CONTENIDO

PRESENTACIÓN

De las tres horas semanales de la asignatura Ciencias de la Naturaleza de 1ºESO una se imparte íntegramente en inglés con el apoyo del auxiliar de conversación que nos facilita la Junta de Andalucía; en las dos horas restantes se combina el uso del inglés y el español pero es evidente que el tiempo que pasa el auxiliar de conversación en clase es muy importante, un tercio del total, y hay que aprovecharlo bien para garantizar una enseñanza bilingüe de calidad. Por este motivo se han preparado una serie de guiones teniendo en cuenta los siguientes criterios:

- Se pretende que toda la hora de clase transcurra en un inglés asequible para los alumnos; a veces los alumnos manifiestan dudas en español pero se les responde también en inglés.

- La clase la prepara el profesor pero la imparte el auxiliar de conversación para aprovechar su riqueza de expresiones y su pronunciación.

- El objetivo es que predomine la interacción oral frente a la lecto-escritura. Frecuentemente el auxiliar de conversación expone un tema sencillo y plantea preguntas a los alumnos para fomentar la participación. No se trata de una clase magistral en inglés sino de un diálogo dirigido. Se ha constatado una mejora auditiva notable, la mayoría de los alumnos comprenden bien lo que se explica pero tienen problemas a la hora de intervenir y tienden a hacerlo con palabras sueltas por lo que les animamos a construir sus propias frases. Es conveniente que también el profesor intervenga en inglés a lo largo de la clase: participando como uno más, lanzando preguntas a los alumnos, expresando sus propias dudas lingüísticas al auxiliar, sugiriéndole cambios en la dinámica de clase...

- La clase con el auxiliar de conversación no es una clase de repaso en inglés de lo que previamente se ha trabajado en español ya que esto equivaldría a tener que impartir la asignatura en mucho menos tiempo o a recortarla con lo cual no se ajustaría al currículo oficial. Con el auxiliar de conversación se puede avanzar ofreciendo contenidos relativamente nuevos, aunque evitando los contenidos más difíciles que tendrá que desarrollar el profesor en otros momentos y probablemente en español. Con frecuencia el auxiliar de conversación interviene en los primeros momentos del abordaje de un tema, en la fase de revisar qué

ideas previas tienen los alumnos y de recordar conceptos conocidos de otros años; es decir antes de entrar en los contenidos más complejos.

- Las instrucciones para el auxiliar de conversación son precisas para que le resulte sencillo impartir la clase. Hay que tener en cuenta que un solo auxiliar puede participar en asignaturas muy diferentes y no se puede pretender que domine todas ellas. Por eso le proponemos temas fáciles, de cultura general, que no le exigen una preparación previa.

- En la mayoría de las clases facilitamos apoyos visuales de manera que el alumno conecta lo que está escuchando en inglés con imágenes que le ayudan a seguir el hilo de una explicación. En la pizarra se puede hacer un esquema con las ideas que se van exponiendo o, aún mejor, proyectar una presentación con fotografías porque recogen los temas a tratar en el orden que el profesor considera conveniente y porque el auxiliar simplemente tiene que comentar en su lengua materna lo que está viendo en la pantalla.

- En algún momento de la clase el alumno debe tomar nota, a modo de resumen, de las ideas o de las palabras más importantes, de las preguntas-tipo, de las posibles maneras de contestarlas... Esto ayuda a afianzar el conocimiento y evita que los alumnos se distraigan o se pierdan.

UNIT 1: MATTER.

MEASUREMENTS.

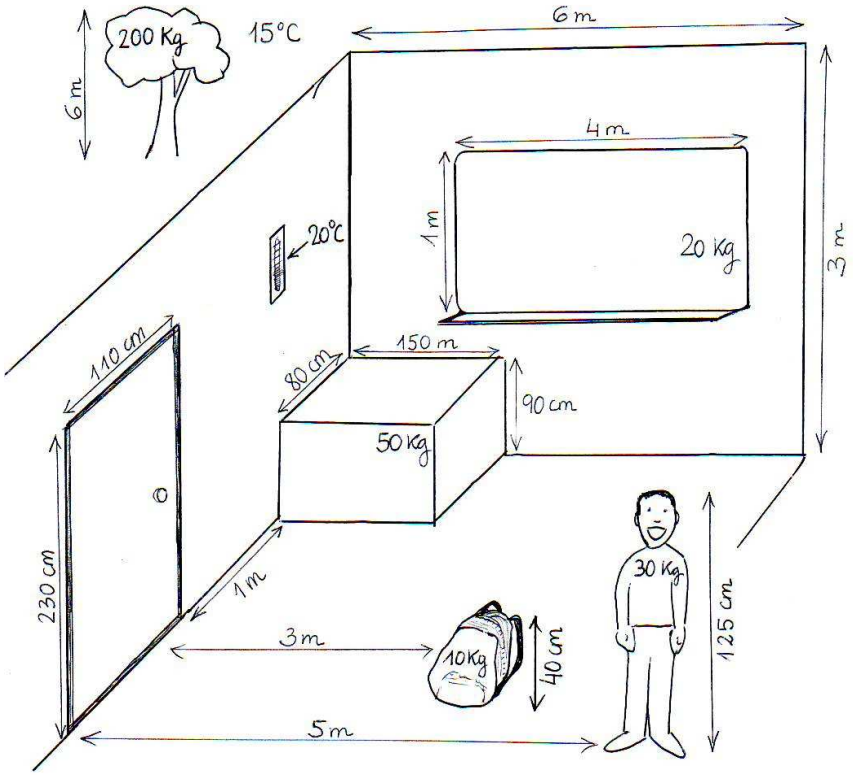
Dear language assistant,

We would like the students to learn how to answer and how to ask simple questions about the size of some bodies. The following questions are in the Activity Book page 8. You can say the students to open the book and then you can read the questions and the answers explaining the meaning of some words: long, wide, high, tall, far away, warm, heavy. You can tell some students to repeat properly what you have read (a different person each time).

- *How long is the table? The table is 150 cm long.*
- *How wide is the table? The table is 80 cm wide.*
- *How high is the table? The table is 90 cm high.*
- *How tall is the boy? The boy is 125 cm tall. (Note: tall is used for people and high is used for objects).*
- *How far (away) is the table from the door? It is a metre away.*
- *How warm is it in the room? It is 16 degrees Celsius.*
- *How heavy is the table? The table is 50 kg. (Note: you don't say "heavy" in the answer. You can say: the table weighs 50 kg).*

Then, we can practise new sentences using the following picture in page 9

You can ask different questions related to the picture and the students have to answer looking at the picture. We prefer to practise listening and speaking and, in the end, the students can write and do exercise 23 (page 9). However, if the students are naughty, they become quieter when they have to write. In this case, we all together could do exercise 23 (listening, speaking and writing in each question).



1. Answer the following question looking at the picture above:
    a. How wide is the table?
    b. How high is the ceiling?
    c. How heavy is the bag?
    d. How high is the door?
    e. How high is the tree?
    f. How far is the bag from the door?
    g. How heavy is the board?
    h. How wide is the board?
    i. How heavy is the boy?
    j. How heavy is the tree?
    k. How warm is it outside?

2. Ask your own questions:
    a. Ask about the bag.
    b. Ask about the table.
    c. Ask your partner about the door.
    d. Ask about temperature.
    e. A question about the length of something.

If possible, they can practise in pairs: Each student can ask three questions to his/her partner.

(If someone is interested in it you can show another way to ask the same questions: What **length** is the table? What **width** is the window? What **height** is the door?...)

Thank you

UNIT 1: MATTER.

CHEMICAL COMPOUNDS, CHEMICAL ELEMENTS AND ATOMS.

Dear language assistant,

You are using a presentation during this class. The first slides are for reviewing what the students learnt the week before. They deal with measurements: how long?, how wide?, how tall?, how high?, how far?, how heavy? Just five minutes for the review, please.

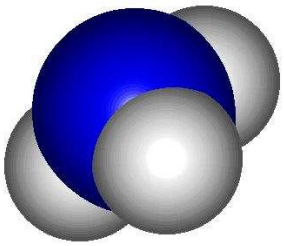
Then you will show them how to describe chemical compounds. This is the first class about this topic but the scientific ideas involved are very simple:

- Atoms: they are very small particles and they are drawn as balls.
- Chemical elements: they are balls in different colours.
- Chemical compounds or molecules are groups a several balls.

The English contents are also simple:

- How many...?
- There is/are.
- Numbers and colours.

Here you have an example of the questions and answers the students have to learn:



- How many elements are there in this molecule?
- There are two elements: blue and grey.
- How many atoms are there in this molecule?
- There are four atoms: three grey atoms and one blue atom.

Please, tell the students: "Ask me about this molecule" or "María, ask Antonio about this molecule" and "Antonio, answer Maria's question"

The second group of slides are chemical formulae. They are not drawings with balls, so they are harder to understand but not too much. The comments are similar but we don't say blue ball but oygen, hydrogen, iron and so on. The students know neither the chemical symbols nor the names of chemical elements in English so you will have to write them on the board as they appear in the slides. The following example belongs to water molecule (H_2O):

- How many different elements are there in this molecule?
- There are two elements: hydrogen (H) and oxygen (O).

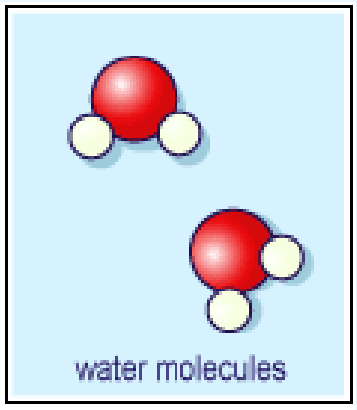
- How many atoms are there? There are three atoms: two atoms of hydrogen and one atom of oxygen.

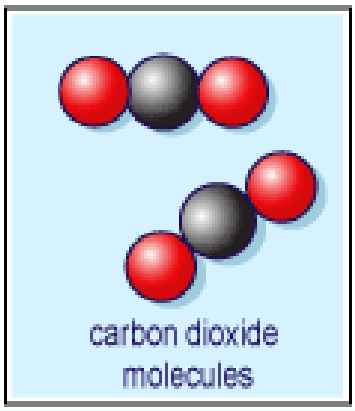
These are the formulae appearing in the presentation:

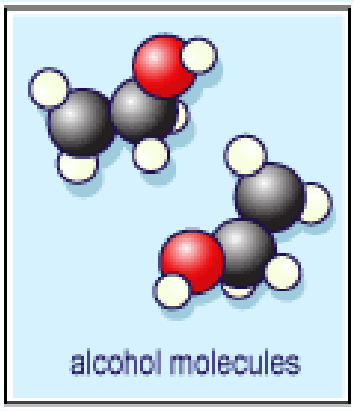
- Fe_2O_2: two atoms of iron (hierro) and three atoms of oxygen (oxígeno)
- Au_2O: two atoms of gold (oro) and one atom of oxygen
- H_2SO_4: two atoms of hydrogen, one atom of sulphur (azufre) and four atoms of oxygen
- H_2O (water): two atoms of hydrogen and one atom of oxygen.
- $CaCO_2$: one atom of calcium (calcio), one atom of carbon (carbono) and two atomos of oxygen.

At the end they can open their Activity Book and do activity 35 in page 14 (they will have to draw balls in red because their sheets are not in colour).

35.Observa la descripción de la molécula de agua y haz lo mismo con la molécula de dióxido de carbono y con la de alcohol.







- How many elements are there in a water molecule? There are two elements: oxygen and hydrogen. How many atoms are there in a water molecule? There are three atoms.

Thank you

UNIT 1: MATTER.

PURE AND MIXED SUBSTANCES, CHEMICAL ELEMENTS, MOLECULES AND BINGO.

Dear language assistant,

Our next class deals with simple concepts of chemistry. Most of it is a review of concepts already studied but we would like the students to pay attention to the English pronunciation. These are the activities:

1. Write on the board: "Pure substances and mixtures". Remind them the meaning of these words (have one or more than one component). Then you can say some substances and they have to tell you if they are pure or mixed substances. Write them on the right place like this

Pure substances	**Mixtures**
Gold	Sea water (with salt)
Salt	Salad
Oxygen	Air (many gases)
Oil	Wine (includes alcohol)
Iron	Smoke

   The students will copy this on their notebook and they will practise the pronunciation with your help.

2. Then you can teach how to translate some chemical elements into English and how to pronounce them. Write them on the board, please.

   - Hidrógeno: hydrogen
   - Oxígeno: oxygen.
   - Oro: gold.
   - Cobre: copper.
   - Plata: silver.
   - Hierro: iron.
   - Carbono: carbon
   - Nitrógeno: nitrogen.
   - Cacio: calcium.

3. After that you can tell them that there are chemical symbols which are used all over the world. Sometimes the symbol is one letter (a capital one) and sometimes the symbol is a pair of letters (the second one is not a capital letter). You can dictate the symbols and, at the end, you can check if they are right.

   - Hidrógeno: hydrogen→ H
   - Oxígeno: oxygen→ O
   - Oro: gold. → Au
   - Cobre: copper. → Cu
   - Plata: silver. → Ag

- Hierro: iron. → Fe
- Carbono: carbon→ C
- Nitrógeno: nitrogen. →N
- Cacio: calcium. → Ca

4. Chemical compounds include several chemical elements. Let's practise with these formulae:

   - H_2O: two atoms of hydrogen and one atom of oxygen.
   - Fe_2O_3: two atoms of iron and three atoms of oxygen.
   - AgO: one atom of silver and atom of oxygen.
   - $CuCO_3$: one atom of copper, one atom of carbon and three atoms of oxygen.
   - CO_2: one atom of carbon and two atoms of oxygen.

5. Bingo using 17 words (mixture, pure, iron, gold, water, oxygen, atom, wine, sand, oil, salt, filtration, magnet, air, smoke, ruler, scale). Each student gets a card with nine words. Then you define one of the seventeen words. They have to guess which word you are talking about. The students who have this word have to tick it on their paper. Then you choose another word and repeat the process. The students can say LINE or, at the end, BINGO.

   You can see it in the seas, in the rivers... (water)
   It's a liquid, a yellow liquid and it is for cooking (oil).
   It has got two or more substances (mixture).
   It's a yellow metal. It costs a lot of money (gold).
   It is a gas and you need it to live (oxygen).
   It's white and you put it on the food (salt).
   It's the way to separate sand from water (filtration).
   It's a mixture of gases. It is in the atmosphere (air).
   It is a gas. The gas coming from a cigarette (smoke).
   An instrument to measure length (ruler).
   It has only one substance (pure)
   It is metal, a grey metal (iron).
   It's a solid thing that attracts metals (magnet).
   It is something very very small (atom)
   It's a liquid, a purple liquid and it has got alcohol (wine).
   You can see it at the beach. Children like playing with it (sand)
   An instrument to know the mass of a body (scale).

Thank you

Example of card

Mixture	Iron	Water
Atom	Sand	Salt
Filtration	Magnet	Wine

Pure	Gold	Oxygen
Scale	Oil	Filtration
Magnet	Mixture	Air

Mixture	Iron	Water
Atom	Sand	Salt
Filtration	Magnet	Wine

Pure	Gold	Oxygen
Scale	Oil	Filtration
Magnet	Mixture	Air

Ruler	Pure	Iron
Air	Magnet	Filtration
Salt	Wine	Gold

Gold	Water	Oxygen
Atom	Sand	Mixture
Oil	Ruler	Wine

Pure	Smoke	Iron
Scale	Atom	Sand
Ruler	Magnet	Filtration

Salt	Air	Magnet
Wine	Water	Atom
Oxygen	Smoke	Pure

Salt	Ruler	Wine
Atom	Water	Sand
Iron	Smoke	Air

Ruler	Scale	Atom
Smoke	Oxygen	Iron
Gold	Pure	Mixture

UNIT 1: MATTER.

STRUCTURE OF ATOMS

Dear language assistant,

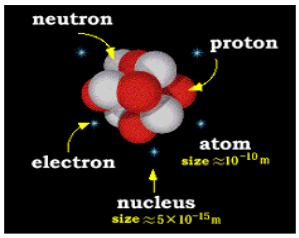
1.This class deals with atoms. We have already worked about this topic but the students have to practise it. The first activity consists of writing four words on the board: mixture, element, atom, compound. Then you have to remind them that matter has these components but they are very different in size and complexity. Which one is the smallest? Which is the more complex? Order them from the "biggest" to the smallest. After one minute you can give the right answer:

Mixture>Compound>Element>Atom

You can explain this with an example: sea water is a mixture and it contains two compounds: water and salt. Water is H_2O, so water contains two elements: hydrogen and oxygen. In a water molecule there are two atoms of hydrogen and one atom of oxygen.

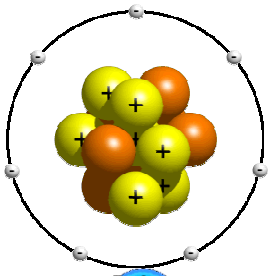
2.We usually say atom is the smallest part of matter but scientists have found out that there are small particles inside atoms. Do you remember their names? Proton, neutron and electron. Students have already filled a chart with the characteristics of these particles. Open your book on page 17 in order to answer some questions:

	Location	Charge	Mass
Proton	NUCLEUS	POSITIVE	YES
Electron	ORBIT	NEGATIVE	YES
Neutron	NUCLEUS	NO CHARGE	NO

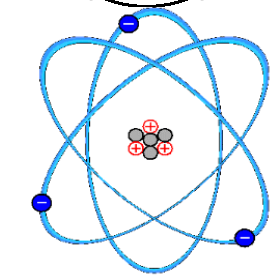


- Where are protons?
- Protons are in the nucleus.
- Which particles are in the nucleus?
- Protons and neutrons are in the nucleus?
- Where are electrons?
- They move around, in the orbit.
- Do neutrons have a charge?
- No, they don't.
- Do protons have a charge?
- Yes, they have positive charge.
- Do electrons have mass?
- We say they don't have mass (because their mass is very very small, much smaller than proton and neutron mass).
- Where is the mass of an atom?
- It's in the nucleus

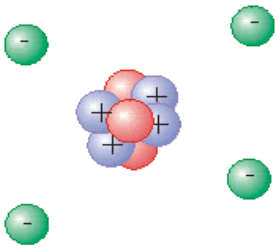
3.Then you can review the structure of atoms using a presentation with the following pictures. You can ask some questions or ask the students to describe the pictures.



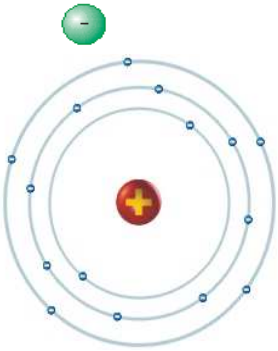
How many electrons are there?
There are seven electrons
How many protons are there?
There are seven protons
Where are the neutrons?
They are in the nucleus?



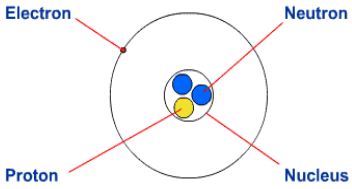
Describe the atom on the left:
There are three electrons in the orbit (moving around).
There are four neutrons and three protons in the nucleus. So the mass is seven (4+3, electrons have no mass)



There are four electrons in the orbit and there are four protons and three neutrons in the nucleus. The mass is seven.

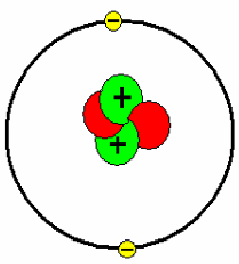


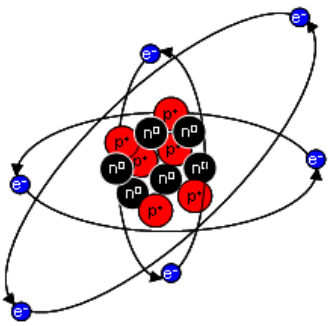
There are protons and neutrons in the nucleus but we can't see how many.
There are 15 electrons in the orbit.



It has got one electron in the orbit and three particles in the nucleus: one proton and two neutron.

A Helium Atom





4.Another way to review this topic is asking them to draw an atom you describe (Look for a volunteer to draw on the board, please). For instance:

-It has six protons and six electrons. There are seven neutrons in the nucleus.
-It has nine particles in its orbit and there are twenty particles in the nucleus.
-There are seven particles in the nucleus and two particles in the orbit. How many electrons has it got? Two (particles in the orbit). How many protons? Two (number of protons is equal to number of electrons). How many neutrons? Five (7-2=5)

5.If there is some time left you can check some activities students have done at home:

42. True or false

l. Atoms of gold are the same as atoms of oxygen. False
m. Compounds are formed by two or more elements. True
n. The horizontal rows in the periodic table are called periods. True
o. The vertical columns in the periodic table are called groups. True
p. The element carbon can be represented by the symbol C. True
q. The element silicon can be represented by the symbol S. False
r. Protons have a negative charge. False
s. Neutrons and protons are in the nucleus of a carbon atom. True

43.Find the right word for these definitions:

t. The central part of an atom: nucleus
u. A very small particle with a positive charge: proton
v. A very small particle almost without mass: electron
w. A very small particle with no charge: neutron
x. The place where the protons are: nucleus
y. A very small particle with a negative charge: electron

44. Draw the structure of an atom made up of 9 electrons, 9 protons and 10 neutrons. Look for the name of this element in the periodic table.

Thank you

UNIT 1: MATTER.

STATES OF MATTER AND CHANGES OF STATE.

Dear language assistant,

1. You can ask the students: **How many states of matter are there?** (Solid, liquid, gas). You are asking them for **examples** of solid, liquid and gaseous substances. Then are naming different substances and ask them if they are solid, liquid or gas: Is the chair liquid? **Which state is milk?** (wood, stone, oxygen, water, smoke, juice…). At the end of this discussion they have to do activities 46 and 47 on their Activity Book (page 18). Five minutes and check it, please.

46.Name the three states of matter.

47.In which state are these substances usually?

Wood	Smoke
Oxygen	Milk
Stone	Wine
Carbon dioxide	Perfume
Juice	Book
Air	Iron

48.Complete the following chart

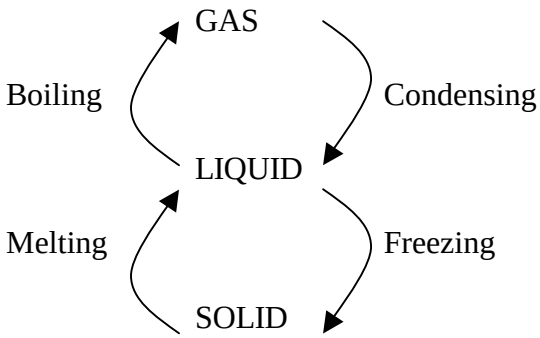
States	Does their shape change?	Does their volume change?
Solid		
Liquid		
Gas		

2. Now we are talking about the shape of solid, liquid a gaseous objects. Remind them the meaning of shape. **Does their shape change?** Solids have always the same shape, a fixed shape, but liquids and gases change, they have the shape of the receptacle they are in. The answer (yes/no) can be written in the first column of the chart from activity 48. After that, you are asking a similar question: **Does their volumen change?** Just volume of gases change (the teacher can show a balloon and a syringe to explain this).

3. After that, tell them we are going to explain the **CHANGES OF STATE**. Remember a substance change when we HEAT or COOL it (Write every word in capital letters on the board and explain their meanings, please).
    a. WHAT HAPPENS when we cool liquid water? It BECOMES solid (ice)

   b. What happens when we heat water? It becomes gas (water vapour).
   c. What happens when we cool a gas? It becomes liquid.
   d. What happens when we heat a solid?
   e. And so on.

4. Then you can show the names of the different changes of state. Practise the pronunciation and wait two minutes for them to copy this graph (activity 58 from their book):



5. Then you can ask some questions to check if they have understood the previous words:
   a. What's the name of the change from solid to liquid?
   b. And from gas to liquid?
   c. What happens to the liquid water if it is warmed up?
   d. And if you cool it? How is called that process?
   e. What is the boiling?
   f. What is the condensation?
   g. Etc

58.The state of a substance can change when the temperature changes. For example if you heat liquid water it becomes gas and if you cool liquid water it becomes solid ice. Draw some arrow and label them using these words: melting, boiling, condensation, freezing.

GAS

LIQUID

SOLID

Thank you

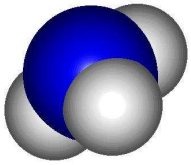
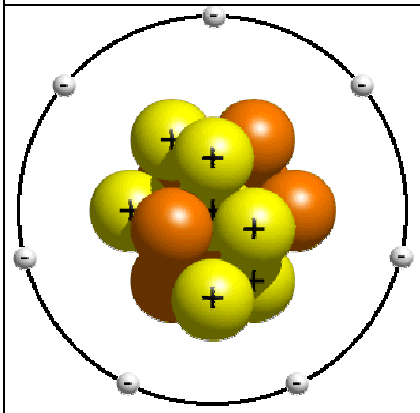
UNIT 1: MATTER.

REVISE UNIT ABOUT MATTER

Dear language assistant,

The students are doing an exam in a few days, so we'd like to revise what they have learned in this unit. First of all, we can read some "AIMS IN ENGLISH" on page 24 and practise them:

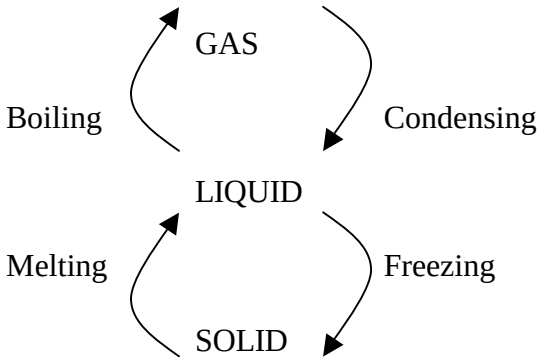
Aim number 20. A partir de fórmulas o de dibujos de moléculas y de átomos, contestar a cuestiones sobre cuántos componentes hay y dónde están (how many, where, there are, there is, have got). You can practise simple questions and answers with the teacher or with the students using simple drawings on the board.

	This a molecule or a compound. How many chemical elements are there? There are two elements, the blue element and the white element. How many atoms are there in this molecule? There are four atoms.
$CaCO_3$	This is another molecule or a compound but written with chemical symbols. How many elements has this molecule got? It has got three elements: calcium, carbon and oxygen. How many atoms has it got? It has got five atoms: one atom of calcium, one atom of carbon and three atoms of oxygen.
	This is an atom, not a molecule, so balls are particles inside the atom. What is the name for particles in the orbit? They are electrons? Where are protons? They are in the nucleus? How many electrons are there? There are seven electrons in the orbit? Where are neutrons? What is the atomic number of this atom? It is seven because it has got seven electrons and seven protons.

Aim number 21. Formular y responder preguntas sobre cuál es el estado físico de un objeto.

- What state is air? It's a gas
- What state is the table? It's a solid.
- What state is the smoke from a chimeney? It's a gas.
- What state is juice? Juice is a liquid
- Ask me about the state of milk. What state is milk?
- Ask me about the state of the computer. What state is the computer?

Aim number 22. Dado el estado físico de un objeto explicar qué le ocurre al ser calentado o enfriado (happen, become, cool, heat…). The students are practising this aim looking at page 20 where they have a scheme similar to this one.



- What happens when you cool down some liquid water?
- It becomes a solid (It turns into solid)
- What's the name for the change from liquid to solid?
- It is freezing.
- What happens when you heat up some liquid water?
- It becomes a gas.
- What's the name for the change from liquid to gas?
- It's boiling (sometimes we say evaporating althoug it is not exactly the same)
- What's condensing?
- It's the change from gas to liquid.
- What's freezing?
- It's the change from liquid to solid
- What is the melting point of water?
- It's 0 degrees Celsius.
- What's the boiling point of water?
- It's 100 degrees Celsius?

Finally we are playing a quiz to revise some vocabulary of this unit. We hand out a sheet with some blanks. Here you have the underlined words but the students won't have them; they have to note them down while you dictate. Then they have to guess the

solutions which are the words in capital letters. After that, a volunteer has to read the full sentence and you have to check it. (The teacher can write the answers on the board)

1. The ..... you use to measure ..... is the _____.
2. The process to separate ..... from water is _____
3. This ..... has got different ..... close together. It is a _____
4. This is a process when a .....substance ..... a liquid. It is _____
5. This is a very small ..... and it has got ..... charge. It is a _____.
6. To say the ..... you use this .....: _____.
7. This a ..... of matter in which shape never ..... It is _____.
8. The process to ..... water from ..... is _____.
9. This substance has got several ..... but you can easily ..... them. It is a _____.
10. This is a state of ..... and you can imagine it as particles ..... completely free. It is a _____.
11. Which part of the atom are ..... in? They are in the _____.
12. ..... happens when a ..... becomes a _____.

SOLUTIONS

1. The instrument you use to measure temperature is the THERMOMETER.
2. The process to separate sand from water is FILTRATION
3. This substance has got different atoms close together. It is a COMPOUND OR A MOLECULE.
4. This is a process when a solid substance becomes a liquid. It is MELTING.
5. This is a very small particle and it has got positive charge. It is a PROTON.
6. To say the temperature you use this unit: DEGREE CELSIUS.
7. This a state of matter in which shape never change . It is SOLID.
8. The process to separate water from oil is DECANTING.
9. This substance has got several components but you can easily separate them. It is a MIXTURE.
10. This is a state of matter and you can imagine it as particles moving completely free. It is a GAS.
11. Which part of the atom are neutrons in? They are in the NUCLEUS.
12. Boiling happens when a liquid becomes a GAS.

Thank you

1. The ..... you use to measure ..... is the _____.
2. The process to separate ..... from water is _____
3. This ..... has got different ..... close together. It is a _____
4. This is a process when a .....substance ..... a liquid. It is _____
5. This is a very small ..... and it has got ..... charge. It is a _____.
6. To say the ..... you use this .....: _____.
7. This a ..... of matter in which shape never ..... It is _____.
8. The process to ..... water from ..... is _____.
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10. This is a state of ..... and you can imagine it as particles ..... completely free. It is a _____.
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1. The ..... you use to measure ..... is the _____.
2. The process to separate ..... from water is _____
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11. Which part of the atom are ..... in? They are in the _____.
12. ..... happens when a ..... becomes a _____.

UNIT 2: THE EARTH AND THE UNIVERSE

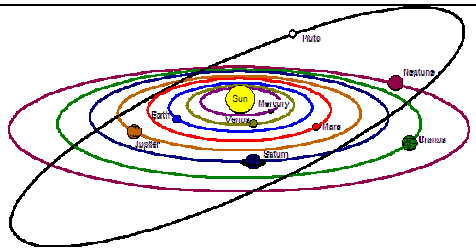
COMPONENTS OF THE SOLAR SYSTEM.

Dear language assistant,

This is our first class about unit 2. Our objectives are to know the names of the components of the Solar System and to learn to describe them.

1.**Reading** page 25 of the Activity Book. You can read each sentence and ask a student to repeat and translate it. They must write the meaning of the new words above them (I have already underlined some words. We can give up this activity after 10-15 minutes.

1.THE SOLAR SYSTEM.

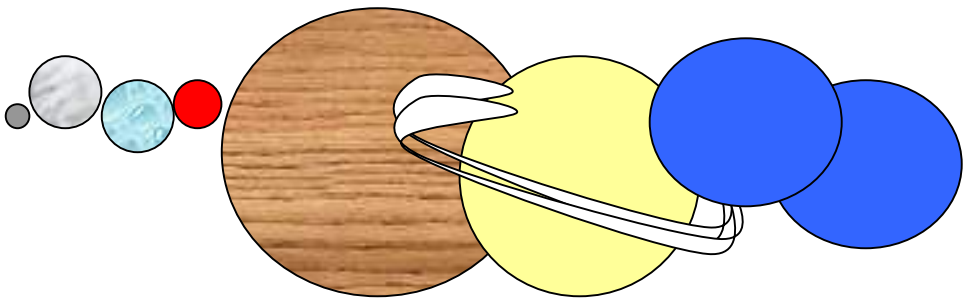


Our Solar system consists of a star, planets and dwarf planets, moons, asteroids and comets. We call our star the Sun and it consists of over 99% of all the mass in our Solar System. The Sun heats and lights our world and allows life on Earth. It is a luminous object; planets and moons are non-luminous objects but we can see them because of the light they reflect. The Sun is just a simple star inside the Milky Way, our galaxy. Galaxies are made up of thousands of stars.

The planets orbit the Sun and the Earth is one of these eight planets. Moons are large natural satellites that orbit a planet; we have just one moon but some planets have several moons.

Asteroids are smaller rocky bodies orbiting the Sun. They vary in size from several meters to about 1000 km. Many asteroids are between Mars and Jupiter and form the asteroid belt. Comets are made of ice and rocks and they orbit the Sun too, but they have a very elliptical orbit; showing a long tail when they are near the Sun.

2.You can show a picture of the eight planets of the Solar System and you can **say their names**, starting on the nearest one to the Sun (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto). Perhaps somebody can ask about Pluto but nowadays Pluto is considered a dwarf planet. The students can repeat the pronunciation of the names. Then they can copy the drawing:



Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune

3.We can talk about their **position** and review ordinal numbers using these questions and other questions on your own. The students should answer using complete sentences.

- Which planet is the first? (Mercury)
- Which planet occupies the second position? (Venus)
- And the fifth planet? (Jupiter)
- And the eighth planet? (Neptune)
- Which planet is the fourth?
- Which planet….
- Which position does Neptune occupy?
- Which position…

4.We can also use the words **far and near** to express the position of a planet. (They haven't studied superlatives and comparatives yet)

- Is Mecury near the Sun?
- Is Jupiter far from the Sun?
- Is Saturn near the Sun?
- Is Mars near the Earth?
- Is Venus near Jupiter?
- Is Neptune far from the Sun?
- Is Uranus near Mercury?

As a conclusion of this exercise they can write below the planets:

Mercury Venus Earth Mars — Near to the Sun

Jupiter Saturn Uranus Neptune — Far from the Sun

5.Then we can chat about the **size of the planets**: small, big=large.

- Is Mars a big/large planet?
- Is Jupiter a big planet?
- Is Venus a small planet?
- There are four big planets. Which planets are big?
- Which planets are small?

Mercury Venus Earth Mars — Near the Sun, Small planets

Jupiter Saturn Uranus Neptune — Far from the Sun, Big planets

6.After that we can talk about the **colour and the appearance** of the planet.

- Which planet is red? (Mars)
- Which planets are bluish coloured? (Uranus and Neptune. The Earh is blue because of the oceans)
- Which planet has rings around it? (Jupiter)
- Which planet displays bands of colours? (Jupiter)
- What colour is Mars? (Red)
- How can you recognise Jupiter? (Colour bands) And Saturn? (Rings)

7.Finally you can describe a planet **taking into account position, size and appearance**. For instance: "Mercury is the first planet, it is near the Sun. It is a very small planet and it is grey". A second example: "Jupiter is the fifth planet, it's far from the Sun. It is very big and it has got bands of colours". Then the students have to the same, writing on their notebooks the description for Mars, the Earth, Venus, Saturn, Uranus and Neptune.

8. If we have some time left we can work on a table on page 26.

	Orbital Distance (AU)	**Mass** (earths)	**Diameter** (earths)	**Rotational Period** (days)	**Orbital Period** (years)	**Density** (earths)	**Surface Gravity** (earths)	**Moons**	Temp (ºC)
Sun	0.0	330,000	109.2	25.4	...	1.42	28	...	
Mercury	0.4	0.06	0.38	59	0.24	0.98	0.38	0	167
Venus	0.7	0.81	0.95	243	0.62	0.95	0.90	0	464
Earth	1.0	1.00	1.00	1.00	1.0	1.00	1.00	1	15
Mars	1.5	0.11	0.53	1.03	1.9	0.71	0.38	2	-63
(Ceres***)**	2.8	0.00015	0.07	0.38	4.6	0.38	0.03	0	-34
Jupiter	5.2	317.8	11.2	0.42	11.9	0.24	2.34	63	-108
Saturn	9.5	95.2	9.4	0.44	29.4	0.12	1.16	47	-139
Uranus	19.2	14.5	4.0	0.72	83.7	0.23	1.15	27	-215
Neptune	30.1	17.2	3.9	0.67	163.7	0.30	1.19	13	-201
(Pluto***)**	39.4	0.002	0.18	6.40	248.0	0.37	0.04	3	-223
(Eris***)**	67.7	0.002?	0.18	~8	557	?	?	1	-243

*(*Now defined as a "dwarf planet.")*

1. How far is Venus from the Sun?
2. How long does it take the Earth to make one complete orbit of the Sun?
3. How long does it take for Uranus to orbit the Sun?
4. How long does it take for the Earth to complete one rotation?
5. How long does it take for Mercury to make a rotation?
6. How many satellites has Mars got?
7. How warm is it on Uranus?
8. Which planet in our Solar System has the largest mass?
9. Which planet has the highest temperature?
10. Which planet has the lowest temperature?
11. Which planet is the nearest to the Earth?
12. Which planet is the nearest to Saturn?
13. Name the four planets with the highest density.
14. Which planet has the lowest density?
15. Which planet is the farthest from the Sun?
16. Which planets are nearer to the Sun than the Earth?
17. Which planets are larger than Uranus?
18. Which planets are smaller than Venus?
19. Which planets are hotter than the Earth?
20. Which planets are colder than the Earth?

UNIT 2: THE EARTH AND THE UNIVERSE

CONSEQUENCES OF REVOLUTION

Dear language assistant,

You can explain consequences of revolution showing an image you will complete adding new sheets. Here you have some comments for each sheet and some questions you can ask the students. Everything appearing on the screen has to be written on their notebook, in a new and clean sheet.

SHEET 1.

- The Earth moves (orbits) around the Sun. **What´s the name of this movement?** Revolution. Compare with rotation.
- **How long does it takes?** 365 days. A year.
- Remember many years ago people thought the Sun moved around the Earth. That´s not true. Remember Columbus' trip.
- Earth's orbit around the Sun is nearly a perfect circle. You can't say the Earth is sometimes near the Sun and sometimes it's far. That's not right. Earth-Sun distance is always the same. And that's why we have drawn a circle and not an ellipse.
- See that the Earth axis isn't vertical. It's slanted and this is the reason why we have seasons. Look at the picture with the Earth on the right: **Is it summer or winter? Warm or cold?** It depends on the hemisphere. As we live in the North Hemisphere, is it summer or winter? You can see that sun rays arrive directly on the South and they arrive slanted on the Northern Hemisphere. So it´s winter for us and summer in the Southern Hemisphere.

SHEET 2:

- In this page you can see what we have just said: summer and winter in the Northern Hemisphere.
- Look at the two new pictures. **What season does the picture above represent?** Spring. **And the picture below?** Autumn. **Why?**
- Remember we are always talking about Northern Hemisphere.

SHEET 3:

- Here you can see the four seasons and the dates seasons begin.
- Pupils can practise dates. **Which day does Spring start? Which day does Winter finish? How long is summer? Which season is November the eleventh?** And so on.
- And then we can imagine seasons in the Southern Hemisphere. **Which season is April in Argentina? Which season is July in Australia? Which season is October in Canada (N.H.)?** And so on using different countries from both hemispheres.

SHEET 4:

- These rectangles represent 24 hours: dark blue is night and yellow is day. **In winter, which is longer: day or night?** Night. **And in summer**?

- Duration of days and nights is changing everyday. **Do you know which date is the longest night and the shortest day?** It's the 21st of December, the day winter starts.
- **And which date is the longest day and the shortest night?** 21st of June, the day summer starts.
- These special astronomical dates agree with special celebrations. Next to the 21st of December we celebrate Christmas. And June the 21st we celebrate "La noche de San Juan" plenty of bonfires like those of Valencia. Valencia people burn their fallas on the 21st of June (fallas are very big figures made up of card).

SHEET 5:

- Here you can see these two dates we've just explained. In addition, we're going to study March the 21st and September the 22nd. **What is special in these dates?** Day lasts the same than night (It occurs only two days in the year). Look at the symbols.
- These days are called equinox (equinoccios in Spanish). Equi means equal (igual) and nox is night. So: equinoccio es igual noche. We have a Spring equinox (equinoccio de primavera) (March 21st) and an Autumn equinox (equinoccio de otoño) (September 22nd).
- We use "solstice" (solsticio) for the other two special dates. The 21st of December is the winter solstice (the longest night) and the 21st of June is the summer solstice (the longest day).

SHEET 6:

- Green line. From the 21st of December days get longer and longer until the day is as long as the night (21st of March) and then days go on growing until June (the longest day is the 21st).
- Red line shows days getting shorter and shorter. We use to think summer days are very long. That's true but they get shorter during that season.

Eventually, they can do exercise 46 in their Activity Book (page 31). They have to fill the cells in this chart:

Seasons	It begins…	It ends…	Sun rays: perpendicular or slanted?	Cold or warm	Duration of days	Duration of nights
Winter	December 21st	March 21st	Slanted	Cold	Short days	Long nights
Summer	June 21st	September 22nd	Perpendicular	Warm	Long days	Short nights

Thank you

UNIT 2: THE EARTH AND THE UNIVERSE

REVISE AND QUIZ

Dear language assistant,

1. First of all, we can **read a paragraph** about rotation. It's on page 28. You can read a sentence, ask for a volunteer to read it again and to translate it. Perhaps, you have to explain the meaning of some words: sunset, dawn, midday, midnight...

> Rotation is the movement of the Earth around its own axis. The Earth takes 24 hours to complete a full circle. The changing of day to night is a consequence of rotation. The sun lights up just half of the Earth: in some areas it is midday while others it is sunset, in others it is midnight and in others it is dawn. This is why there are different time zones. For example when it is 12:00 in Ubrique it is 11:00 in the Canary Islands and 06:00 in Mexico City.

2.Then we can answer some **questions in their Activity Book**, page 29.

38.Which movement causes the seasons? (REVOLUTION)

39.Which movement causes day and night? (ROTATION)

40.Which movement causes the change in the duration of the day and the night? (REVOLUTION)

41.En nuestro calendario, los años tienen un número de días completos (365). Sin embargo, la Tierra tarda 365 días y 6 horas en dar una vuelta alrededor del Sol. ¿Sabes cómo se arregla ese desajuste entre el año solar y el del calendario? ADDING AN EXTRA DAY EACH FOUR YEARS. A YEAR WITH 366 DAYS IS CALLED LEAP YEAR, AÑO BISIESTO EN ESPAÑOL).

3. Alter that we can practise the **pronunciation of some words** in the glossary at the end of the unit (page 32). You pronounce the words and they repeat them in loud voice.

GLOSSARY.

Asteroid: asteroid.
Axis: eje.
Belt: cinturón.
Brightness: brillo.
Comet: cometa.
Darkness: oscuridad.

Dawn: amanecer.
Dwarf planet: planeta enano.
Full moon: luna llena.
Eclipse: eclipse.
Galaxy: galaxia.
Heat: calentar.
Light: luz, iluminar.
Line up: alinearse, ponerse en fila.
Midday: mediodía.
Midnight: medianoche.
Milky Way: Vía Láctea.
Moon: luna, satélite.
New moon: luna nueva.
Orbit: órbita, orbitar, girar.
Plain: llanura.
Planet: planeta.
Reflect: reflejar.
Revolution: traslación.
Rotation: rotación.
Season: estación.
Shadow: sombra.
Size: tamaño.
Solar System: sistema solar.
Star: estrella.
Sunset: puesta de sol.
Tail: cola.
Waning moon: luna creciente.
Waxing moon: luna menguante.

4. Then we can organize **a quiz**. Here you have the underlined words but the students won't have them; they have to note them down while you dictate and they have to guess the solutions which are the words in brackets. The students raise their hands when they are ready and you point to one student to read the complete sentence and the final solution (it's important they to practise the pronunciation). If this student is wrong, a new person has a go (again he/she has to pronounce the whole sentence). When they say the right sentence, the teacher writes the words (underlined words and solutions) on the board.

Thank you

1. It is situated between Venus and Mars. The name of the planet is.....(Earth)
2. The seasons are caused by one of the movements of the Earth. It is called... (revolution).
3. When the Earth passes between the Sun and the Moon that is a.... (eclipse or lunar eclipse).
4. Its size is similar to the Earth but its atmosphere is full of clouds and so it is the hottest planet in the Solar System (Venus).
5. The Moon makes one complete orbit around the Earth and it lasts..... (a month or 29.5 days).
6. They are big rocky bodies moving around the planets. They are called..... (satellites or moons).
7. Its surface is covered in craters and it is the smallest planet in the Solar System. (Mercury)
8. The change of seasons along the year is caused by revolution and also by the slant of….. (the axis or the Earth axis).
9. It is a group formed by the Sun, the planets and other bodies. It is... (the Solar System).
10. You can see our natural satellite as a completely illuminated circle. That is ... (full moon).
11. They orbit the Sun on a very large trajectory and they often show a tail. They are… (comets)
12. They are rocky bodies and most of them are between Mars and Jupiter. (Asteroids belt)
13. It is a body which lights and heats the Earth (Sun).
14. It was the ninth planet but now it isn't because of its small size and its excentric orbit. (Pluto)
15. It is a planet and it is situated very close to Mercury. (Venus)
16. It’s midday and a shadow covers the Sun and it disappears. What happens? It’s an .... (eclipse)
17. When the sky is clear you can see many points of light at night. They are called... (stars).
18. It is the fourth planet in the Solar System and it’s often called the red planet. (Mars)
19. It looks like a planet but it isn't. It is covered in craters and we can see it easily from the Earth. (Moon)
20. When you can’t see the Moon because the illuminated face is on the other side, it’s called ... (New Moon)

THE EARTH AND THE UNIVERSE: REVISE

1. It is situated ……. Venus and Mars. The ……..of the planet is_____
2. The ……. are caused by one of the ……. of the Earth. It is called _____
3. When the …… passes between the ……..and the Moon that is an_____
4. Its size is ……. to the Earth but its atmosphere is full of clouds and so it is the ……. planet in the Solar System: _____
5. The …… makes one complete …….. around the ……. and it lasts _____
6. They are big rocky …… moving around the …….. They are called_____
7. Its ……. is covered in craters and it is the …… planet in the Solar System._____
8. The change of ……. along the year is caused by ……. and also by the slant of_____.
9. It is a ……..… formed by the Sun, the …… and other bodies. It is_____.
10. You can see our …… as a completely illuminated ……. That is _____.
11. They orbit the Sun on a very …… trajectory and they often …….. a tail. They are _____
12. They are ……. bodies and most of them are …… and Jupiter: _____
13. It is a body which …… and …….. the …… It is the_____
14. It was the …….. but now it isn't because of its small …… and its excentric orbit: _____
15. It is a …… and it is situated very …….. to Mercury:_____
16. It's ……. and a shadow covers …… Sun and it disappears. What happens? It's an _____
17. When the …… is clear you can see many ……. of light at ……. They are called_____.
18. It is the …… planet in the Solar System and it's often called the …… It is _____
19. It looks like a planet but …….. It is covered in craters and we can …… from the Earth: _____
20. When you can't see the ……. because the illuminated ……. is on the other side, it's called _____

UNIT 2: THE EARTH AND THE UNIVERSE

DESCRIBING PLANETS AND TALKING ABOUT CALENDARS

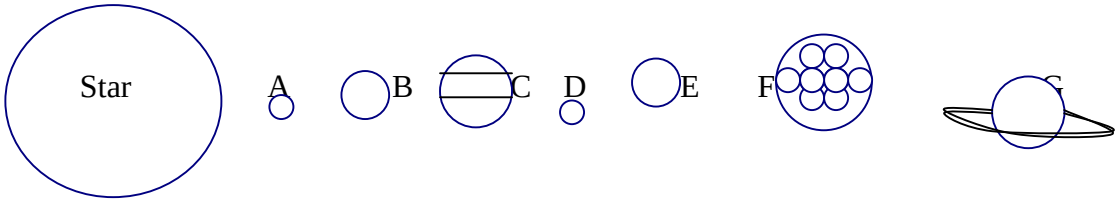
Dear language assistant,

1.First of all we can finish the quiz we started last week.

2. Then we can review how to describe planets (size, distance, appearance) using comparatives, superlatives, different from, similar to... Here is an example you can copy on the board; you can also use if for a dictation:

> Jupiter is the fifth planet in the Solar System. It is between Mars and Saturn. It is nearer to the Sun than Saturn and farther than Mars.
> Jupiter is a big planet. It's the biggest planet in the Solar System but it is smaller than the Sun.
> Jupiter has coloured bands and many moons. It is similar to Saturn and it's very different from the Earth.

3.Then you can draw some planets on the board and ask them some questions about size, distance and appereance. Which planet is the biggest? Is A smaller than B? Is C nearer to B than C?... They can also try to make a complete description for planet A, then planet B and so on. (Notice that C has coloured bands, F is plenty of craters and G has rings as Saturn. You can also use different colours to draw different planets)



4. Explain them that there are **other calendars** which are different from ours. A calendar is a system for organising time based on groups of days, weeks and months. There is not one unifying calendar used throughout the world. Different cultures have their own calendars. The Muslim, Jewish, Hindu and Chinese calendars are all different to the one we use in the Western world. Write this on the board, please:

Chinese Calendar: 4705
Muslim Calendar: 1385
Jewish Calendar: 5767.
Hindu Calendar: 2061.

- *Which is the oldest? And the youngest?*
- *What happened during the first year of our calendar?* Our calendar starts with Jesus Christ's birth (although many historians think there is a mistake and Jesus Christ really was born 3 BC ¡!) (Explain the meaning of BC and AD)

- *What happened the first day of the Muslim Calendar?* (Prophet Mohamed travelled from Mecca to Medina. It happened in 622). So 1385+ 622=2007
- You can also tell them the **Muslim calendar** is very different from ours because it is based on moon phases. In the Muslim calendar there are six months with 29 days and six months with 30 days. Remember that the movement of the Moon around the Earth lasts 29.5 days. So, *how many days are there in the Muslim year?* There are 354 days in a Muslim year and it's 11 days shorter than the solar year. Due to this difference, the same month, for instance the sacred month of Ramadan, may belong to winter one year and to spring a few years later.)

Thank you

UNIT 3: THE ATMOSPHERE

LEARNING TO DESCRIBE THE WEATHER

Dear language assistant,

The aim of this class is the students to learn how to describe the weather in English. We will use a presentation including the main words and a collection of images showing different types of weather. The students will copy the vocabulary as it is appearing in the slides.

- **Temperature:** freezing, cold, cool, temperate, mild, warm, hot.
- **Precipitation:** rain, snow, hail, heavy rain, flood….
- **Winds:** calm, breeze, moderate wind, strong winds, gale, tornado, hurricane
- **State of the sky:** clear sky (or sunny sky), cloudy sky, overcast, fog...
- **Other phenomena**: thunder, lightning, rainbow…

You can comment the presentation using the suitable vocabulary. Some pictures are good to talk about temperature, others are good to talk about precipitation, others allows you to talk about the four elements (temperature, precipitation, wind and state of the sky). Some pictures show a famous weather forecaster, a weather map and devices related to weather (thermometer, rain gage, wind gage, vane…)

You can explain the first 15-20 pictures and leave the rest for the students to comment themselves in loud voice using the words you have taught. Finally, they can write their descriptions, for instance about what the weather is like today.

Thank you

UNIT 3: THE ATMOSPHERE

THE WEATHER

Dear language assistant,

1. We are continuing talking about weather. You can revise what the students learnt last week asking: What's the weather like? Remind them we have to talk about temperature, precipitation, state of the sky and wind.
2. After that we can complete this chart about weather elements and instruments (Activity Book page 37, exercise 21). You can repeat, once more, the words you use for temperature (hot, warm, temperate, cool, cold, freezing), for atmospheric pressure (high, low), for humidity (humid, dry, clammy), for precipitation (rain, snow, hail)...

Elements	Instruments	How to express it (units)
Temperature	Thermomether	ºC=degrees Celsius
Atmospheric pressure	Barometer	Milibars
Humidity	Higrometer	% percent
Precipitations or rainfall	Rain gauge	L/m^2=Litres per square metre
Wind speed	Wind gauge	Km/h= kilometres per hour
Wind direction	Vane	From the North, South, East, West
State of the sky	Our eyes	Clear, cloudy, overcast

3.Then we can look at a weather chart that includes the data of fifteen days. We can check if the students understand it using the questions below. Each question for a different student. You can read the question and ask a student to repeat it and to say the answer. I prefer you to choose the students, specially those who are never volunteers.Questions 22-38 are easy, but questions 39-42 are more difficult and I will explain later on.

4.If there is some time left the students can work on questions 43-46 and 48 (to do exercise 48 they need to read the previous text).

Thank you

Day	Highest temperature (ºC)	Lowest temperature (ºC)	Humidity (%)	Atmospheric pressure (mb)	Precipitation (l/m^2)	Wind direction	State of the sky
1	19	3	60	1004		N	Clear
2	16	10	80	996	6	W	Overcast
3	15	9	80	998	10	W	Overcast
4	15	10	80	998	12	W	Overcast
5	16	7	70	1005		N	Cloudy
6	18	7	60	1005		N	Cloudy
7	18	4	60	1008		N	Clear
8	14	3	60	1012		N	Clear
9	19	2	50	1014		N	Clear
10	18	3	50	1016		N	Clear
11	16	5	60	1006		N	Cloudy
12	16	6	60	1004		N	Cloudy
13	17	5	70	1004		W	Cloudy
14	16	4	70	1002		W	Cloudy
15	18	6	80	1002		W	Cloudy

22. What was the highest temperature on the eleventh day? 16ºC
23. What was the humidity on the 14th?70%
24. What was the atmospheric pressure on the second day? 996 milibars
25. How much does it rain on the third day? 10 l/m^2
26. Where was the wind from on the 12th? From the North
27. What was the sky like on the 4th? Overcast
28. Which was the coldest day? The 9th
29. Which was the warmest day? The first and the ninth.
30. What's the highest temperature? 19ºC
31. Which was the driest day? The ninth and the tenth
32. Which was the most humid day? 2nd ,3rd ,4th ,15th
33. Which was the day with the highest atmospheric pressure? The tenth
34. And the lowest? The second
35. How many days did it rain? Three days.
36. How much did it rain considering the whole period? 28 litres
37. Where did most of the winds come from? From the North
38. How many days has the sky been cloudy? Seven days.
39. Can you see any relationship between humidity and atmospheric pressure? Yes, I can. When the atmospheric pressure is high (9th, 10th), the humididty is high too.
40. Can you see any relationship between atmospheric pressure and precipitations? Yes, I can. When the atmospheric pressure is low (2nd, 3rd, 4th) there are precipitations.
41. Can you see any relationship between atmospheric pressure and clear sky? There are clear skies when the atmospheric pressure is high.Now you can understand why atmospheric pressure is very important for a weather forecast. If the pressure today is higher than it was yesterday, will the weather be better or worse? Better

4.1. Precipitation or rainfall.

Precipitation can be measured using a rain gage (pluviometer). It occurs when water falls from the atmosphere to the Earth's surface. There is some water suspended in the atmosphere forming clouds. Clouds are an accumulation of small droplets of very cold water, tiny ice crystals and water vapour. We can distinguish three types of precipitation:

- Rain. It's the falling of drops of water from the clouds to the Earth's surface. Several drops of water stick together and form larger drops of water which are too heavy to stay suspended and so fall to the ground.
- Snow. It's made up of spongy, white ice crystals called flakes. It snows when the temperature is very low.
- Hail. Hailstones are balls of compact ice.

42. Relate using arrows:
    - Flakes — Snow
    - Balls of Ice — Hailstone
    - Liquid water — Rain
43. Which type of precipitation is more dangerous for agriculture? Hail
44. Which type is the most usual in Ubrique? Rain
45. Which type is the most common at the top of the mountains? Snow
46. Las precipitaciones pueden expresarse en litros por metro cuadrado. Imagina un recipiente prismático cuya base es un cuadrado de 1 m^2 de superficie. ¿Cuánto subiría el agua dentro de ese recipiente si ha llovido 13 l/m^2?

4.2. Different types of clouds

Diferenciaremos cuatro tipos de nubes: cúmulos, estratos, cirros y nimbos. Diferenciaremos unos de otros por su forma, su color, su altura y la posibilidad de que provoquen lluvias:

- Cumulus look like cotton. It doesn't usually rain when these clouds are about.
- Stratus are low and grey clouds which cover most of the sky. They can cause rain.
- Cirrus are long, white clouds which are formed in the highest layers (even above 9,000 metres), so they are normally made up of crystals or needles of ice. They don't cause precipitations.
- Nimbus are very dark clouds which are located in the lower layers of the atmosphere. They cause rain or snow. Storm clouds are nimbus.

47. Draw the four types of clouds:

UNIT 3: THE ATMOSPHERE

WEATHER MAPS

Dear language assistant,

You can show how to "read" a weather map using several examples compiled in a PowerPoint presentation and a current weather forecast from the BBC (http://www.bbc.co.uk/weather/ukweather/rain.shtml).

- Teach how to set **the location of the point** you are talking about: in the North of Spain, in the South, in the East, in the South, in the Southeast, near to London, on the Atlantic coast, inland, between London and Bristol.... Perhaps you could also use this adjectives: nothern, southern, eastern, western. You can also ask about the weather in a partiucluar place:
    - Where is going to be bad weather on the map?
    - Where is going to be warm weather on the map?
    - Where is going to be freezing on the map?
    - Is it cloudy anywhere in the map?

- Remind them which are the main **parts of the UK** and their capitals: England (London), Scotland (Edinburgh), Wales (Cardif) and Nothern Ireland (Belfast). Tell them that the Republic of Ireland is a different country. (They have a map of UK on their Activity Book)

- Remind how to interpret the **main symbols in a weather map**: Sunny, sunshine, cloudy, overcast, clear sky, rain, storm, local showers, drizzle, snow... The students can answer this general question "Is it mostly sunny or mostly cloudy?"

- Can you tell me what the temperature is? Some maps show **the temperature** in degrees Celsius and you can translate numbers into these adjectives: freezing, cold, cool, temperate, mild, warm, hot. Sometimes the maps include arrows pointing the changes of temperature: rising or increasing, decreasing, turning colder...

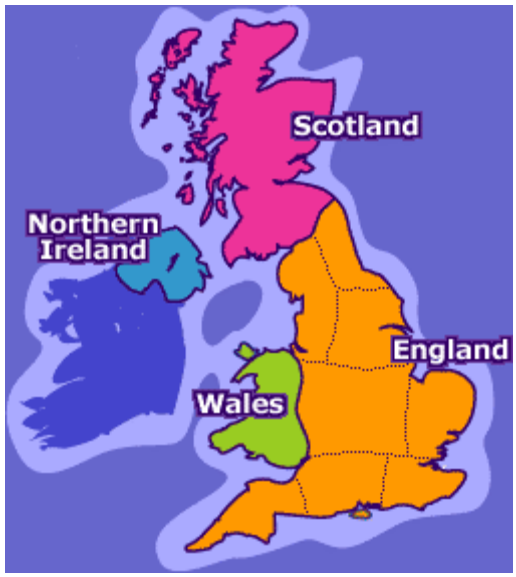
- Remind them how to talk about **the wind.** Adjectives to express the speed or strength of the wind: calm, breeze, moderate wind, strong wind, gale. *The direction of the wind is usually drawn with arrows and there are different ways to say it*
    - *Wind from the South= **Southern wind**= South wind.*
    - *Wind from the North= **Northern wind**= North wind.*
    - *Wind from the East= **Easterly wind**= Eastern wind= East wind.*
    - *Wind from the West= **Westerly wind**= Western wind= West wind.*
    - *Wind from the Southeast= Southeasterly wind.*

- The weather website from the BBC includes animations so you can talk about the **changes of the weather during a few days** (the weather will become..., it's getting more and more rainy, etc)

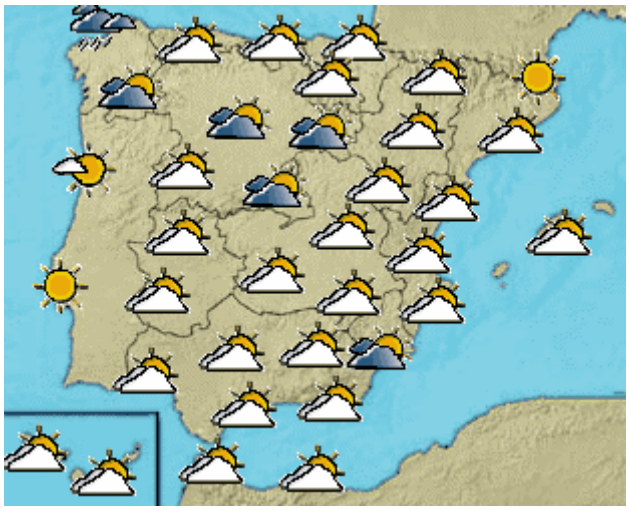
- Eventually, they can do two exercises on their Activity Book (page 51):

Read the following weather forecast and then draw the suitable symbols onto the map:

Rain is posible specially in the Southeast of England, cloudy sky in Wales and clear skies in the rest of the United Kingdom. Very strong winds from the Northeast in Wales and light winds from the North in England and Scotland. Temperatures rising.



Write a weather description for this map:



Thank you

UNIT 3: THE ATMOSPHERE

ATMOSPHERIC POLLUTION

Dear language assistant,

This is going to be our first class about atmospheric pollution. We can start reading "Pollution in cities" from the Students Book, page 42. Most of the ideas in this first paragraph are very popular; the students have listened about it but not in English, so you will have to explain many English words: source, pollution, power stations, heating, disease, lack...

Then we will start to complete the chart that students have on their book. You can draw it on the board, just the shaty cells. You can ask the students what we should write in each cell of the first arrow. It's not necessary to write so much as I've done here. You can help them whith questions, hints and if that's not enough you can give them the rigth answers.

After that we we'll do the same about global warming and about ozone layer but I think it isn't necessary to read the text; perhaps, looking at the graphs, talking, asking and answering can be enough. Smog and global warming could seem similar but smog is a local problem and warming is a world problem. Causes and solutions of global warming are similar to the ones of smog, so I'm especially interested in global warming consequences.

If we have some time left the students can work on global warming using the internet. They should visit the website of this subject and look for a link called "survey about global warming" (it's near to the end of the page).

Thank you

6. ATMOSPHERIC POLLUTION.

6.1. Pollution in cities.

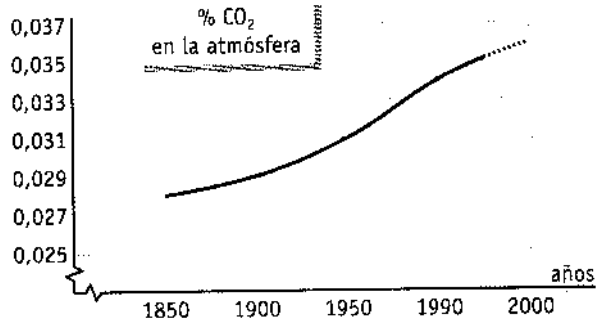
All cities, especially the biggest ones, are a source of pollution for the atmosphere. Pollution comes from cars, industries, power stations, central heating systems, etc. The result is that in the sky of a big city there is an accumulation of contaminating substances which can cause respiratory diseases and lack of visibility. This problem is called smog (smoke + fog = smog).

6.2. Global warming.

It has been discovered that, over the last one hundred years, the average temperature of the planet has risen 0.5 ºC. This phenomenon is known as global warming and it's a result of the increase in the greenhouse effect.

The greenhouse effect is a natural phenomenon and it is essential for keeping the Earth warm enough for living beings. However, certain polluting gases increase this effect and the temperatures increase too much. One of the main greenhouse gases is carbon dioxide (CO_2). This gas is released by the burning of coal and oil in our cars and power stations. Furthermore, the deforestation also increases the CO_2 levels

Global warming has many harmful consequences: temperatures rise, ice at the North and South Poles melts, sea level rises and many coastal cities may be flooded. We should save energy, stop using oil, gas and petrol and we should change to green energy (wind power, solar power, hydroelectricity...) and, of course, stop cutting down trees.



6.3. The deterioration of the ozone layer

Some years ago it was discovered that there is an area where the ozone layer is getting thinner. This area is known as the hole in the ozone layer. It was located over Antarctica but it is getting bigger and bigger; nowadays it affects South America and Australia, too. Harmful radiation affects our health causing skin diseases.

The disappearance of ozone from the atmosphere is caused by contaminating substances called CFCs. These gases were used in refrigerators and aerosols but they have been substituted by other gases which do not damage the ozone layer.

PROBLEMS	CAUSES	CONSEQUENCES	SOLUTIONS
SMOG	**Cars**. Central **heating** systems (they burn gas, diesel oil). **Industries.**	Affects respiratory system Lack of visibility	Use the car less (on foot, by bycicle...) Use public transport Sharing your car with your coleagues Close windows and doors to save energy
GLOBAL WARMING	**Release carbon dioxide from burning coal and petrol**: cars, power stations (we get usually electricity from fuels and very little from green powers). **Cutting down forests** (remember plants take carbon dioxide and release oxygen).	1.**Temperatures rise** 2.There would be more droughts making hard to grow crops. 3.Lakes and rivers will dry up 4.Climate change (and perhaps wild weather) 5.**The ice on the poles will melt**. *6.Sea level wil rise* *7.Cities on coasts will be flooded.*	**Stop using oil, coal and gas.** **Use green power** such as solar power, wind power, water power (hydro electricity) **Stop cutting down forests.** **Save energy** using less your car**.** Re-cycle glass bottles, newspapers, cans. Use paper on both sides. Re-use plastic shopping bags. Buy products that don't use much packaging. Switch lights off when you're not in the room.
HOLE IN THE OZONE LAYER	**CFC gases** (used in fridge and aerosols) **destroy the ozone layer**	**Ultraviolet rays which can burn our skin and cause diseases such as skin-caner**	Stop using CFCs

UNIT 4: THE HYDROSPHERE

RYAN'S WELL

Dear language assistant,

In this class I would like the students to think about the lack of drinking water in many places in the world and to discover the Ryan Hreljac's story. Ryan is a very interesting boy and an example for our students. Besides they are the same generation. I have taken the information from these websites:

http://rw3.ryanswell.ca/index.php?option=com_content&task=view&id=21&Itemid=51
http://www.readersdigest.ca/mag/2001/01/ryan.html

1. You can tell them his story using your own words and following a presentation as a guide. The text below contains the whole story but it's not necessary to know every detail, just a summary.I would like you to watch the presentation before the class.

> http://www.ieslosremedios.org/~pablo/webpablo/web1eso/4hydrosphere/Ryan%20Presentacion.ppt
>
> (Instead of the presentation the students can surf the net looking for information in the Ryan Foundation's web)

2. At the end you can ask some questions to see if they have understood the story. The questions are in the Activity Book (page 52) and in the presentation. I think you can discuss with the students the right answer for each question and then copy it on the board; they can do the same on their books. (Another way: they can answer the questions on their own and after some minutes you can check them all.) The answers to questions 6, 7 and 8 aren't in the text but in the website. Here you have the questions and the answers. Of course, you can change the sentences as you like.

- **Why is Ryan famous?** Because he was worried about people who haven't got drinking water and decided to get money in order to build a well. And he got it when he was a child.
- **What happens to people who haven't got drinking water?** Wihtout access to clean water people become ill and sometimes even die.
- **How old was he when he began to get money? How old is he now?** He was six years old and now he's thirteen. He was born on 1992?
- **Where does Ryan live?** The Hreljacs live in a country home in North Grenville, just south of Ottawa, Ontario, Canada
- **How did Ryan earn the money to build his first well?** He got 70 dollars in four months. He did extra chores to earn the money.
- **How many wells has the Ryan Foundation built to date?** (266)**How many people have got drinking water?** (35,043 people and 12 countries) **How much money have they collected?** (More than a million dollar)
- **Which sports does Ryan practise?** Soccer, basketball,hockey and swimming. (He also likes reading and playing Nintendo).
- **Which job does Ryan like when he grows up?** He plans to be a water engineer

- **Who is Jimmy? Where is he from?** Jimmy Akana is his African pen pal. Jimmy is now Ryan's brother, living with the Hreljac's in Kemptville, ON. (In addition, Ryan has two brothers: Jordan and Keegan. His older brother Jordan sets up most of Ryan's audiovisual presentations and assists in the creation of the RWF newsletters. His younger brother Keegan has licked hundreds of stamps for thank you letters and notes that have been sent around the world; Keegan now takes many of the RWF photographs.)

Thank you

UNIT 4: THE HYDROSPHERE

WATER: USE IT WISELY

Dear language assistant,

1.The first part of the lesson is for explaining the importance of saving water:

"We all need water to live. Earth has a lot of water but most of the water is not good for drinking. 97% of water is sea water and we can´t drink it because it's salty; we can't use sea water for irrigation (riego). 2% of water in the Earth is ice in the poles and glaciers. Just 1% of the water in our planet is fresh water, liquid fresh water. In addition, some countries have much more water than others. We live in a country with little water because our climate is dry (clima seco). So we have to save water. If possible, you can show a short presentation on the internet".

2.Secondly, you can explain the students the work they have to do:

"Imagine you have to do a campaign (campaña) about saving water. We can encourage (animar) people in the school to be careful with water. We want to educate our community of the economic and ecological benefits of reducing water consumption (reducir el consumo de agua). You will have to write some slogans. I want you to learn how to express rules using imperative. Some examples:

- Get your books out! Listen carefully!
- **Let's** listen to the teacher!
- **Stop** talking to your partner!
- **Don't** run in the corridors!

"We are all working in the same campaign but each two students will work in a different topic (tema). You two will have to think about your topic and prepare your advice for the rest of the students. These are the topics to give out:

- Brushing your teeth.
- Shower.
- Toilet
- Dripping of a tap (goteo) or a trickle of water (hilillo de agua).
- Dishwasher.
- Washing machine.
- Watering the garden: how?
- Watering the garden: what time?
- Cleaning the garden or the patio.
- Water toys and playing water.

3.The students can use the internet to find information and after 10 minutes they can write their sentences on the board.

4.After that they can design one slide with the slogan and a picture. Later on the teacher will gather the slides in a single presentation.

Thank you

SAVING WATER LINKS.

http://www.savewater.com.au/index.php?sectionid=9

http://museumvictoria.com.au/watersmarthome/

http://www.sydneywater.com.au/Publications/FactSheets/20waystosavewaterinyourhomeandgarden.pdf#Page=1

http://extension.unh.edu/counties/Grafton/present/Water101.ppt#25

SIX PIECES OF ADVICE FOR KIDS.

Take shorter showers. Shorten a 10 minutes shower to 5 minutes and save 100 litres of water!
Fill it up. Fill up the dishwasher… running it only half full wastes water.
Just to rinse. Don't run the water while you brush your teeth… just to rinse the brush and clean the sink!
Fill it up again! Use the correct settings on the washing machine…partial loads waste water, energy and money!
Stop the drop! Found a leaky faucet around the house? Tell the parent so it can get fixed! Leaks waste water.
Learn to share! Have fun in the sprinkler if it on for watering the lawn. Water "toys" can waste up to 1000 litres each half hour.

UNIT 4: THE HYDROSPHERE

OIL SPILL

Dear language assistant,

This class is for showing a presentation about oil spills. Here you can see some comments for the slides. The students have to listen to your explanations and they have to copy some slides which include small summaries. You can recognise them because they are written in capital letters.

1. Title. (Tell de students spill means derramar-verter and oil-spill means marea negra).

2. The accident of Prestige took place on the 13rd of November 2002, near Galicia.The oil tanker (petrolero) Prestige was a 26 years old ship. It was loaded with more than 77,000 tons of fuel. Six days later the ship broke in two parts. Since then, innumerable black spots (manchas) arrived to the Galician coasts destroying an important part of their natural wealth. Galicia has lived one on the worse economic and environmental catastrophes of its history. Today we are going to study the causes, the consequences and the ways to fight against oil spills. This is the Prestige. It's broken in two parts. It was floating like this several days before it sank (hundirse) to the buttom of the sea. Many oil spills are caused by accidents of oil ships. But there are other important causes.

3. This is an oil rig (plataforma petrolífera) inside the sea. If it suffers an accident it can cause an oil spill too. One of these towers sank of the Brasilian coast some years ago.

4. Look at this ship spilling oil. Sometimes it's an accident but sometimes it's due to the cleaning works inside the ship. It's forbidden; they must clean it at the ports but they don't go there because it is expensive. Most of the oil pollution in our seas is not accidental but deliberated. Coasts of Cadiz suffer this pollution because there are many ships sailing through the Strait of Gibraltar. In Algeciras Bay fuel is transfered from a ship that works as a petrol station to other ships travelling through the Strait of Gibraltar.

5. This slide summarise the information of the previous pictures. Students can copy it. **OIL SPILL: CAUSES. a)oil tanker accidents, b)oil rigs at sea, c)transferring, unloading and cleaning of tankers.**

6. Now we are going to study the consequences of an oil spill, like the Prestige disaster.

7. First of all, consequences on the living beings. Marine birds die because of the oil. Their bodies get dirty and they can't fly. Some of them can be rescued and cleaned but most of them die.

8. Many fish also die. They take oil and it is a poison (veneno) for them. So many animals die impregnated and poisoned but many others are going to die slowly not directly taking oil.

9. A big fish can eat poisoned food during a long time (without dying) but, in the end, it will become ill. Look at the big fish eating a medium fish and this one eating a smaller one. But, what do they eat? They eat plankton.

10. Plankton is made up by very small living beings floating in the water. We can't see them. We need a microscope. Here you can see some species, they are tiny algae (seaweed). They need solar light to live and they are the food for many small animals...

11. These little animals are also part of the plankton. They eat tiny algae and they are the main food for other animals like fish, shells, sea urchin... Remember plankton is the food for whales, too.

12. Oil floats so there is a layer of oil upon the water. This is a problem because this layer prevents light to go into the water. So tiny algae can't get light to do photosynthesis and if there are no placton there are neither other animals. Besides oxgyen can't get into the water and animals can't breathe.

13. Galicia is very famous because of its seafood. Here you can see mussels (mejillón), crabs (cangrejos) and some prawns (gambas, king prawn=langostinos).

14. Fishermen can get fishs and seafood from open sea but very often, in Galicia, they have put vey big cages (jaulas) and animals grow up inside these cages. So fishermen have to wait they grow up and collect them. This image is very common at "Las rías gallegas" (Galician coast)

15. Here we can see a woman collecting mussels. Mussels use to live on the rocks at the cost. They need clean water and very lively water (rough sea). You can collect them when tide is down. How did the oil spill affect them?

16. Here are mussels covered by a dirty black substance? What's that? Would you eat these mussels? People who collect them have been out of working during months and, in some places, they aren't collecting mussels yet.

17. A beach in Galicia. Althoug Galician climate is not so warm as Andalusian one many people like going to these beaches in Summer. It's an attractive place for tourists who like fresh weather. Besides there ara many interesting monuments in Galicia, above all, churches, convents and monasteries built up in the Middle Ages.

18. Do you think tourists like going to this beach?

19. This slide summarise the information of the previous pictures. Students can copy it.**OIL SPILL: CONSEQUENCES. a)Animals covered in oil, b)Poisoned animals, c)No oxygen and no light, d)No plankton, e)No fishing, f)No tourism**.

20. Solutions.What to do before the disaster? Can we prevent it? What to do if we have an oil spill?

21. Floating barriers to round the oil spot. Then we can aspire the oil and get it out by ship.

22. The same idea

23. These are machines to aspirate oil from the sea.

24. When the oil spot is too big you can't round it with barriers. The spot caused by Prestige was too big. It affected Spain, Portugal and France. Barriers were use to avoid oil to arrive some interesting places like Rías Gallegas.

25. These are fishing ships plenty of oil. These fishermen went out to sea to collect oil. They didn´t wanted the oil to arrive to the coast. Oil is bad on the high seas but it is worse on the coast. So they caught the oil as they could. Often using a simple shovel (pala). Imagine a man with a shovel in the middle of the sea. Then they came back to the port and unloaded the containers full of oil.

26. Unfortunately oil arrived <u>at</u> the coast. Thosands and thousands of volunteers went to Galicia to clean the coast. Some young people from Ubrique were there, too. You can see the hard work at the beggining. It seemed you woud never finish collecting oil.

27. And when the beach seemed to be clean they found more and more little "biscuits" of oil (fuel was very dense). Sometimes under a very clean layer of sand there were many biscuits.Cleaning the beach was a very hard work but imaging cleaning the rocks.....

28. That was a terrible work. Days and days and you hardly see the difference. Fuel was like glue. How many days will you need to clean these stones only with your hands?

29. Another bucket (cubo).

30. Team work

31. When the beaches were clean (more or less), they have to follow cleaning the rocks. Now with <u>pressurised hoses</u>(agua a presión)

32. Summary: **WHAT TO DO? a) Floating barriers, b)Hoovering oil out of the sea, c)Cleaning oil from the beaches, d)Washing the oil off the rocks.**

33. Más vale prevenir que curar or Better safe than sorry. **PREVENTIVES MEASURES: a)Better ships (two hulls=doble casco), b)Forbid unsafe ships from sailing, c)Stop using oil (less oil, carbon and gas, solar power, wind power, water power).**

34. By the way, do you use oil? We are all responsible

Thank you

UNIT 5: THE SOLID EARTH

ROCKS AND DICHOTOMIC KEY.

Dear language assistant,

The first objective of this class is to **learn to describe rocks** and to answer this question "What does it look like? It looks like…"

- What colour is it? Review some colours and show them how to use intermediate colours, colours with the suffix –ish, etc.
- Shape: irregular, long…
- What is it made? It is made of layers or sheets, made of sand, made of …
- Is it shiny or dull?
- Is it soft or hard? It depends on the way it is scratched.
- Does it have holes? Does it have fossils?

Scientists use a special system to find out the name of a rock, a mineral, a plant or an animal. This system is called **dichotomic key** (clave dicotómica) and you just have to choose between two options several times to get the right name. This is an example to learn about dichotomic key (or simply "key"). Imagine you can't remember a teacher's name but you've got a "key". (The following "key" can be on the board).

1a It is a man.....2
1b It is a woman..... 6

2a He wears glasses.....Pablo
2b He doesn't wear glasses.....3

3a He was born in Ubrique.....4
3b He wasn't born in Ubrique.....5

4a He is a very good painter.....Rafael
4b He is not a painter.....Diego

5a He is very good at Maths.....Luis
5b He is not so good at Maths.....Gabriel

6a She wears glassesair.....7
6b She doesn't wear glasses.....8

7a She has got black hair.....Sonia
7b She hasn't got black hair.....Paqui

8a She teaches Spanish .....Pepi Laura/Esther
8b She teaches a foreign language.....9

9a She teaches French.....Rosa
9b She teaches English.....10

10a Her hair is curly.....11
10b Her hair isn't curly..... Josefina

11a She is from Holland.....Nora
11b She is not from Holland.....Margari

If you have understood how "key" works you will be able **to find out the names of ten rocks**. Students work in groups using the key on page 48 and then you can give the right answers: A is pink granite, B is limestone, C is sandstone, D is coal, E is gypsum, F is schist, G is shale, H is basalt, I is grey granite and J is marble.

DICHOTOMIC KEY OF ROCKS

1a It is made up of sheets.....2
1b It isn't made up of sheets.....3

2a It hasn't got any shiny mineral..... Slate/Pizarra.
2b It has got shiny minerals and the rock is shiny.....Schist/Esquisto

3a Rocks with little holes.....Basalt/Basalto
3b Rocks without holes.....4

4a Rocks made up of grains of sand.....Sandstone/Arenisca
4b Rocks without grains of sand.....5

5a Its colour is white, beige or any light colour.....6
5b Other colours.....8

6a Rocks often containing fossils.....Limestone/Caliza
6b Rocks without fossils.....7

7a Very soft. It can be scratched with a finger nail.....Gypsum/Yeso
7b It can't be scratched with a finger nail.....Marble/Mármol

8a It contains pink minerals.....Pink granite/Gr. rosa
8b Without pink minerals.....9

9a Completely black rocks.....Coal/Carbón
9b It contains black minerals and light coloured minerals.....Grey granite/Gr. gris

If there is some time left, students can **write down the characteristics of some rocks**

Thank you

UNIT 5: THE SOLID EARTH

TYPES OF ROCKS & QUIZ.

Dear language assistant:

The teacher has already taught the types of rocks. Now you can can complete the chart below and then ask some questions to see if the students understand it:

	PROCESS	WHERE?	FEATURES	EXAMPLES
SEDIMENTARY	Erosion, transport and sedimentation.	Above ground (at the bottom of seas, lakes, rivers...)	Layers. Fossils sometimes.	Shale Sandstone Conglomerate Limestone Coal
METAMORPHIC	Solid rocks changed by pressure and heat	Underground	Laminated rocks	Schist Marble
VOLCANIC	Cooling magma	Above ground (volcanoes)	Little holes (often)	Basalt Pumite
PLUTONIC	Cooling magma	Underground	Large minerals	Granite

1. Where do sedimentary particles settle down? *They settled down aboveground, at the bottom of seas, lakes and rivers.*
2. Which of the following rocks cools quickly: granite or basalt? *Basalt because it's a volcanic rock and magma cools faster aboveground than underground.*
3. If a rock is under tons and tons of pressure it will change into a... *(metamorphic rock).*
4. How can you recognise a plutonic rock? *Plutonic rocks use to have big minerals. Granite, for instance, has got a grey mineral called quartz/cuarzo, a black mineral called mica/mica and a white mineral called feldespar/feldespato. These minerals are several milimetres size.*
5. If you find a rock with a fossil in it, it is a... *(sedimentary rock).*
6. How can you recognise schist? *It is a laminated rock because it's a metamorphic rock and it has suffered a lot of pressure.*
7. Plutonic and volcanic rocks are in the same group; they two are both igneous. Why? *They are both formed by cooled magma.*

Finally, students can play a true or false quiz. They can review their notes before the quiz. After the teacher hands out the papers, they can't read their notes.

1.Coal is a plutonic rock.
2.Sometimes there are fossils in the sedimentary rocks
3.Metamorphic rocks have many holes.
4.Granite is a volcanic rock.
5.Magma is melted rock.
6.There are basalts near Ubrique.

7.Granite rocks are deposited at the bottom of the sea.
8.Some rocks are used to build our houses.
9.Gypsum is a sedimentary rock.
10.Plutonic and sedimentary rocks are called igneous rocks.
11.Sometimes we use coal for the floor.
12.Schist is a metamorphic rock.
13.Basalts can have holes.
14.Geologists study rocks.
15.Gypsum rocks appear around volcanoes.
16.Sometimes there are fossils in the plutonic rocks.
17.There is a lot of limestone in Ubrique.
18.Underground temperatures are very high.
19.Sometimes we use marble for the floor.
20.Granite is an igneous rock.
21.Volcanic rocks are formed at the volcanoes.
22.Sandstone is a sedimentary rock.
23.There are lots of volcanic rocks around Ubrique.
24.Biologists study rocks.
25.Geologists study minerals.
26.Sedimentary rocks and volcanic rocks are formed aboveground.
27.Magma is frozen rock.
28.Pressure and cooling caused metamorphic rocks.
29.Minerals are made up of rocks.
30.Schists are formed many kilometres underground.

Thank you

UNIT 5: THE SOLID EARTH

LEARNING TO DESCRIBE LANDSCAPES.

Dear language assistant,

1. Tell them we're going to study landscapes and list the main elements of a landscape: relief, vegetation, courses and masses of water and artificial elements.

2. "Today we are especially interested in relief so we are going to read some paragraphs on your Activity Book" (page 64). You can read the paragraph about relief explaining the most difficult words (don't draw on the board, please, because that's what they have to do on the suitable place on their Activity Books).

The relief is the form of the land surface. The type of terrain determines the relief: when there are many hard rocks the relief is mountainous and there are steep slopes; when the terrains are soft the relief is gentle. The main landforms are:

- *Plains are flat lands that have only small changes in elevation.*
- *A mountain is a very high, natural place on Earth; sometimes there is a peak on the top of the mountain.*
- *The sides of a mountain are called slopes and they can be steep slopes or gentle slopes.*
- *A hill is a small elevation in the Earth's surface.*
- *A valley is a low place between mountains, often having a river or stream running along the bottom. The valleys can be wide or narrow like a canyon.*

26. Dibuja un relieve en el que aparezcan las formas descritas anteriormente y etiquétalas en inglés y en español.

3. Then we will do the same with vegetation: reading, explaining and drawing.

The vegetation is constituted by the plants that there are in a region. Why do some landscapes show scarce vegetation while others have very dense vegetation? It could be the climate: wet weather favours dense vegetation and dry weather produces scarce vegetation. The type of terrain can influence this too. Plants grow better on a soft terrain than on a rocky one. These are the main vegetal sets:

- *Wood. Many trees together form a wood (a forest is bigger than a wood).*
- *Shrubland is a place dominated by bushes. A bush is woody like a tree but it's smaller and doesn't have a main trunk but many branches from the ground.*
- *Meadow. It's a place where there is a lot of grass. Frequently meadows are used for cattle.*

27. Dibuja los tres tipos de vegetación descritos y etiquétalos en inglés y en español.

4. After that you can show them the importance of saying where an object is (a river, a mountain, etc) and how to do that with these words (they can copy the translation on their Activity Book, page 65)
    - *On the left, on the right the right.*
    - *At the top, at the bottom, in the middle.*
    - *At the bottom on the left, at the top on the right.*
    - *Above, below.*
    - *In the foreground, in the background.*

5. Later you can show several pictures or drawings and ask: What is on the left? Is there anything at the bottom? Where is the forest? Where are the rocks?

6. Depending on the time left we can do some of these activities:
    - You can describe a secret landscape and students have to draw it. At the end you show the photo.
    - Students write their own descriptions of a picture (numbers 13, 19, 23).
    - A guessing exercise. You can describe one of the 24 pictures on our website and students have to guess which landscape it is.

Homework: exercises 28 and 29.

Thank you

UNIT 5: THE SOLID EARTH

LANDSCAPES AROUND OUR TOWN

Dear language assistant,

The aim of this class is to practice the description of landscapes. We are working about landscapes around our city. We can use pictures or, better, we can go to a high place inside the city.

First, you can show the different landscapes: steep drops, shrubland, urban area, wood, meadow and olive grove. They can draw the view on page 66, exercise 30. Then, when you are sure the students understand it, you can complete the following chart (exercise 31).

LANDSCAPE	LOCATION *	ROCKY TERRAIN?	SLOPE	VEGETATION	HUMAN ACTIVITIES
STEEP DROP (tajos)	**East** (where the sun rises)	**Yes** (Very rocky. The type of rock is called limestone "caliza")	Very **steep slope**	**Scarce vegetation**	**No** economical activity (perhaps somebody climbig)
SHRUBLAND (matorral)	**East and North**	**Yes** (The same type of rock although sometimes it's hidden by vegetation)	**Steep slope**	**Bushes**	Shepherding (some **goats**) **Hiking** (walking by the mountains)
URBAN AREA	South, East and West **in the foreground.**	**No** (We can see rocks in the old part of Ubrique but most of the village is built on soft terrains made up of clay and sandstone)	**Gentle slopes and flat areas**	**Very scarce vegetation** (there are few gardens and few trees in Ubrique's streets)	**Buildings, shops, schools...**
WOOD (bosque)	**South**, in the background	**No**	**Gentle slopes**	**Trees** (They are oak cork trees "alcornoques")	**Getting cork** (They pull out the cork in Summer, each 10 years)
MEADOW (prados)	**South**	**No**	**Gentle slope**	**Grass**	**Cattle** (mainly cows)
OLIVE GREEN (olivar)	**West**	**No**	**Slope**	**Olive trees**	Getting olive for making olive oil (althoug most of the olive trees we see near Ubrique are abandoned)

* From our viewpoint, left is East, right is West, back is North and South is forehead.

If there are some minutes left you can check the students understand the chart asking questions: Where is the olive grove? Are there rocks in the shrubland? What about the slope on the left? Is vegetation scarce or dense in the woods? And so on.

Thank you

UNIT 5: THE SOLID EARTH

LOOKING INTO MINERALS

Dear language assistant,

This class is about minerals and it has two different parts. First, you will explain some properties of minerals and some vocabulary, then the pupils will handle some real specimens and will complete the chart below (at the laboratory).

1. Colour. You can remember the meaning of some colours pointing some minerals in a picture. Perhaps you can show the use of –ish: yellowish, reddish... and some ways to add an adjective to a colour (pale, dark, light, dirty-white, silver-coloured...).
2. Shiny or dull (luster): what the surface looks like in the light. You can show the difference between shiny and dull minerals. Besides, you can distinguish metallic lustre (brillo metálico) from glassy luster (brillo vítreo)
3. Shape: Is it a geometric shape or irregular shape?
4. Hardness: what it can scratch and what scratches it. Please, show the meaning of "scratch" and distinguish it from hitting. We will use three kinds of hardness: soft minerals if you can scratch them with your fingernail, hard minerals if they scratch an iron hammer. Normal minerals are those you can't scratch using fingernail and they don't scratch a hammer.
5. Density or specific gravity indicates how heavy it is. The pupils have to remember how they got minerals density last October. They weighted the mineral, then they put it into a test tube to know its volume and finally they divided mass and volume. Today we are not doing that. We are only going to recognize very heavy minerals holding them in our hands. So, in the last column the pupils will write "heavy" or "normal".

MINERAL	COLOUR	SHINY/DULL	SHAPE	HARDNESS	DENSITY
Pirita					
Aragonito					
Cuarzo					
Calcita					
Yeso					
Magnetita					
Galena					

Thank you

UNIT 5: THE SOLID EARTH

FINAL REVIEW

Dear language assistant,

This is the last class before the exam of unit 5. We can read and practice "aims in English" (Textbook, page 70) following a presentation that includes the aims, examples, pictures and everything you need to lead the class.

Aim 15.Describir rocas y minerales en inglés.

What does this rock look like? Example: "This rock is black and it has got many holes". Here you have some useful words to describe rocks:

- Colour: pink, pinkish, dirty-pink, light-coloured rock…
- Elements: minerals, sand, little stones, fossils, layers, holes...

What does this mineral look like? Example: "This mineral is yellowish and it is shiny. The mineral shape is geometric, like little cubes, and it is hard". Key-words:

- Colour: yellow, yellowish, light-coloured rock, dark-coloured rock…
- Shiny or dull.
- Shape: irregular, geometric.
- Soft or hard.

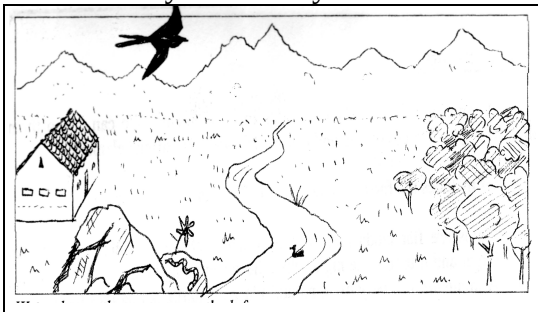
Aim 16. Describir paisajes en inglés diferenciando sus principales componentes: relieve, vegetación, agua y elementos artificiales.

Let's describe landscapes. Key words:

- Plain, mountain, peak, valley, hill.
- Gentle slope or steep slope.
- Scarce vegetation or dense vegetation.
- Tree, bush, grass.
- Wood, meadow.

Aim 17. Dado un elemento del paisaje indicar su posición utilizando las siguientes expresiones: at the top, at the bottom, on the left, on the right, in the middle, above, below, in the foreground, in the background...

There is an exercise related to this aim in the Textbook (page 65, exercise 28). They have already done and you can check it.



-Where is the wood?

-Where are the rocks?

-Is there anything at the top?

-What can you see in the background?

-What is there below the flower?

Aim 18. Utilizar correctamente los siguientes términos: key, features, rocks, minerals, fossil, layer, shiny, dull, shape, hard, soft, density, relief, plain, mountain, valley, slope, flat, wood, tree, bush, grass, meadow.

You can read a word, a volunteer repeat and translate it into Spanish.

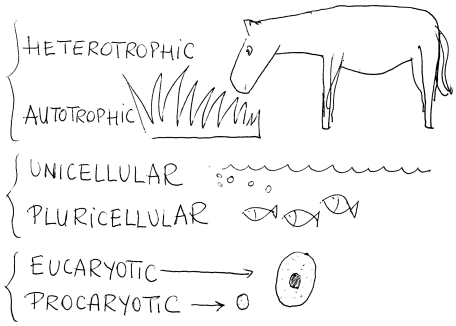
Thank you

UNIT 6: THE DIVERSITY OF LIFE

FIVE KINGDOMS.

Dear language assistant,

1.The first part of the class is for learning **six basic concepts**: autotrophic, heterotrophic, unicellular, pluricellular, eukaryotic and procarytic. You can write autotrophic-heterotrophic on the board and explain them using the notes below, then you can do the same with two more concepts (unicellular-pluricellular) and, eventually, eukaryotic-procaryotic. I would like you to explain this topic using your own words and drawing this on the board:



We know two main types of living beings: animals and plants. What differences are there between animals and plants? Sometimes we think animals move and plants don't but this is not the most important difference. Besides there are some animals which cannot move (corals, for instance). The most important difference is the way they feed. We are going to distinguish two ways:

- *The **autotrophic** beings, like plants, do not need anything other than water, salt and gasses such as carbon dioxide and oxygen. They use the energy from the sunlight in order to manufacture their own food. This process is called photosynthesis*

- ***Heterotrophic** beings, like animals, cannot make their own food and instead they have to take this from their surroundings. This is why they feed off other living beings or they feed off organic matter which is discomposing*

*An important characteristic of living beings is that they all are made up of cells. Cell is the smallest living thing. So, cell is the unit of life. There are two types of living beings according to the number of cells they have. The **unicellular** beings are made up of only one single cell. The **pluricellular** beings are made up of more than one cell and range from beings of just a few cells to those which are made up of million of them.*

Then you can draw two very different sized cells and explain that there are two types of cells:

- *The **eucaryotic** cells are those which have a nucleus, they use to be larger (about tenth of a millimetre).*

- *P**rocaryotic** cells are much more simple.They have no nucleus and only appear in some unicellular beings. Their size is around a thousandth of a millimetre*

The students have to look for the six basic concepts on the textbook (p.71) and underline them.

2.After explaining these six concepts they are ready to learn that living beings are not only animals and plants. Perhaps you have heard of Animal Kingdom and Plant Kingdom but there are **Five Kingdoms** (translate kingdom, please). Ask them to look into de table on page 7 and ask them some questions in order to check if they have understood the chart. I'm interested they to practice belong to, similar to, different from… Perhaps we can work together in the first activities and then, the pupils can work on their own.

	Type of cells	**Grouping of cells**	**Feed**	**EXAMPLES**
Reino Monera	Procaryotic	Unicellular (sometimes simple cell chains)	Autotrophic: heterotrophic:	ALGAE BACTERIA
Reino Protista	Eucaryotic	Unicellular (sometimes very simple groups of cells)	Autotrophic: heterotrophic:	ALGAE PROTOZOO
Reino Fungi (de los hongos)	Eucaryotic	The majority are multicellular but without real tissues.	Only heterotrophic:	MUSHROOMS MOULD
Reino Animal	Eucaryotic	Pluricellular	Only heterotrophic	COW
Reino Vegetal	Eucaryotic	Pluricellular	Only autotrophic	PINSAPO

9. Which kingdoms are the most wellknown? (Plants and Animals)
10. Which kingdoms are formed only by heterotrophic beings? (Fungi and Animals).
11. Which difference is there between fungi and plants? (Fungi are heterotrophic and plants are autotrophic)
12. Which kingdom do bacteria belong to? (They belong to Monera Kingdom)
13. Is there any similarity between fungi and animals? (They are both formed by heterotrophic living beings and their cells are eukaryotic)
14. What living beings are able to make their own food? (Algae and Plants)
15. Which kingdom does a tree belong to? (It belongs to Plant Kingdom)
16. Do protists and moneras have something in common? (They include unicellular beings)
17. Is there any difference between protists and moneras? (Protists are made of eucaryotic cells while Moneras are made of prokaryotic cells)
18. Which kingdom do mushrooms belong to? (They belong to Fungi Kingdom)
19. Which kingdoms are formed mainly by microscopic organisms? (Protists and Moneras but there are some microscopic animals as well. In addition many mould are microscopic)
20. What do animals and plants have in common? (They are eukaryotic, pluricellular living beings)
21. Which kingdom do you belong to? (I belong to Animal Kingdom.)

Thank you

UNIT 6: THE DIVERSITY OF LIFE

CLASSIFY INTO SMALLER GROUPS.

Dear language assistant,

1.Today we are going on lesson 6 (Diversity of life). First of all, we can review what we learnt last week:

- How many kingdoms are there? (Five)
- What are their names?
- There are two kingdoms made of mycroscopic living beings. Which are they? (Protists and Moneras).
- Remember fungi are not plants. They don't belong to the plant kingdom. How are fungi and plants different? (Fungi are heterotrophic and plants are autotrophic).
- What's a pluricellular being? (Any living being that has many cells)

2. KINGDOMS are the main groups of living beings but there are smaller groups. Each kingdom is made up of different groups. For instance, animal kingdom includes several GROUPS like worms, molluscs, arthropods, equinoderms or vertebrates. You can show some examples of these groups or describe the shape they have.

- Vertebrates group includes five CLASSES: fishes, amphibians, reptiles, birds and mammals. (You can tell some characteristic of them: living in the water, flying, having wings, feathers, hair, ¿coat?...) Which group are wolves inside? Wolves belong to mammals.
- Mammals class includes some ORDERS like rodent (roedores), primates (primates), cetacean (cetáceos), carnivores (carnivoros)... Wolves belong to carnivores.
- Carnivores order includes some FAMILIES like canidae, ursidae (bears), felidae... Wolves are canidae.
- Canidae family includes some GENUS like Canis, Vulpes (fox=zorro).
- And finally there some SPECIES inside a genus: Canis lupus, Canis familiaris, Canis latrans (coyote)...

3. Observe that a species is given two names in Latin. The first name refers to the genus and it has to be written in capital letters while the second one refers to species and it has to be written in small letters. Scientific names are very useful because they are known all over the world, regardless of the local language.

- Do you know our own species' name? We are Homo sapiens.
- What genus do we belong to? Homo is the name of our Genus.
- What family do we belong to? We are Hominidae (homínidos in Spanish).
- Family hominidae belongs to order Primates
- This order belongs to Mammal class.
- Mammal classs belongs to Vertebrate Group.

4. Now, I'm going to give you some animal cards. You are going to ask your partner about the animal he/she has. Then he/she will ask you. After that you will receive a new

animal and will do the same several times. The language assistant and a student can do a demonstration at the blackboard. Here you have some examples of questions and answers:

- What's your animal's name? (the name of your animal).
- What's its scientific name?
- Is it a mammal? Is it a bird?
- Which group does it belong to?
- Which class does it belong to? Which order does it belong to?
- Which country is it from?
- Where does it live? It lives in the forest, country, river, mountains, sea, beach, soil...
- What colour is it?

Thank you

UNIT 6: THE DIVERSITY OF LIFE

PLAY "MISSION EXPLORE".

Dear language assistant,

Pupils are going to play a computer game called Mission Explore that is in the website of the Natural History Museum.

http://www.nhm.ac.uk/kids-only/fun-games/mission-explore/

Before switching on the computers it´s necessary to explain the game and some vocabulary. Pupils are going to be scientists of the Natural History Museum, one of the most important museums in the world. You can explain what there are in this museum. (Sometimes Spanish people can get confused about Natural History and they can imagine a History Museum. We don't usually say Historia Natural but Ciencias Naturales). Process:

1. You are going to visit an imaginary island called Regaloam and you have to get permission to explore the island ant to pick some minerals.

2. Then the computer asks you to choose what to look for in the island: plants, fossils, animals, minerals...

3. When you arrived to the island you have to find the right area for collecting your specimen. You will see a map with different parts: woodland, meadow, rock, soil, seashore and open sea.

4. When you had found the specimen, you will have to write down the grid reference of location (across and up) and get a photograph. You can write an example on the board:

5. You are now ready to collect your specimen but first you have to choose a tool (for instance, a suitable tool for collecting minerals is a hammer).

6. You will return to the Museum to identify what it is. You will get the name of the specimen answering some questions about its appearance.

7. After that you will choose a way to preserve it for the future

8. Exhibit in the museum.

Each student gets a table to record that on his/her activity book. Perhaps you can explain some words in the record table.

Thank you

MISSION EXPLORE

A record of your mission

What's your destination?

Collecting permit obtained? Yes No

What are you going to collect?

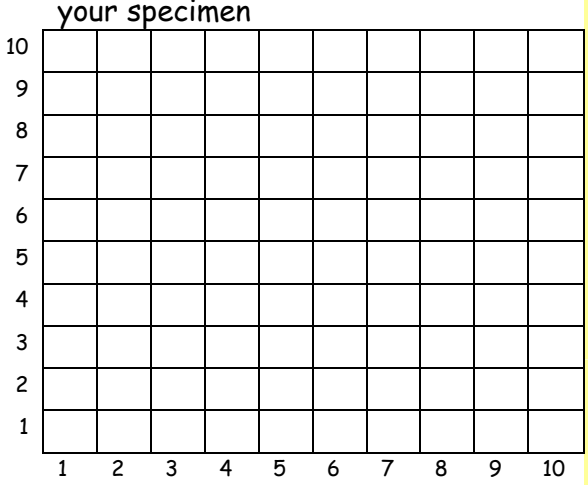
Specimen found in:
woodland, medow, rock, soil, seashore or opensea

Grid reference of location

Tool used for collecting:

Which **Department of the Museum** do you put your specimen in?

Record on this map where you found your specimen



- **Specimen preserved**
  - in a controlled environment
  - by freeze drying
  - by dry mounting
  - in spirit

UNIT 6: THE DIVERSITY OF LIFE

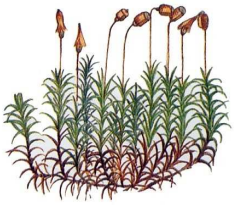
TYPES OF PLANTS (PLANT KINGDOM).

Dear language assistant,

You are using a presentation to explain the main facts about plants. Here you have the comments for each slide.

1. Title: Plant kingdom
2. Four parts in a plant: root, stem, leaf-leaves and flower.
3. The next slides show the function of each organ. Root: it takes water and minerals from the soil.
4. Stem: It holds the plant upright. It contains tubes that carry substances. The tree stem is called trunk.
5. Leaf: It is the organ of photosynthesis. It makes the food for the plant.
6. Flower: It contains the reproductive organs. It makes seeds.
7. Seed. Plants grow from seeds. They are often rounded by fruits.
8. Not all the plants have these elements. Only flowering plants show all these elements
9. Gymnosperms are simpler than flowering plants. Pine trees and other conifers (coníferas) are good examples of gymnosperms. They have very simple flowers, without petals. They have seeds (piñones), sometimes in groups called pines (piñas) but never real fruits.
10. Ferns are even simpler. They are usually small plants that we can find under the trees or between the rocks. But the main difference between ferns and the two previous groups is that ferns haven't got seeds and, of course, they have no flowers. Their reproduction is different and it is based on spores, little and hard cells that form in the leaves.
11. Mosses are even simpler than ferns. Mosses are very very small, like a thin lawn on the rocks or on the trunks. They use spores for reproduction (nor flowers neither seeds). In addition they don't have proper roots, stems and leaves. A true leaf, for instance, shows veins which are tiny tubes and sap (savia) moves through them. There are no tubes in a moss (the nutrients move very slowly from one cell to the neighbour cell).
12. This slide shows the four groups of plants: mosses, ferns, gymnosperms and flowering plants.
13. The next pictures show different examples of plants and the students have to say the group they belong to. Slide 13: fern.
14. Flowering plant.
15. Mosses.
16. Flowering plant.
17. Gymnosperm.
18. Fern.

Then, the students can do some exercises from the Activity Book (38-42).

Mosses (and liverworts)	**Ferns**	**Non flowering plants** (Gymnosperms)	**Flowering plants** (Angiosperms)
			
No proper roots or stems.	They have stems, roots and leaves.	They have stems, roots and leaves	They have stems, roots and leaves
They make spores, not seeds.	They make spores, no seeds.	Very simple flowers. Seeds inside cones (no fruits)	They have flowers which turn into fruits with seeds inside.

38. Which of the following does not belong to the plant kingdom? Moss, spider, fern, pine.
39. Do all plants have real roots?
40. Which differences are there between conifers and flowering plants?
41. Do mosses and ferns have something in common?
42. Do ferns and flowerig plants have something in common?

Thank you

UNIT 6: THE DIVERSITY OF LIFE

LET'S MAKE A TREE.

Dear language assistant,

First of all, review the translation of some parts of the plants (roots, stem, trunk, nerve, vessels for sap, leaves, bark), some processes (photosynthesis, absorb) and some commands and actions (upright, stand up, deliver food, coming, going, I'm on my way, I won't let you…)

Let's make a tree is a very simple performance: the students represent the parts of a tree (nerve, roots, vessels, leaves, bark) acting in the way the teacher shows them:

- The teacher asks for two volunteers who stand in the middle of the group and they become the nerve.
- The teacher explains the function of the nerve.
- The teacher shows how they have to stand, back to back and with arms strongly joined. The teacher can push them to check they are really strong.
- The teacher tells them that when he shouts STRONG AND UPRIGHT they must answer loudly LET'S STAND UP. It can be done several times in order to check they have understood and in order to everybody learn these sentences.
- Then on, the teacher ask for three volunteers who become the roots and teaches the function of the roots and what the students have to do. Eventually, review nerve and roots.
- Four volunteers for xylem vessels: function, explanation of the performance and review (nerve, roots and vessels).
- Four volunteers for leaves: function, explanation of the performance and review (nerve, roots, vessels and leaves).
- Four volunteers for floem vessels: function, explanation of the performance and review (nerve, roots, vessels, leaves and floem vessels).
- Six volunteers for bark: function, explanation of the performance and review (nerve, roots, vessels, leaves, floem vessels and bark).
- Two volunteers for woodpeckers, insects.
- Display of the whole performance. At the end you can tell chaotic orders: leaves, photosynthetize!, sap up!, roots; absorb!; leaves, phtosynthetize!; strong and uprigtht!; vessels, deliver food! and so on.

Part of the plant (25 people)	**Where is it? What is it for?**	**Teacher's orders**	**Students' words and actions**
Nerve (medula) 2	It's the central part of the stem and holds the plant upright, even when winds are very strong.	Nerve, strong and upright!	Standing! (Joining arms strongly)

Roots 3	They are underground and they take water and minerals from the soil (root hairs).	Roots, absorb!	Chop, chop,chop… (They are sitting down and shaking legs)
Vessels I (xylem vessels) 4	Inside the trunk there are tiny tubes that carry water and minerals from the roots to the leaves. This is called raw sap or crude sap (savia bruta)	Vessels, sap up!	Going! (¡Maaarchando!) (Raising hands)
Leaves 4	They are the organs of photosynthesis. They make food for the plant. Green plants need sunlight to produce food. They 'capture' the sun's light energy using the chlorophyll in their leaves and use it to make their own food. Leaves need CO_2 and H_2O and they release oxygen.	Photosynthesize!	Ñam, ñam, ñam (Holding hands up and moving fingers)
Vessels II (Phloem vessels) **4**	The food produced in the photosynthesis reaction can be carried to other parts of the plant in phloem vessels**.** This substance is called elaborated sap (savia elaborada). Therefore, there are two vascular systems, one for crude water and the other one for elaborated sap.	Deliver food!	Coming! (or I'm on my way) (¡Voy!) (Moving hands down)
Bark 7	Protective covering of woody plants. It works preventing water loss and acts as a barrier to fungi and other invaders.	Bark, resist!	I won't let you. (Gesture like a rugby player)
Insects, birds… 2	Woodpeckers can do their nests inside the trunk. Some insects put their eggs and larvae inside. Even some little animals feed up of wood.	Look out! Woodpeckers	Toc, toc, toc… (Moving and trying to drill the tree)

Thank you

UNIT 6: THE DIVERSITY OF LIFE

PLANT REPRODUCTION.

Dear language assistant,

You are using a presentation to explain this topic. Here you have the comments for each slide. Notice that just bold letters are shown on the slides.

1. Title: **Plant reproduction.**
2. (Image of the parts of the flower). The flower is the reproductive organ of the plant and these are its main elements: **petals, sepals, stamen and pistil**.
3. **Accessory structures: What are they for?** (Picture of a simple flower to recognise petals and sepals)
    a. The calyx consists of all the sepals, which protects the flower before it opens
    b. The corolla consists of all the petals, which serve to attract pollinators through color and scent
4. **Male Reproductive Structure** The stamen consists of two parts: **Anther and Filament**
    a. The anther is where pollen is produced.
    b. The filament is a stalk that supports the anther
5. **Female Reproductive Structure** The pistil consists of the **stigma, style and ovary**
    a. The sticky stigma receives the pollen from the anther
    b. The pollen grows a tube down through the style towards the ovary where ovules are
6. **Pollination:** pollem moves from a flower to another flower, from the anther of one flower to the stigma of another
    a. Flowers vary depending on pollination mechanism
7. **Types of pollination**
    a. At the top left corner: Wind Pollination: Dull, scentless flowers with reduced petals
    b. At the top on the right: Insect Pollination (bees, butterflies...): Bright color, nectaries, scent. They sip nectar, get pollen on coats, transfer pollen from flower to flower
    c. At the bottom, on the left: Bird Pollination: Nectaries, bright colors, tube-like flowers. No in Spain but in tropical countries where hummingbirds live (colibrí)
    d. At the bottom on the right: Moth Pollination: White petals, open at night
8. What type of pollination corresponds to these plants? ……Wind pollination.
9. **Pollination and fertilization** (four pictures)
    a. After pollen lands on stigma…
    b. …. a pollen tube grows down through the style to ovary. The tube contains the sperm nuclei.
    c. In ovary, there is one egg or ovule nucleus. Fertilization occurs: one sperm nucleus fertilizes the egg
10. Fertilization. Review with three pictures.
11. Link to an animation to show pollination and fertilization.
12. **Seed and Fruit Development** After fertilization,

   a. the petals and sepals fall off flower
   b. Ovary "ripens" into a fruit
   c. The ovule develops into a seed
13. **Seed Dispersal: allow plants to colonize new areas and avoid shade of parent plant.**
14. **Seed Dispersal Mechanisms** I.
   a. Gravity Dispersal - Heavy nuts fall to ground and roll. Ex. Acorns
   b. Water Dispersal – Plants near water create floating fruits. Ex. coconuts
15. **Seed Dispersal Mechanisms** II (these are the most important mechanisms)
   a. Wind Dispersal - Flight mechanisms, like parachutes, wings, etc. Ex. Dandelion, maples, birch
   b. Animal Dispersal - Fleshy fruits which animals eat, drop undigested seeds in feces **or** burrs which stick to animals' coats
16. Which kind of dispersal corresponds to this fruit? ..... Animal dispersal.
17. Which kind of dispersal corresponds to this fruit?..... Water dispersal.
18. Which kind of dispersal corresponds to this fruit?..... Wind dispersal.
19. Which kind of dispersal corresponds to this fruit?..... Gravity dispersal.
20. **Seed Germination:**
   a. Stem grows straight up and roots grow down.
   b. The embryonic leaf or two leaves appears.

Then, the students can do some exercises from the Activity Book (53-57 and 61-62).

Thank you

UNIT 6: THE DIVERSITY OF LIFE

REVIEVING UNIT 6.

Dear language assistant,

We can carry out a dictation-competition in order to review Unit 6. Here you have the underlined words but the students won't have them; they have to note them down while you dictate. Then they, in pairs, have to guess the solutions which are the words in brackets. After that, the winners should read the full sentence and we can write the more difficult words on the board. Finally you can remind them the ideas in brackets.

1. Because of the way they feed they are heterotrophic living beings but they don't move and they look like plants. They are……..… (**fungi**. They are a kingdom apart from the Plant Kingdom. Remind fungus-fungi).

2. Animals and plants have them. They are very little but you can see them using a microscope. They are…… (**cells**. Every living being has cells and there are two kinds of living beings unicellular and pluricellular).

3. It is a kingdom that people don't usually know about. Living beings belonging to this group are always unicellular and their cells have no nucleus. Which kingdom is it? ……..(**Monera Kingdom**. Bacteria belong to the Monera Kingdom; they are very very little and it's difficult to see them using school microscopes).

4. Animals and fungi are heterotrophic and they have to get their food from other living beings but plants can make their own food thanks to a process called…….. (**photosynthesis**).

5. Plants and animals are different but they have two important things in common: they are both pluricellular living beings and their cells are….(**eukaryotic**).

6. Species are given different names in different countries but if you don't want to get confused you can use scientific names written in…….. (**Latin**. Two names: the first one refers to the genus and the second one to the species).

7. During the ice-age trees that came to Spain from the North of Europe and became….. **(pinsapos**).

8. They are very little plants without stems and they don't produce seeds. They are… (**mosses**).

9. When we made a tree with our bodies, the bark was attacked by (**animals: insects, woodpecker).**

10. Leaves need three ingredients for photosynthesis: water, carbon dioxide and …. (**sunlight**).

11. Water from the roots has to arrive into the leaves, so it has to move through the…….. (**stem**).

12. The flower is the reproductive organ of the plant but it has some elements which are not for reproduction; those elements are petals and….. (**sepals or calyx**)

13. Insect pollination occurs when insects move pollen from the male parts of a flower to the female parts and grains stick to the…….. **(stigma)**.

14. When you look inside the corolla of a flower you can see many filaments; one is the pistil and all the others are ……..(**stamens**) .

15. Flowers have several mechanisms to attract insects: they produce nectar, scent and, above all, have very attractive…… (**petals**).

16. Fertilization occurs when the pollen nucleus moves down from the stigma to the ovary and joins with the …… (**ovule**).

17. If the flower has no nectar and no coloured petals and it produces a lot of pollen that shows that pollination is achieved through ……. (**wind/wind pollination**).

18. After the fertilization the ovules turn into seeds and the ovaries grow and become…. (**fruit**).

19. Many seeds are dispersed by animals, little seeds can be dispersed by wind but coconuts use a different method. Which one? (**water dispersal**).

20. Next unit deals with living beings that are pluricellular, heterotrophic and the majority can move. Which kingdom do they belong to? (**Animal kingdom**)

Thank you

Unit 6: Review

1. Because of the way they ……..they are heterotrophic …….beings but they don't move and they …… like plants. They are

2. Animals and ……. have them. They are very …….but you can see them using a ……. They are

3. It is a …… that people don't usually know about. Living beings belonging to this group are always …… and their cells have no …….. Which kingdom is it?

4. Animals and fungi are heterotrophic and they have to get their …… from other living beings but plants can …….. their own food thanks to a …….. called

5. Plants and animals are ……. but they have two important things in common: they are both ……. living beings and their …….. are

6. ……. are given different names in different ……. but if you don't want to get confused you can use ……. names written in

7. During the ……. trees that …..... to Spain from the ….…of Europe and became

8. They …… little plants without ……. and they don't ……. seeds. They are

9. When we …….. a tree with our ……., the bark was …… by

10..... need three …….. for photosynthesis: ……, carbon dioxide and

11. Water from the …… has to ……... into the leaves, so it has to move through the

12. The flower is the ……. organ of the plant but it has some …… which are not for reproduction; those elements are ……. and

13. Insect pollination occurs when …….. move pollen from the ……. parts of a flower to the female parts and ……. stick to the

14. When you ……. inside the corolla of a flower you can see many ……; one is the …… and all the others are

15. Flowers have several mechanisms to ……. insects: they produce nectar, …… and, above all, have very …….. (?)

16. ……. occurs when the pollen nucleus …… down from the stigma to the …… and joins with the

17. If the flower has no nectar and …… petals and it produces …….. pollen that shows that …… is achieved through

18. …… the fertilization the ovules turn into …….. and the …….. grow and become

19. …….. seeds are dispersed by animals, little seeds can be dispersed ……. but …….. use a different method. Which one?

20. Next ……. deals with living beings that are pluricellular, heterotrophic and the majority can ……. Which kingdom do they ……to?

UNIT 7: ANIMALS

LEARNING TO DESCRIBE ANIMALS.

Dear language assistant,

1. Show the meaning of some words specially those which are highlighted. You can use pictures from the Internet if you like :

    b. Places where they live: **land animals**, **aquatic animals**.
    c. Size of the animal: large, small, medium sized...
    d. Shape of the body: round, long, flat
    e. Main parts of the body. Body divided in **head, trunk and limbs** (human being) or divided in head, thorax and abdomen (insects), head an tentacles (octopus)...
    f. Limbs or extremities: **legs, wing, fin, (**forelimbs and hind legs), forefeet, **claw** (garra), hoof (pezuña), nail (uña, fingernail, toenail).
    g. Others: **tail**, antler, **antenna** or feeler, **beak**
    h. Skin covered in **hair (or coat), feathers, scales**. Amphibians have bare skin.
    i. Hard parts: **bones, shells.**

2. I would like you to describe an animal and the students have to guess it. You can talk about physical features, the place it lives, about the group it belongs to... (Duck, bear). Someone can draw it on the board as you are describing it. You can also create an imaginary animal.

3. We can ask for one volunteer who moves to the board and we can write an animal name behind him/her. He/she will have to ask to their mates in order to find out the name of the animal: Has it got wings? Does it belong to vertebrates?... Then you can ask the students to write several questions that they can use to find out a mysterious animal. After that we can repeat the guess several times (Ant, dolphin, worm, grasshopper, crocodile, sheep).

4. You can describe a mysterious animal and pupils will do a drawing meanwhile you are saying its characteristics. (Dificult words in italics letters)

- It is a land animal.
- It isn’t very big.
- Its body is divided in head, trunk and limbs.
- The mysterious animal head is round but not very big. It has no ears.
- Its face is *whitish* and seems to be *smiling*.
- It has a long neck, as long as its head.
- The mysterious animal is all covered in hair.
- Its *coat* is greyish-brown and in some places it’s green.
- It has four legs. They are long and the *forelimbs* are longer than the *hind limbs*.
- Legs *end in narrow, curved* feet.
- The forefeet have two toes (digits) and the hind feet have three toes.
- Each toes ends in a *claw*.
- Average weight is 5 to 6 kg.
- They eat leaves, *twigs* and fruit.

- They live in trees and they are *hanging upside down*.
- It moves very slowly. Just one leg each time, then rest, another leg, rest, another step, rest and so on. It runs 5 metres per hour.
- It moves so slowly that *predators* can't see it. Besides, it is active only at night.
- Essentially all normal activity (eating, sleeping, *mating and giving birth*) occurs hanging upside down. An exception to this is *urination and defecation*, which does occur on the ground once each seven or eight days.
- On the ground the movements are even slower because its legs are not strong enough *to hold its weight*.
- Imagine you study this animal for a day. You will find It spends
    - 18 hours sleeping everyday (Would you like to sleep so much?)
    - 1,5 hours eating. (Remember it's a vegetarian animal)
    - 3 hours moving very slowly
    - 1,5 hours resting
- It *isn't worried* about its hygiene. On the coat there are hundreds of bugs. You can see in the skin of this animal *beetles, moths, ticks*... 978 beetles have been seen in one mysterious animal...
- Algae can grow on its coat. That's why it looks like green.
- Some animals can feed of these algae like *caterpillar* (silkworm is a carterpillar that pupils have in their homes). So, besides of the beetles you can see many caterpillars and if you're lucky you can see butterflies starting their first flight from our mysterious animal.
- You can think this animal is dirty and horrible but it's very good avoiding is enemies (eagles, snakes, jaguars) using camouflage.
- Now I'm going to say its name. It is a sloth (perezoso in Spanish, its scientific name is Choleopus hoffmani) and lives in the jungles of South and Central America.

UNIT 7: ANIMALS

COMPARATIVE CHART OF ANIMALS (TWO CLASSES)

Dear language assistant,

1. Pupils have got a comparative chart and you are going to help them to fill it. First columns are easier to complete (parts of the body, sking, hard parts, aquatic or land animals) but it's necessary an explanation about breathing and reproduction.
2. Breathing. *Small and simple animals don't need a respiratory system, they take oxygen through their skin. But bigger animals need a respiratory system. Most aquatic animals use gills while land animals use lungs. Some land arthropods use trachaea, a net of tiny pipes which start in different points of their skin (they have seen them on the silkworm) and cross their bodies.*
3. Fertilisation. You can explain the difference between internal and external fertilisation: *Fertilisation, that is the union of sexual cells, can take place in the environment (external fertilisation) or inside the female's body (internal fertilisation). The internal one is more common for land animals. Many aquatic animals deliver their sexual cells into the water and they meet there. Sometimes this meeting doesn't occur, so that's why they produce lots and lots of sexual cells. Then, knowing where an animal lives, we can deduce how is its fertilisation.*
4. Birth. You can explain the difference between oviparous and viviparous. And after that you can say most animals ara oviparous and ask which animals are viviparous (mammals).
5. Metamorphosis. *You can show that a baby has the same parts in its body than an adult, they are different in size.. But this is not true for all the animals. Sometimes animals change very much from juvenil forms to adult forms. You can ask the pupils which animals do that (amphibians, insects...). You can talk about a frog whose fins and gills become legs and lungs. You can also remember what happens to silkworm.*

Thank you

		Examples	Body shape and parts (legs, wings, fins...)	Skin covered in…	Hard parts: bones, shells…	Aquatic or land animal	Breathing: lungs, gills or tracheae	Internal or external fertilization	Birth: oviparous or viviparous	Metamor-phosis
Esponjas/Sponges							No respiratory system			
Celentéreos/Coelenterates							No respiratory system			
Anélidos/Worms							No respiratory system			
Moluscos/ Molluscs	Gasterópodos/Gastropods							Usually hermaphrodite		Yes
	Bivalvos/Bivalves									Yes
	Cefalópodos/Cephalopods									Yes
Equinodermos/Equinoderms							"Aparato ambulacral"			Yes
Artrópodos / arthropods	Arácnidos/Aracnids					Exoskeleton			Oviparous, ovoviviparous	No
	Crustáceos/Crustaceans								Oviparous, ovoviviparous	Yes
	Insectos/Insects									
	Miriápodos/Myriapods									No
Vertebrados/Vertebrates	Peces/Fish								Oviparous, ovoviviparous	
	Anfibios/Amphibians									
	Reptiles/Reptiles									
	Aves/Birds									
	Mamíferos/Mammals									

UNIT 7: ANIMALS

RIDDLES AND WORK ABOUT WHALES.

Dear language assistant,

1. I would like you to describe an animal and the students will have to guess it as we did several classes before. In addition, we can write an animal on the board, behind a student, and he/she will have to ask to their mates in order to discover the name of the animal: Has it got wings? Does it belong to vertebrates?... We can repeat this exercise several times.
2. Then, I would like you to talk about endangered fauna, the meaning of the words “danger", "dangerous”, “endangered”, “extinction”... and to notice that the cause of this problem is human activity. Hunting, fishing and destroying ecosystems are the main causes. Then you can name some examples: the tiger, the giant panda, the black rhinoceros, the grey wolf, the brown bear...Greenpeace and other organizations have developed many campaignes in favour of endangered animals but the most famous one is “Stop killing whales!”. We’ll use the computer to watch an animation about whales made by Greenpeace. Students will have to answer some questions.

http://www.greenpeace.org/espana/fungames/animations/nadando-con-ballenas

1. Write the names of the whales on the animation.
2. How long is a humpback whale?
3. How do whales communicate with each other?
4. Which whale dives very deep? What is it looking for?
5. Which whale is the largest one?
6. Are whales peaceful or aggressive animals?
7. What is a whaler?
8. Which countries don't respect the ban on killing whales?

Thank you

UNIT 7: ANIMALS

QUIZ ABOUT ANIMALS.

Dear language assistant,

The students have to play in fours. They will watch several clips of documentaries about animals. The teacher will stop the clip in the middle of each sequence; then you can explain what we have seen revising the names of the animals and, after that, you will ask about what it is going to happen in the second half of the sequence. The right answer has to be chosen like in a multiple choice quiz. We will write the points of each group on the board. Here you have the questions and the answers (you can express the answers in a different way if you like):

3.LADYBIRD AND ANT. Who is going to win?

a) Ant.
b) Ladybird.
c) Both
d) Neither.

4.DUNG BEETLE. How does the beetle solve its problem?

a) It breaks the ball and remakes it again.
b) It gets the ball and the stick together and carries them away.
c) It takes the ball pushing with its bottom.
d) It looks for somebody to help it.

5.WATER SPIDER. What is it doing?

a) It is going out of the water, breathing and then diving again.
b) It is going out to get food.
c) It is catching air and then breathing inside water.
d) It's setting a trap.

6.STAG BEETLES. When are they going to stop fighting?

a) When one of them dies.
b) When one of them runs away.
c) When they make peace.
d) When a predator appears.

7.LADYBIRDS. What is going to happen?

a) They are going to fight over the territory.
b) Each one is going to carry on its way.
c) A sexual union.
d) They are going to help each other to look for food.

13.SNAILS. Who are they?

a) They are enemies fighting.
b) A sexual meeting between two male snails.
c) A sexual meeting between two female snails.
d) ”Mum-snail” with its son.

14.LARVA AND EGG. What is it going to do first?

a) To go way quickly to look for mud in order to bury itself
b) To rest after the work of getting out of the egg.
c) To look for its mother.
d) To eat the egg.

15.CATERPILLARS. What is going to happen?

a) They are making the queue again.
b) A mess.
c) Two parallel queues walking to the same place.
d) Two parallel queues walking to opposite places.

16.SQUIRREL AND GINETA (WILD CAT). What is going to happen?

a) They are making the queue again.
b) A mess.
c) Two parallel queues walking to the same place.
d) Two parallel queues walking to opposite places.

Thank you