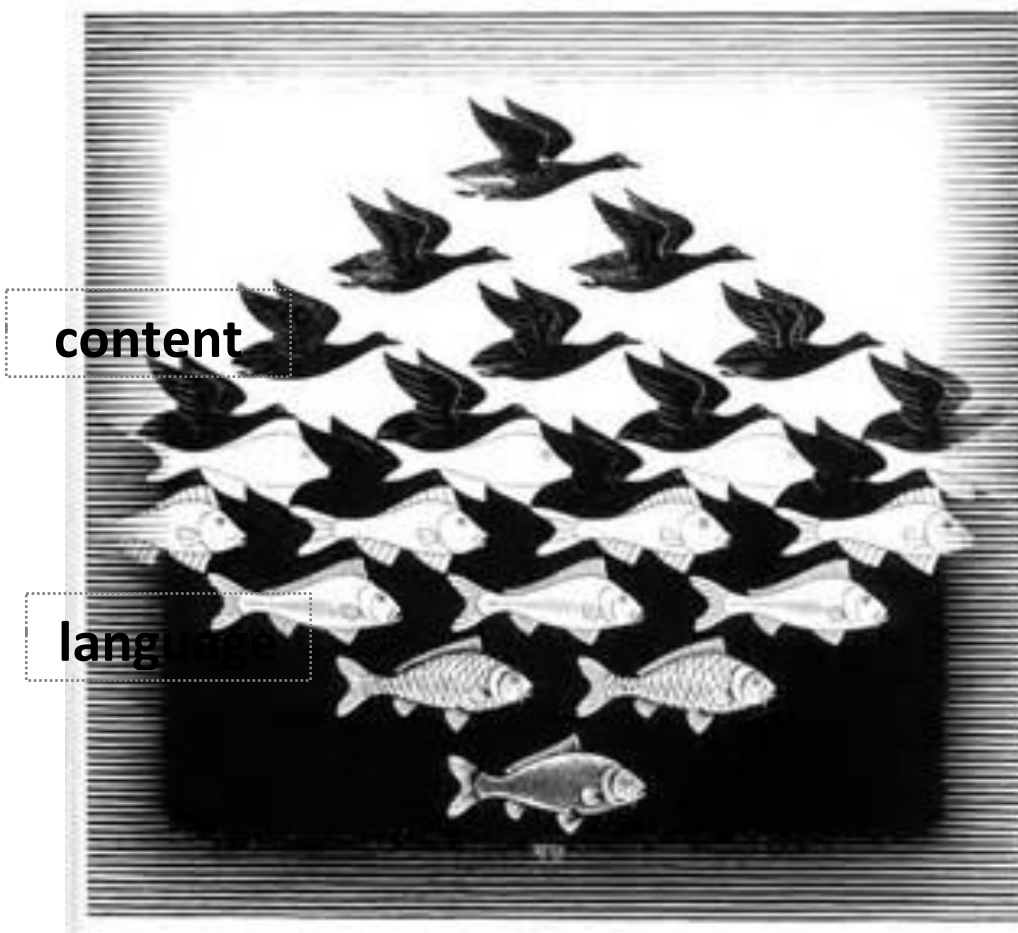
BICS =

6. In C.L.I.L. careful is essential.

Let's move on!

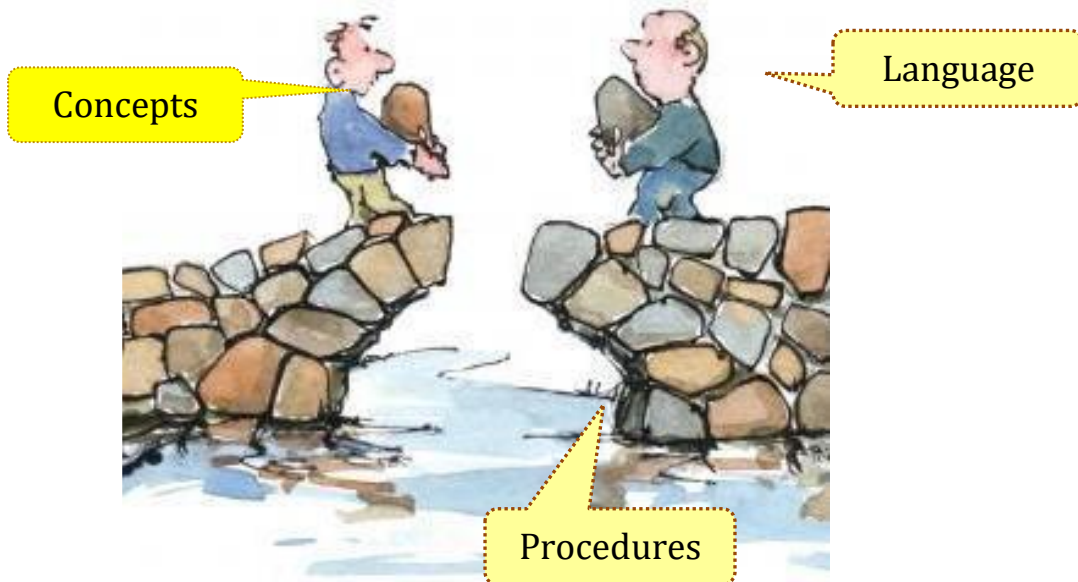
A slightly new perspective

From an emphasis on the **dual focus** concept ...

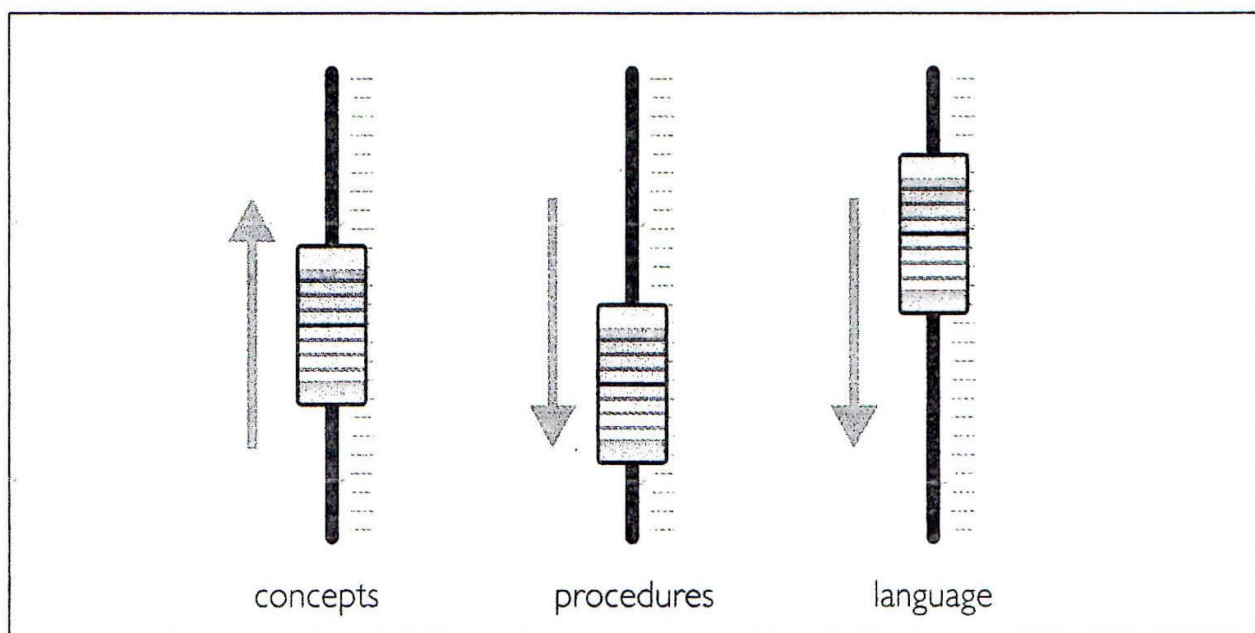


Sky and Water I (1938) – M.C. Escher

...to the idea of the **3 dimensions** of CLIL



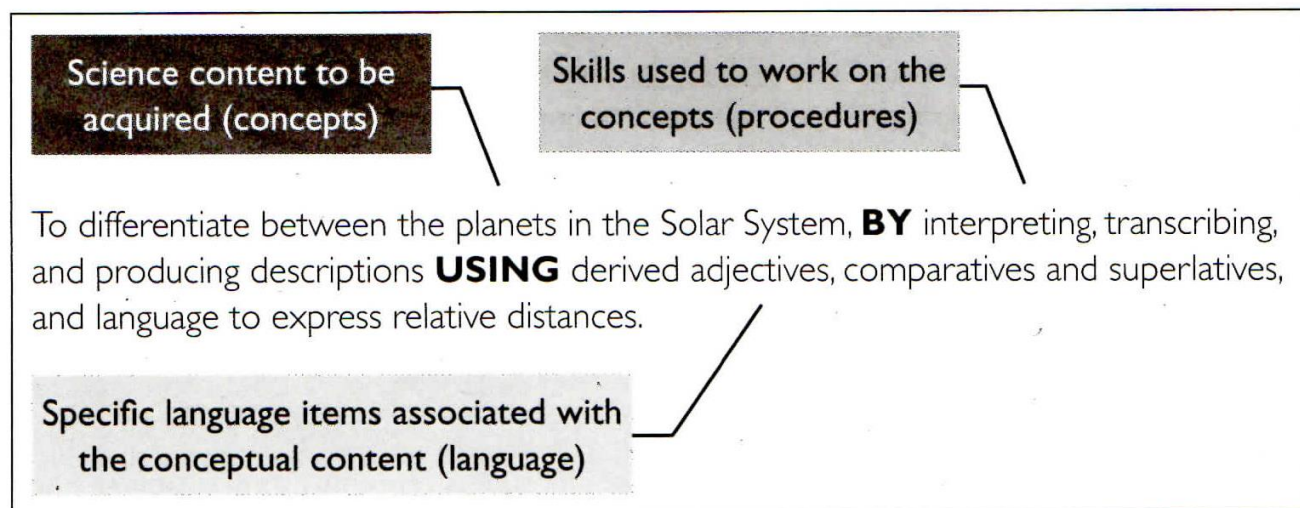
... and the 'mixing desk' metaphor



Putting CLIL into Practice (2015) – P. Ball, K. Kelly, J. Clegg

The 3 dimensions of CLIL

In the 3-dimensional view of CLIL, we employ conceptual content, by means of procedural choices (**cognitive skills**), using specific language derived from the particular discourse context. From this point of view, it is the interplay amongst the dimensions that lies at the heart of CLIL practice. The concepts are ultimately understood *by doing something, using a certain type of discourse*.



The 'mixing desk' metaphor

One way of looking at CLIL in 3 dimensions – concepts, procedures and language - is to see it in terms of a mixing desk in a music studio. Teachers have 3 'volume' controls which they can adjust, depending on the particular demands of the activity, task or class.

At any point in a lesson, the teacher may find that one of these dimensions is more prominent than the other. If the conceptual dimension (demand) is high then the linguistic demand is probably similar. In this case, the teacher, as in a mixing-studio, can turn down the procedural volume and make the 'how' the quietest/easiest of the three dimensions. The idea is to adjust the 'volumes' according to the shifting demands, in various combinations.

By using the 'mixing desk' idea, the teacher can be more aware of the demand-support relationship.

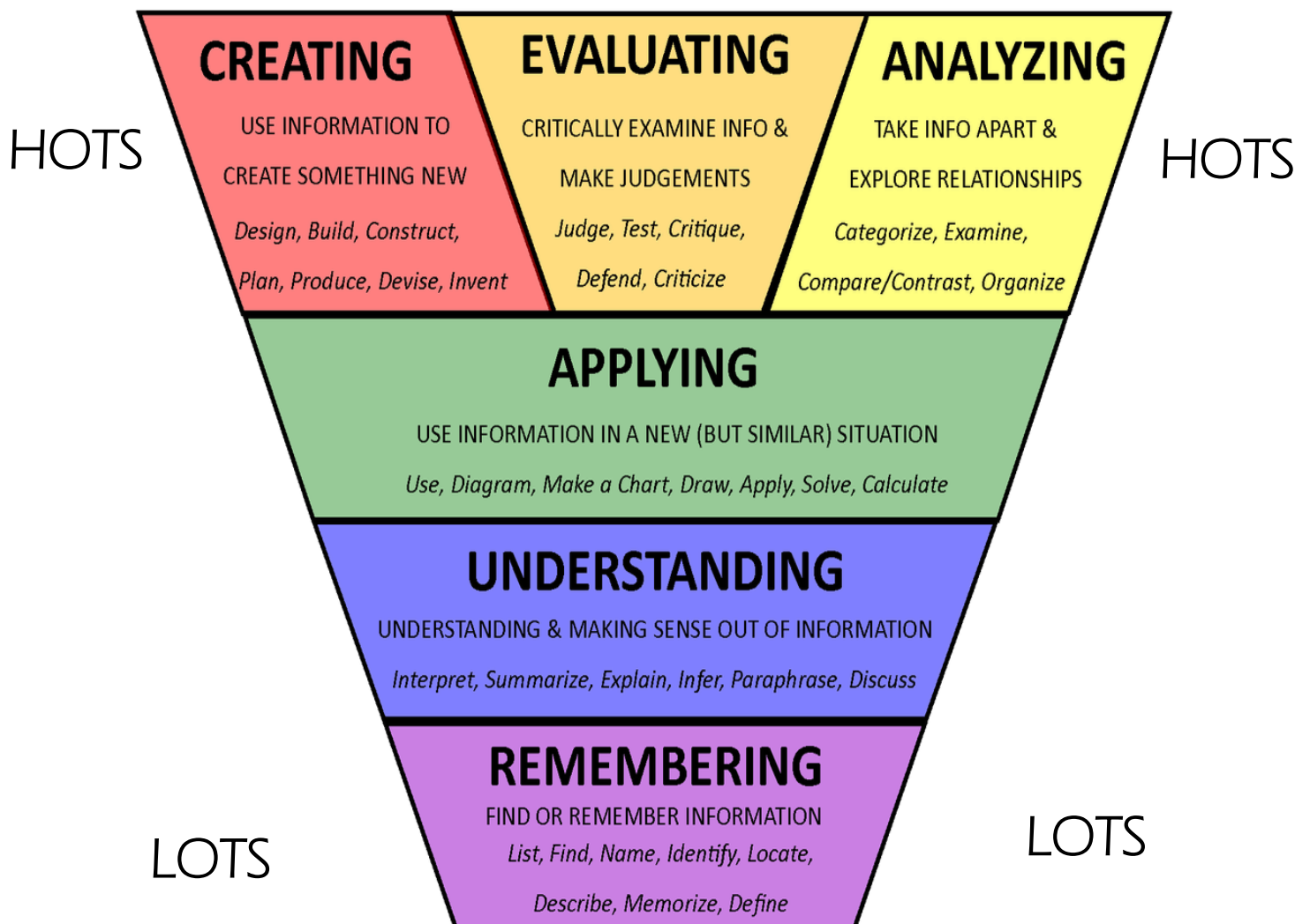


The HOW = Procedural choices

Cognitive skills can be divided into

Lower-Order Thinking Skills (LOTS)

Higher-Order Thinking Skills (HOTS)



Pair work - Read through the examples. Below each of the questions you find a 3-dimensional 'demand' box. As you read the questions, consider them on a 'demand' scale of low to high, in terms of concepts, procedures and language involved. A score of 1 indicates low demand and a score of 5 indicates very high demand.

Question 1

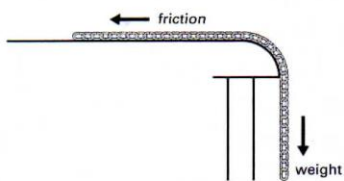
Which of these animals is likely to live in a desert?
Tick the ones you think they are.

- polar bear • dolphin • starfish
- lion • jerboa • camel
- lizard

Conceptual demand = low (1)
Procedural demand = low (1)
Language demand = low (1)

Question 2

Read the short text which accompanies the diagram, then answer the questions that follow.



The diagram shows a chain hanging down over the edge of a table. Two of the forces on the chain are: the weight of the part of the chain which is hanging over the edge; friction between the chain and the table.

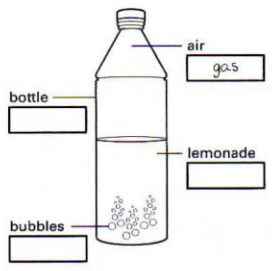
- a The chain is not moving. What does this tell you about these two forces acting on the chain?
- b The chain is moved slightly to the right. It begins to slide off the table. What does this tell you about these two forces now?
- c Describe how the size of each force (the weight and the friction) changes as the chain slides off the table.
- d How does the speed of the chain change as it slides off the table?

Conceptual demand =
Procedural demand =
Language demand =

Question 3

The plastic bottle has lemonade in it. Write in the boxes to show the parts which are:

- a solid
- b liquid
- c gas



One has been done for you.

Conceptual demand =
Procedural demand =
Language demand =

Question 4

Complete the table.

Opposite idea	Socialist or communist idea
Working alone, to improve your life	Working together
Individuality	Solidarity
Privileges	
Class-based society	
Wealth for the minority	
A society of individuals	
A 'free' society	
The bourgeoisie control the proletariat.	
The bourgeoisie control production.	

Conceptual demand =
Procedural demand =
Language demand =

Question 5

Some students wanted to find out how well three different solvents—cooking oil, methylated spirits, and water—would dissolve a number of solutes. Some of the steps in their investigation are shown in the list below but they are not in the correct order. Write them in the correct order.

- A They wrote down their results.
- B They put 20 cm³ of one of the solvents in two beakers. They repeated this with the two other solvents.
- C They collected the equipment that they needed.
- D They stirred the mixtures.
- E They added some salt to three beakers containing the different solvents. Then they added some margarine to three more beakers containing the different solvents.

Conceptual demand =
Procedural demand =
Language demand =

Activity types

Which cell, tissue or organ am I thinking of?

Answers	Yes	No	It isn't	I don't know
Is it a cell, tissue, organ	it is	it isn't	it hasn't	I'm not sure
Structure/appearance	it has	it doesn't	it doesn't	
Is it				
Does it look like a				
Does it have				
Does it contain				
Location				
Does it come from				
Is it located/situated/found				
Function				
Does it have the job of				
Is its function to				
Does it				
Is it used for				
Does it carry out the role of				
Guess!				
Is it a/an				
Is it called a/an				

20 questions

Most of the rest of the household slept in the hall.

The lord and his family slept in a private room next to the hall.

Cooks, for example, slept in the kitchen.

Others slept where they worked.

Medieval castles had no bedrooms.

Reorder the text.

Match titles with paragraphs

1. Food

2. Life at home

3. Powerful Pharaohs

Fill in the gaps

Complete. Some letters are given to help you.

Read and sort the information into the diagram

Match words with paragraphs.

Complete the diagram.

Student A

Plant and Animal Cells

All living things ----- cells. Some living things have one cell e.g. Amoeba, others like humans, ----- . To see a cell you need a microscope.

Animal cells

Animal cells have a ----- called a ----- . Its job is to let chemicals pass in and out of the cell. The cell membrane also ----- . Most of the cell is a jelly-like substance called cytoplasm which does all the work of the cell. There is also a ----- which ----- .

Plant cells

Plant cells are like animal cells because they also have a cell membrane, cytoplasm and a nucleus. In addition to these they have ----- and ----- . The cell wall surrounds the cell membrane and gives the cell its shape. The ----- is a space in the middle of the cell. It contains a liquid called ----- . In the cytoplasm are many green dots. These dots are called ----- and their job is ----- .

Student B

Plant and Animal Cells

All living things are made of cells. Some living things have one cell e.g. ----- , others like humans, have millions. To see a cell you need a ----- .

Animal cells

Animal cells have a thick skin called a cell membrane. Its job is ----- in and out of the cell. The cell membrane also keeps the cell contents in place. Most of the cell is ----- which does ----- . There is also a dark dot called a nucleus which controls all the cell's activities.

Plant cells

Plant cells are like animal cells because they also have ----- and ----- . In addition to these they have a cell wall, a vacuole and chloroplasts. The cell wall ----- the cell. It membrane and gives the cell ----- . The vacuole is a space in the middle of the cell. It contains a liquid called cell sap. In ----- c ----- called chloroplasts and their job is to trap sunlight energy to make ----- .

Information-gap activity

Beginnings

- The organ inside the skull in vertebrates that controls all activities including physical and nervous activity and intelligence is
- The heart in humans and most other animals is
- The kidney is
- The organ in the throat that contains the vocal cords which produce sounds is
- The oesophagus is
- The tube at the back of the throat that goes from the larynx to the bronchi where air travels down into the lungs is
- The organ in the body that changes sugars such as alcohol into less harmful substances, and produces bile, urine, and cholesterol is
- The duodenum is
- The small intestine is
- The small tube attached to the lower end of the small intestine in humans and some other mammals which has no known use in humans is
- The bladder is
- The anus is

Heads and Tails

in sexual reproduction	is	more time-consuming advantages and disadvantages.
in asexual reproduction	there is	genetic variety.
Sexual reproduction	offer	always one parent.
Asexual reproduction		faster.
Both sexual and asexual reproduction		less time-consuming genetic variety.
		offspring are made.
		identical to the parent.

Substitution table

Freezing - This kills many microorganisms that grow on our food. We use it when we boil, sterilise, pasteurise and freeze our food. However, it does not destroy many toxins from microorganisms, so this will not make 'bad' food safe to eat. This method is also used in the food canning industry, where foods are first processed in this way before being sealed in airtight cans.

Refrigeration - The temperature inside a refrigerator is low enough to slow the growth of microorganisms but not to stop it. This can help us keep food for longer before we eat it. The lower temperatures in a freezer stop the growth of most microorganisms and the decay they cause, and so preserve foods for even longer. However, they start growing again as food thaws, which is why you should not defrost frozen food and then refreeze it.

Drying - This involves removing moisture from the food, which the microorganisms need for all the chemical processes both inside and outside them. This process is mainly used for preserving fruits, vegetables and some kinds of meats and fish.

Pickling - This is adding an acid to, or storing food in, an acidic solution which is usually vinegar. Many of the microorganisms that spoil food are unable to grow or survive in acid conditions.

Salting - This is probably one of the oldest methods of preserving food. Placing food in a large amount of salt removes water from it by osmosis. This is effectively another way of making the food dry or dehydrated, which prevents the growth of microorganisms. This process is mainly used on meats and fish.

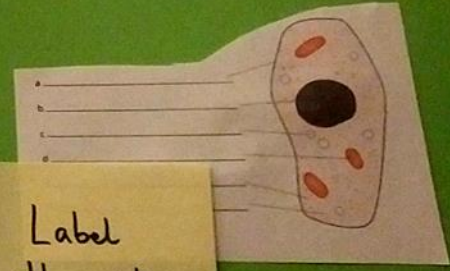
Adding sugar - The addition of sugar works on the same principle as another process. A high concentration of it removes water from the food. This method is used in preserving fruit such as jellies and jams.

Technique used	Name of method(s)	How	Type of foods
temperature			
extraction of moisture			
use of acid			

Read and complete the table

- Respiration is the chemical breakdown of food (carbohydrates / fuels) in cells to produce energy
- There are two types of respiration, upper and lower / aerobic and anaerobic / active and passive respiration
- Aerobic respiration occurs in the mitochondria / absence / presence of oxygen and the products are carbon dioxide, water and energy
- Anaerobic respiration (lactates / occurs / develops) in the absence of oxygen
- In yeast, anaerobic respiration is also known as alcoholic fermentation as it produces alcohol (Carbon dioxide / Alcohol / Oxygen) is a waste product
- In muscle cells and bacteria, anaerobic fermentation produces lactic acid / lactic acid
- Aerobic respiration releases much more (gas / energy / acid) than either form of anaerobic respiration
- The main gases in pure air are oxygen (21%), carbon dioxide (0.04%) and nitrogen (78%), and water vapour in very small amount
- Breathing is a (biometric / mechanical / chemical) process
- The human respiratory system consists of the (trachea / bronchi / alveoli)
- In humans, gas exchange occurs in the air sacs / (alveoli / bronchi)
- Fish breathe with (lungs / gills)
- Plants respire day and night but they also (photosynthesise)

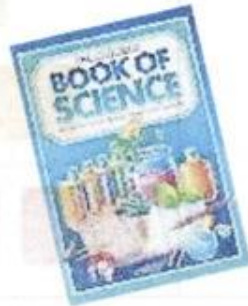
Underline the correct word from the 3 choices.



Label the picture

Where can we find ideas for lessons and CLIL materials?

BOOKS MAGAZINES



WEBSITES

www.languages.dk

www.all-languages.org.uk/research-practice/clil-zone/

<https://lfee.net/elapse/output-2-resources/>

www.factworld.info

<https://www.factworld.info/en/Science-Across-the-World>

<https://www.bbc.co.uk/bitesize>

<https://www.onestopenglish.com/teenagers/clil/lessons>

<https://www.onestopenglish.com/adults/business-and-esp>

<https://www.ecml.at/Resources/ECMLresources/tabid/277/language/en-GB/Default.aspx>

VIDEOS

<https://youtu.be/dFuCrxRobh0>