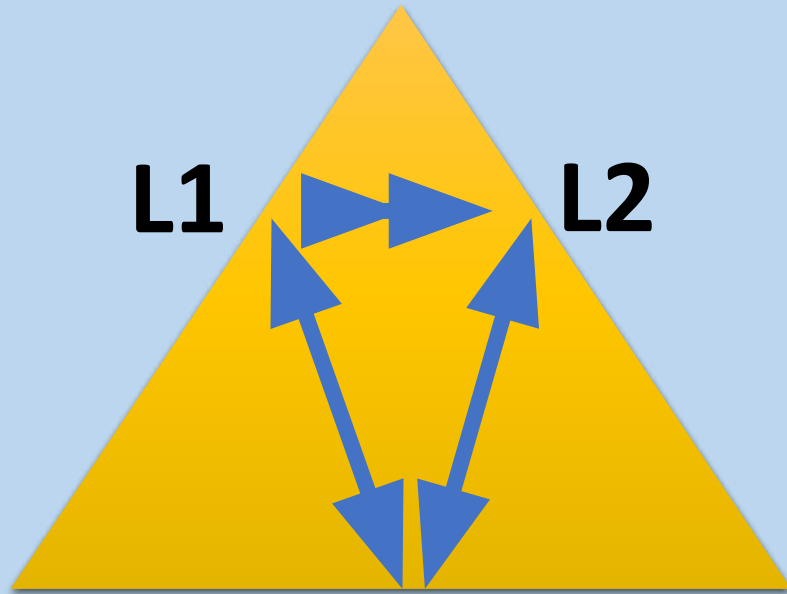




CLIL Pedagogy for Secondary Teachers Cambridge - 2018



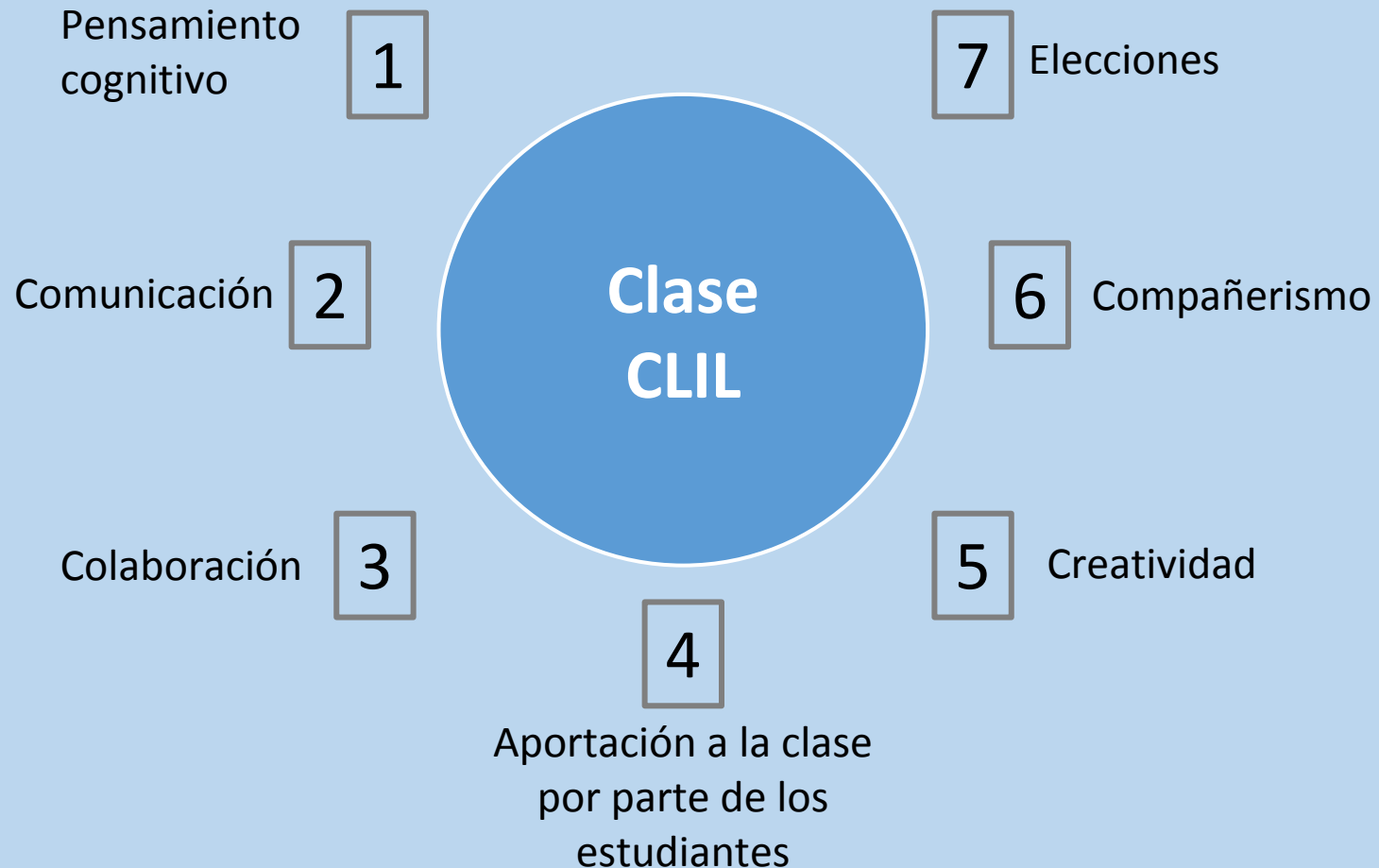
Content Language Integrated Learning



**Content
inclusive**

- CLIL es un proceso de aprendizaje
- La lengua materna (L1) es igual de importante que la segunda lengua en nuestro caso el inglés (L2).
- La prioridad siempre será la materia/asignatura, en ningún caso la segunda lengua.

Content Language Integrated Learning



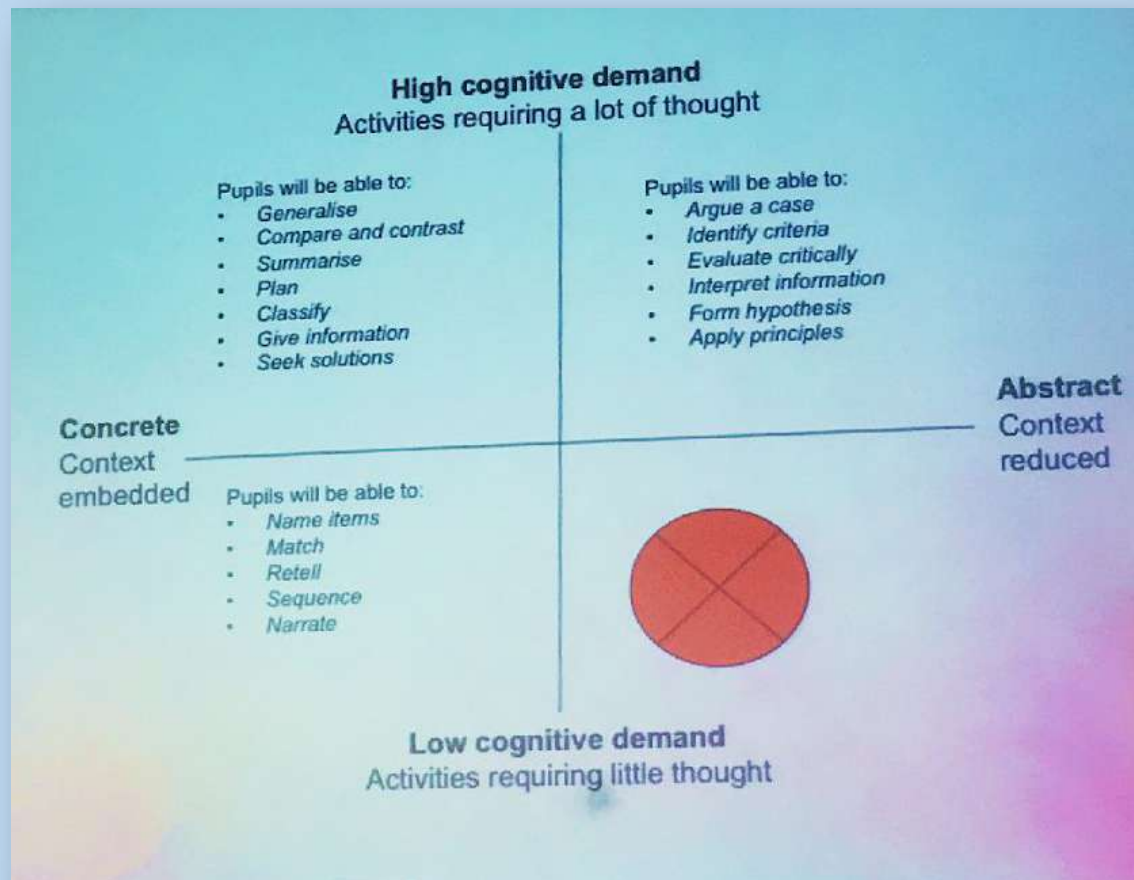
Content Language Integrated Learning

1 Pensamiento cognitivo

Hay que diferenciar entre dos tipos de actividades:

- **LOTs (lower order thinking tasks):** en este tipo de actividades el alumno tiene que resolver actividades en las que tiene que generar listas, relacionar, rellenar huecos, ordenar una serie de acontecimientos, ...
- **HOTs (higher order thinking tasks):** en este tipo de actividades el alumno tiene que elaborar una respuesta, analizar, comparar, hacer predicciones, explicar, ...

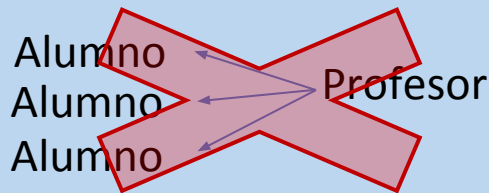
Content Language Integrated Learning



Content Language Integrated Learning

2 Comunicación

En esta nueva metodología la comunicación ha cambiado, la dirección de la comunicación ya no parte del profesor hacia sus estudiantes sino que ahora esa comunicación es en ambos sentidos.



3 Colaboración 4 Aportación a la clase por parte de los estudiantes

En clase con metodología CLIL se busca que los alumnos colaboren entre ellos para poder así construir poco a poco su propio aprendizaje.

Content Language Integrated Learning

5 Creatividad

Los alumnos tiene que hacer/crear durante las clases, realizar actividades y tareas en las que puedan crear y ser creativos.

6 Compañerismo

En el mundo de la docencia es importante el compañerismo, colaboración e intercambio de ideas a la hora de diseñar sesiones CLIL en nuestra asignatura.

7 Elecciones

Como docente de sesiones CLIL hay que hacer varias elecciones:

- Tipo de tarea o actividad: taxonomía de BLOOM (evaluación, síntesis, análisis, aplicación, comprensión, conocimiento)
- Modalidad/Forma en que vas a llevar acabo las tareas: individual, por grupos, por parejas,...

Estructura de una sesión CLIL

Etapa	Estrategia	Habilidad puesta en práctica
1.Comienzo Que la temática venga de los alumnos, así aumenta si interés. (L1/L2)	Lluvia de ideas Preguntas Discusión Elaborar diagramas/esquemas/dibujos	Encuesta, predicciones, audios, planificación, organización, compartir ideas, estimaciones.
2.Descubrir Desarrollar (L1/L2)	Videos Visitas Búsqueda de información Lecturas Experimentos	Resúmenes, observar, seleccionar información, lecturas, buscar recursos, compara y contrastar, hacer conexiones entre ideas, gestionar tiempo,
3.Solucionar (L2/L1)	Clasificación, agrupar Gráficos Secuencia de procesos narrativos	Clasificar, colaboración, presentación de ideas, interpretar, escritos, diseñar, pruebas, ensayos,
4.Reflexionar (L1)	Autoevaluación Coevaluación Evaluación por parte del profesor Publicar los resultados Elaborar un diario de aprendizaje	Respuestas, clarificar, representación, interpretación, publicidad,

Autoevaluación de una sesión CLIL

Time	Teacher is doing what?	Pupils are doing what?	Task-cognitive/creative/collaborative/Critical thinking/communicative	Outcome/Production/Evaluable result/Evidence of learning
10.00-10.05				
10.05-10.10				
10.10-10.15				
10.15-10.20				
10.20-10.25				
10.25 - 10.30				
10.30-10.35				
10.35-10.40				
10.40-10.45				
10.45-10.50				
Total times				











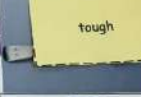

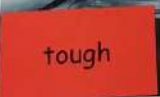

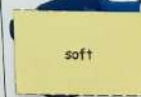


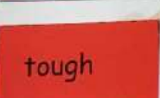
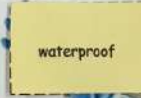
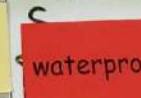






Ejemplos actividades CLIL

Connect Four

Qualities of Materials Connect Four Board

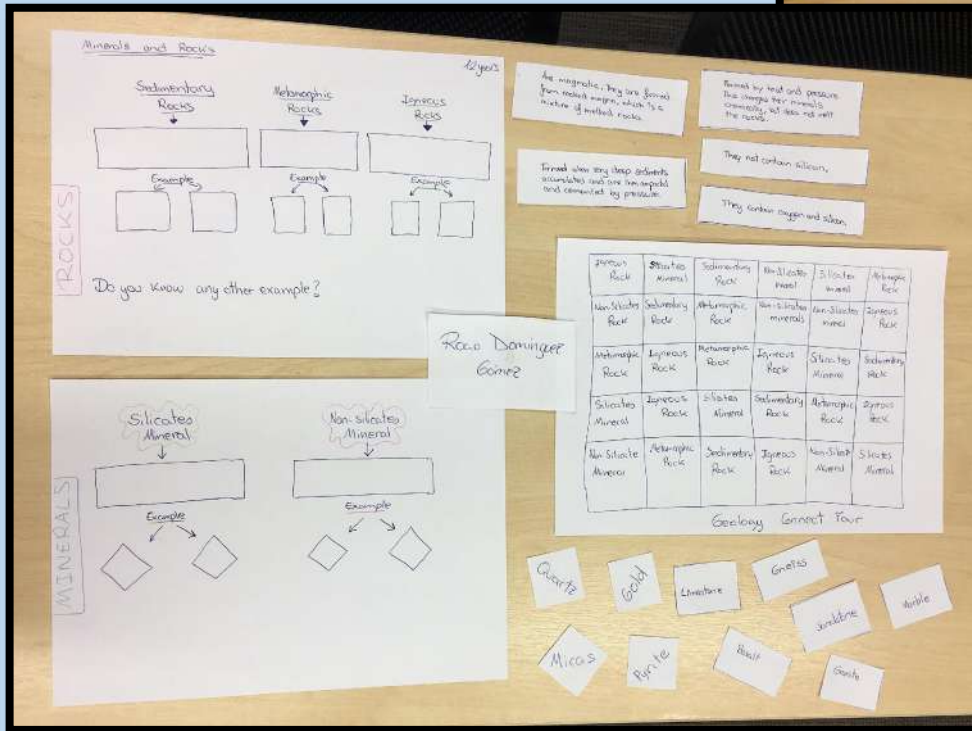
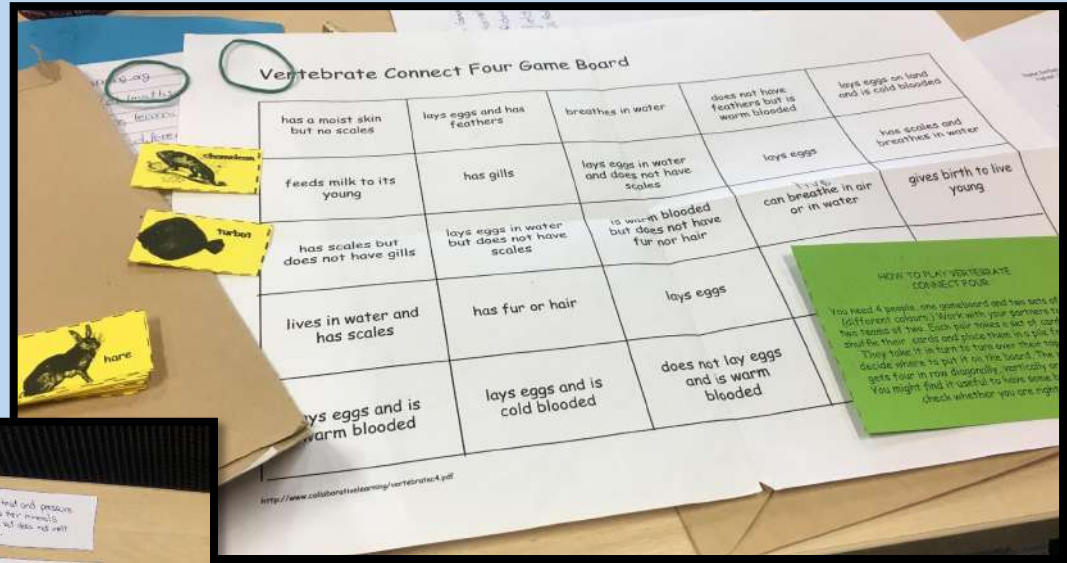
How to Play
This game is best played one pair against another. You need two different colour sets of the qualities cards. Shuffle the cards and place in two piles. Pairs take turns to pick a card for their colour, and place it on the board. Everyone has to agree that the quality on the card fits the picture. The pair with the first four cards in a line vertically, diagonally or horizontally wins.

Handwritten notes:
Kestrey Riders
Northfield
Rushill Road
Scar Storm vs
Milton Movers vs

				
absorbent				
hard				
				
				
				

<http://collaborativestarting.com/qualitiesconnectfour.pdf>

Ejemplos actividades CLIL



Connect Four

Ejemplos actividades CLIL

Transfer of energy- shared comprehension

From Science: Kauser, S and Donaghue, S (DUP) pp147-8

Text 1: Introduction: thermal energy

The transfer of heat energy is very common. When objects are at different temperatures, heat or thermal energy is transferred from the object at a higher temperature to the object at a lower temperature. When atoms in solids, liquids or gases gain heat energy they vibrate and movement of these atoms increases. As an object reaches a higher temperature the atoms gain more energy and motion of these atoms increases. When a liquid is heated particles gain kinetic energy and are able to vibrate more rapidly. When particles have gained enough energy to reach the surface of the liquid they are able to escape. When particles leave the liquid they become vapour. This process is known as evaporation.

Text 2 : Conduction

This process involves the transfer of heat energy from the hotter part of a solid to a colder part of a solid. Particles in the hotter part of the substance begin to vibrate more. As they collide with the cooler particles around them they pass on these vibrations and transfer energy. Energy continues to transfer from particle to particle until all the particles have the same energy. Different materials conduct heat differently. Metals are very good conductors of heat, but non-metals are poor conductors of heat. Metals contain free electrons which have a greater amount of kinetic energy and are able to transfer heat. Solids and liquids are poor conductors and gases are even poorer. Poor conductors of heat are used as insulators. Insulators are used to keep things hot or cold.

Text 3: Convection and Radiation

Convection takes place in liquids and gases as both of them have the ability to move or flow. When liquids or gases are heated they expand and their density decreases. As the hotter parts of the liquid or gas become less dense they rise and cooler parts sink. This allows the substance to flow so that cooler parts can be heated. This is called a convection current.

Radiation

All objects emit radiation. The hotter the object is the more radiation it emits. Radiation emitted from an object is in the form of a wave and is usually infrared radiation. Radiation has the ability to travel through gases and through space. For example, radiation from the Sun travels through space to the Earth's surface and when it reaches the earth's surface it may be absorbed. Dull dark objects are better at emitting radiation and absorbing radiation than light shiny objects. Houses in hot countries are painted white so that less heat is lost and the inside stays cool.

Se divide el grupo de clase en tres grupos y a cada uno se le da un texto diferente relacionado con el mismo tema. A continuación se reparten preguntas a cada uno de los grupos que tendrán que contestar con la información que viene en su texto. Por último se pone en común toda la información extraída de cada uno de los textos. De esta forma la información parte de los propios alumnos.

Work in a group of three. Choose a text. Circle your questions .
Read your text and answer your questions. Share with your partners.

1 Text 1 What is another word for 'heat'?	2 Text 3 Why does convection take place in liquid and gases?	3 text 2 How does conduction occur?
4 Text 3 What happens in convection when the liquids or gases are heated?	5 Text 1 What happens to the atoms when a liquid is heated?	6 Text 2 Draw a spectrum to show the best and worst conductors of heat
7 Text 2 What happens when hotter particles collide with cooler particles?	8 Text 3 What form does radiation take when it is emitted from an object?	9 Text 1 What happens to particles when they leave a liquid?
10 Text 2 Why are metals good conductors of heat?	11 Text 1 How do atoms gain energy and motion?	12 Text 3 Which objects emit and absorb radiation best?
Similarities		Differences

Circle the information new to you.

Ejemplos actividades CLIL

Actividad con la que los alumnos pueden poner en práctica la comunicación y expresión en la segunda lengua en el aula.

Your Average Football Match. A

These football matches are in order of the number of goals scored in each match from lowest to highest. (Liverpool versus Manchester City was the match with the least number of goals).

Can you use the clues to work out the scores in each match.

Team	Score	Team	Score	Number of goals in the match
Liverpool		vs. Manchester City		
Manchester U.		vs. Everton		
Birmingham		vs. Fulham		
Hull		vs. West Ham		
Burnley		vs. Aston Villa		
Sunderland		vs. Arsenal		
Chelsea		vs. Wolves		

The lowest number of goals in a match was 1.

The median number of goals was four fewer than the highest number of goals in a match.

The modal number of goals was two more than the median.

Everton scored one goal in their match.

Sunderland lost their match by three goals.

Chelsea scored twice as many goals as their opponents.

Ejemplos actividades CLIL:

Actividad relacionada con los elementos usados para fabricar un IPHONE

Globalisation: Iphone- The geography of the Iphone 6 elements

What's the human cost of your Iphone?

1 What questions could you have asked Steve Jobs about the components of the Iphone?

2 Work in groups of three. Choose one mineral each.

Mineral	%	Where is it found?	What impact does the mining have?	What are your feelings?
Tin				
Aluminium/ Bauxite				
Cobalt				

Scan your text first and underline any places/countries.

Scan again and find the % of the metal

What would be the best strategy to use to find the key information?

Tin

Tin is used in the Iphone to solder the components together. Much of the tin used in manufacturing and in the Iphone comes from a place called Potosi in Bolivia. Here there is a huge hill called Cerro Rico which was originally used a mine by the Spanish in the 16th century. Then, about 60% of the world's silver came from this mine: since the 17th century, it is estimated that between 4-8 million people have died there from mine collapses, starvation, the cold conditions or mine collapses and disasters.

Today, around 15,000 miners, some of them children as young as 6 years old, work in the mines: they dig for silver, tin, lead and zinc. The average age of death is 39 years old. Many children do not go to school as they have to work in the mine to support their families. The silver and zinc are shipped to Chile by rail and tin is shipped north to Bolivia's state-run tin smelter. From there the tin will be sent for manufacture in Apple products and probably, to make up 2% of your Iphone 6.

Aluminium

The most common element in the Iphone6 is aluminium. This comes from bauxite which is a soft, red rock which is found in tropical, subtropical and volcanic regions around the world. The largest producer of bauxite is Australia, followed by China, Brazil, Indonesia, Guinea, India, Jamaica, Kazakhstan, Russia and Suriname. Apart from Australia, most countries involved in bauxite production very few regulations affecting either working conditions or impact on the environment.

Machines take out the bauxite from 'strip mines' which are very close to the surface of the ground. This process removes all vegetation and therefore the habitats of local birds and animals: it also creates a large amount of toxic waste which then flows into the water supply. In addition, the loss of vegetation creates soil erosion which may lead to land and mudslides. The smelting process often releases greenhouse gases and poisonous fumes which affect the health of the local people particularly the children and elderly. Your Iphone is 30% aluminium.

Cobalt

Most of the cobalt used in the Iphone is in the lithium-ion battery. It comes from the Democratic republic of the Congo. The working conditions for the mines are generally unsafe- the mine shafts often have no wooden supports so they frequently collapse in the rain. Many of the tunnels are dug by hand by children as young as eight years old. Children as young as four often pick cobalt stones from the surface. Exposure to the dust causes many health problems and as the dust flows into the water supply it causes sickness and birth defects in babies. The cobalt is sold to Chinese traders often on the black market. Cobalt is predicted to be in increasing demand with the rise of mobile phone use and electric cars which require a large amount of cobalt to work. Further, the impact on the environment is long term in terms of soil erosion and loss of animal and bird habitats. Cobalt makes up 12% of your Iphone.

BBC video: recycling your old phone. Watch the videos in pairs – one half each (2 mins approx). Complete the chart as you watch.

Information	Details	Details
1 numbers		
2 Back cover		
3 chassis		
4 battery		
5 camera module		
6 Ringer speaker module		
7 Sim card- gold		
8 all metals		
9 main board		
10 LCD unit		

Ejemplos actividades CLIL:

Actividad relacionada con los elementos usados para fabricar un IPHONE

Periodic Table of the Elements

iPhone 6, 16GB model

Element	Chemical Symbol	Percent of iPhone by weight	Grams used in iPhone	Average cost per gram	Value of element in iPhone
Aluminium	Al	24.14	31.14	\$ 0.0018	\$ 0.055
Arsenic	As	0.00	0.01	\$ 0.0022	\$-
Gold	Au	0.01	0.014	\$ 40.00	\$ 0.56
Bismuth	Bi	0.02	0.02	\$ 0.0110	\$ 0.0002
Carbon	C	15.39	19.85	\$ 0.0022	\$-
Calcium	Ca	0.34	0.44	\$ 0.0044	\$ 0.002
Chlorine	Cl	0.01	0.01	\$ 0.0011	\$-
Cobalt	Co	5.11	6.59	\$ 0.0396	\$ 0.261
Chrome	Cr	3.83	4.94	\$ 0.0020	\$ 0.010
Copper	Cu	6.08	7.84	\$ 0.0059	\$ 0.047
Iron	Fe	14.44	18.83	\$ 0.0001	\$ 0.002
Gallium	Ga	0.01	0.01	\$ 0.3304	\$ 0.003
Hydrogen	H	4.28	5.52	\$-	\$-
Potassium	K	0.25	0.33	\$ 0.0003	\$-
Lithium	Li	0.67	0.87	\$ 0.0198	\$ 0.017
Magnesium	Mg	0.51	0.65	\$ 0.0099	\$ 0.006
Manganese	Mn	0.23	0.29	\$ 0.0077	\$ 0.002
Molybdenum	Mo	0.02	0.02	\$ 0.0176	\$ 0.000
Nickel	Ni	2.10	2.72	\$ 0.0099	\$ 0.027
Oxygen	O	14.50	18.71	\$-	\$-
Phosphorus	P	0.03	0.03	\$ 0.0001	\$-
Lead	Pb	0.03	0.04	\$ 0.0020	\$-
Sulfur	S	0.34	0.44	\$ 0.0001	\$-

Globalisation – Science – the Iphone 6

Diana Hicks

More Apple Iphones are sold every day than women give birth to babies.

1 What elements does an Iphone contain?

Work in pairs or threes. Divide the slips equally. Take it in turns to read out your slips and mark the elements on the periodic table. Put the cards with information about the same element together. Did any information surprise you? What didn't you know before?

1 An apple Iphone weighs 129 grams

2 Aluminium and iron make up 38.5% of a Iphone's mass

3 Copper, cobalt, chromium and nickel make up 17.1 percent of the mass of the Iphone

4 Carbon makes up 15.4% of the mass of the Iphone

5 Silicon makes 6.3% of the mass of the Iphone.

6 The Iphone is 24% aluminium

7 Aluminium costs around 2\$ a kilo

8 A quarter of the weight of the Iphone is the case which is made of aluminium

9 Oxygen, hydrogen and carbon are used for different alloys in the metals in the phone

10 The batteries are made of lithium, cobalt and aluminium

11 The Iphone6 contains 0.014g of gold

12 The Iphone contains 0.66g of tin

13 The Iphone contains 0.025g of tantalum

14 The Iphone has .02 % tungsten