

SCIENCE: UNIT 1 PLAN

TITLE	MATTER
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Schemes on the blackboard (properties of matter, states of matter, changes o state). -Reproduction of dm^2, cm^2, mm^2, dm^3 and cm^3 using graph paper. -Lab experiments about measurements, separating mixtures and changes of state. -Questionnaires. -Activity book: texts and exercises. -Periodic chart. -Coloured balls to make molecules. -Presentations. -Internet (pictures, interactive exercises...). -Syringes, bottles and balloons to show the properties of the different states of matter.
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides and M ^a Carmen Chilla Castro
AIMS	
English	<ul style="list-style-type: none"> -Learning specific terminology: matter, measure, property, length, surface, volume, mass, density, temperature, ruler, scale, thermometer, metre, square metre, cubic metre, litre, gram, degrees Celsius, pure, mixture, mix, substances, solution, chemical elements, chemical compounds or molecules, atom, hydrogen, oxygen, gold, copper, silver, iron, solid, liquid, gas, particles, melting, boiling, condensation, freezing, to heat, to cool. -Practising imperative. - Asking and answering questions about the length, the width, the height, the mass and the temperature of an object. - Given formulae or drawings of molecules and atoms answer simple questions about how they are (how many, where, there is, there are, have got). -Ask and answer questions about the state of an object. -Given the state of an object explain what happens when it is heated or cooled.
Content	<ul style="list-style-type: none"> -Enumerate and define the main properties of matter. -Use the suitable units to express length, surface, volume-capacity and mass measurements. -Estimate the measurements of common objects. -Get experimentally the length, surface, volume, mass and density of several objects handling rulers, measuring cylinders, scales and mathematical formulae. -Be careful at the laboratory. -Given a series of materials, identify which of them ara pure substances, heterogeneous mixtures and homogeneous mixtures (solutions). -Explain these processes: filtration, decanting, separating by magnetism, distillation.. -Explain the difference between chemical elements and compounds.

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	<ul style="list-style-type: none"> -Recognise the chemical symbols of hydrogen (H), calcium (Ca), carbon (C), iron (Fe), nitrogen (N), copper (Cu), oxygen (O), silver (Ag), sodium (Na), gold (Au), aluminium (Al), mercury (Hg), phosphorus (P), lead (Pb) and sulfur (S). -Make out simple formulae. -Explain the internal structure of atoms. -Compare the properties of the different states of matter. -Explain the states of matter according to the kinetic theory. -Give the suitable name to each one of the changes of state. -Say the state of a substance known its melting point and its boiling point. -Make out drawings about the composition of some substances. -Extract information from comparative tables and make tables after reading a text or after doing an experiment.
ACTIVITIES/ TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Completing tables. -Reproduction of dm^2, cm^2, mm^2, dm^3 and cm^3 using graph paper. -Laboratory experiments about volume. -Exercises of conversion of units. -Laboratory experiments about mass and density. -Questionnaires. -Presentations in the computer. -Interactive exercises from the Internet. -Laboratory experiments about separating components of a mixture. -Free dialogue in class.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -Properties of matter. -Pure and mixed substances. -Elements and compounds. -States of matter.
Procedures	<ul style="list-style-type: none"> -Extract information from tables, schemes and graphics. -Use suitable measurement units. -Handling correctly lab tools. -Make out simple molecular formulas.
Attitudes	<ul style="list-style-type: none"> -Value accuracy expressing measures and describing objects. -Regard cleanig and care of the laboratory equipment. -Interest to know and to understand the world that surrounds us.
ASSESMENT	<ul style="list-style-type: none"> -Written tests. -Homework.
FURTHER INFORMATION	<p>Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/1matter/guiamatter.html</p>

SCIENCE: UNIT 2 PLAN

TITLE	THE EARTH AND THE UNIVERSE
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Activity book: texts and exercises. -Drawing on scale of the solar system. -Making a presentation of the solar system. -Schemes on the blackboard. -Table comparing revolution and rotation. -Model to explain differential heating of both hemispheres. -Manufacture of a celestial planisphere. -Film about solar system. -Questionnaires. -Scale model of the Moon-Earth system in order to explain lunar phases and eclipses. -Presentations with the computer. -Internet (information, pictures, interactive exercises...).
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides and M ^a Carmen Chilla Castro
AIMS	
English	<ul style="list-style-type: none"> -Learning specific terminology: solar system, sun, star, planet, satellite, comet, asteroids belt, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, rotation, revolution, season, , full moon, wanning moon, new moon, eclipse. -Describe and compare planets (distance, size and appearance) using comparatives, superlatives, similar to, different from... -Express properly dates and times (when, at 6:00, on Monday, on the sixth of June, on June the sixth, in December, in summer...).
Content	<ul style="list-style-type: none"> -Enumerate components of solar system. -Describe the location, size, composition and appearance of each planet. -Distinguish planets from satellites. -Explain what a falling star is. -Compare rotation and revolution: duration and consequences. -Explain the consequences of the slant of the Earth axis. -Distinguish solstice from equinox. -Explain why the moon appearance changes. -Distinguish waxing moon from waning moon. -Explain the origin of lunar phases and eclipses. -Make out tables, comparative charts, diagrams, graphs... -Write a composition showing changes of scientific ideas about Earth and universe.
ACTIVITIES/ TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Reading and comprehension of English texts. -Drawing on scale of the solar system. -Making a presentation of the solar system. -Completing a table comparing revolution and rotation.

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	<ul style="list-style-type: none"> -Making a celestial planisphere. -Explanations using different models on scale of celestial bodies. -Make a celestial planisphere. -Film about solar system. -Presentations with the computer. -Internet (information, pictures, interactive exercises...). -Free discussion in class.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -The solar system. -The movements of the Earth and its consequences. -The moon, the Earth's satellite.
Procedures	<ul style="list-style-type: none"> -Extract information from tables, schemes and graphics. -Elaborate a scheme from a text.
Attitudes	<ul style="list-style-type: none"> -Regarding the immensity and beauty of the universe. -Showing interest to know and to understand the world that surrounds us. -Valuing scientific work in order to solve mysteries. -Recognizing that scientific ideas change throughout the time.
ASSESSMENT	<ul style="list-style-type: none"> -Written tests. -Presentation about solar system. -Homework (charts, drawings, schemes...).
FURTHER INFORMATION	<p>Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/2universe/guiauniverse.html</p>

SCIENCE: UNIT 3 PLAN

TITLE	THE ATMOSPHERE
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Students Activity Book (ten pages). -Schemes on the blackboard. -Presentations with the computer. -Internet (pictures, interactive exercises...). -Lab experiment about salty water melting point. -Weather station. -Balloon. -Interpretation of weather maps and other graphics. -Educational films.
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides, M ^a Carmen Chilla.
AIMS	
English	<ul style="list-style-type: none"> -Describe what the weather is like looking at different pictures and talking about temperature (freezing, cold, cool, mild, temperate, warm, hot), precipitation (rain, heavy rain, showers, hail, snow), wind (calm, breeze, moderate wind, strong wind, hurricane, tornado) and state of the sky (sunny, sunshine, cloudy, clear sky, overcast). -Looking at a weather map explain the weather forecast for different parts of the map (North, South, West, East, Northern, Southern, Western, Eastern...). -Learning specific terminology: atmosphere, air, oxygen, breathe, layer, warming, greenhouse, fog, lightning, thunder, rainbow, atmospheric pressure, humidity, precipitations, forecast, pollution, climate change, hole in the ozone layer.
Content	<ul style="list-style-type: none"> -Enumerate the main components in the atmosphere and explain the origin of oxygen. -Point the changes of density, atmospheric pressure and temperature from the bottom of the atmosphere to the top. -Give reasons why the atmosphere is so important for living beings. -List elements used to describe weather. -Relate pressure changes to state of the sky and precipitations. -Handle properly the instruments inside our weather station. -Get data from the weather tables and draw the corresponding graphics. -“Read” a simple weather map. -Explain negative consequences from atmospheric pollution. -Propose solutions for atmospheric pollution.
ACTIVITIES/ TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Making graphics. -Interpreting graphics and answering questionnaires. -Describing different kinds of weather watched on photographs. -Handling weather instruments. -Interpreting weather maps. -Completing comparative charts. -Working on the Internet. -Investigation about melting point of pure water and salty water.

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	-Free dialogue in class.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -Composition of the atmosphere. -The layers in the atmosphere. -Elements of the weather. -The weather maps. -Atmospheric pollution and its effects.
Procedures	-Extract information from tables, schemes, graphics and maps.-
Attitudes	<ul style="list-style-type: none"> -Value our planet and its rare balance in atmospheric gases. -Interest to know and to understand the changing weather. -Recognise the impact on the atmosphere in our lifestyle. -Develop personal behaviours to reduce atmospheric pollution.
ASSESSMENT	<ul style="list-style-type: none"> -Written tests. -Homework.
FURTHER INFORMATION	Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/3atmosphere/guiaatmosphere.html

SCIENCE: UNIT 4 PLAN

TITLE	THE HYDROSPHERE
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Activity Book (charts, questions, exercises...) -Schemes on the blackboard (water cycles). -Labels of mineral water. -Presentations with the computer. -Internet (pictures, interactive exercises...). -The river of Ubrique and the spring of “Nueve Caños”. -Experimental model of underground water and model of water purification -Interpretation of graphics and tables. -Educational films. -Text containing conflicts related to water.
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides and M ^a Carmen Chilla Castro.
AIMS	
English	<ul style="list-style-type: none"> -Point out the names of different courses and masses of water in a picture. -Write a composition with this title <i>Saving water</i>. - Learning specific terminology: pure water, salty water, fresh water, sea, ocean, river, stream, lake, reservoir, glacier, underground water, water cycle, well, waves, tides, currents, saving water, pollution, pollutant, waste, oil spill, drought.
Content	<ul style="list-style-type: none"> -Explain the meaning of hydrosphere and draw a scheme with the different places with water in nature. -Explain why there are so much water on Earth and so many people lack of it. -Compare the amount of dissolved salts in pure water, tap water and sea water. -Explain why ice floats on liquid water. -Draw a picture showing water cycle. -Point the causes of waves, tides and currents. -List public works in order to provide water for human requeriments. -Write a composition about actions and behaviours to save water. -List the main water pollutants and their origin. -Explain the consequences of an oil spill. -Propose solutions for water pollution.
ACTIVITIES/ TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Making and interpreting graphics, answering questionnaires and completing charts. -Making a presentation about water cycle using OpenOffice Impress. -Studying river of Ubrique and springs near the School. -Studying the chemical composition of mineral water. -Lab experiments. -Designing model of underground water and purification station. -Look into the Ryan’s well and ask some questions. -Looking for solutions for conflicts related to water. -Making a poster about Let’s save water.

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	<ul style="list-style-type: none"> -Working on the Internet. -Discussion about pollution.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -Concept of hydrosphere. -Water and living beings. -The water cycle. -Continental water. -Marine water. -Saving water. -Water pollution.
Procedures	<ul style="list-style-type: none"> -Extract information from tables, schemes, graphics and maps. -Design experimental devices. -Use OpenOffice Impress. -Discussion in small groups and then put the ideas in common.
Attitudes	<ul style="list-style-type: none"> -Value the importance of water. -Interest to know where we take water from. -Recognise the impact on water of humankind. -Develop personal behaviours to save water and to reduce water pollution.
ASSESSMENT	<ul style="list-style-type: none"> -Written tests. -Presentation about water cycle. -Advertising poster about saving water. -Activity book and homework. -Work in small groups.
FURTHER INFORMATION	<p>Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/4hydrosphere/guiahydrosphere.html</p>

SCIENCE: UNIT 5 PLAN

TITLE	THE SOLID EARTH
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Activity Book. -Schemes on the blackboard (rocks origin). -Activities using internet, specially in this subject website http://www.ieslosremedios.org/~pablo/webpablo/web1eso/5solidearth/guiasolidearth.html -Collection of different types of sand. -Stereomicroscope. -Collection of minerals and rocks at the laboratory. -Dichotomic key. -Decorative rocks at the streets near to the school. -Presentations about landscapes. -Landscapes around Ubrique. -Rock collection made by the students. -Educational films.
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides y M ^a Carmen Chilla Castro
AIMS	
English	<ul style="list-style-type: none"> -Describing rocks and mineral in English (colour, shape, shining, hardness...) -Describing landscapes in English (relief, vegetation, courses and masses of water, artificial elements). -Learning to express the location of an object using at the top, at the bottom, on the left, on the right, in the middle, above, below, in the foreground, in the background -Learning specific terminology: key, features, rocks, minerals, shiny, dull, shape, hard, soft, density, relief, plain, mountain, valley, slope, flat, wood, tree, bush, grass, meadow.
Content	<ul style="list-style-type: none"> -Handling properly a stereomicroscope and noting down your observations. -Use correctly a dichotomic key. -Describing the features of any rocks. -Distinguish rocks from minerals. -After looking some rocks, pupils have to explain if they are sedimentary, metamorphic, volcanic or plutonic. -Compare plutonic rocks and volcanic rocks. -Explain the processes which give rise to the metamorphic rocks. -Relate different landscapes to different rocks. Explain how they have influenced on relief and vegetation. -Describe the landscape around Ubrique. -List useful properties in order to identify minerals. -Describe a mineral attending to its properties. -Explain how to get the hardness and the density of a mineral. -Discover why rocks and minerals are so important and to value them as non-renewable resources.

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ACTIVITIES/ TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Looking at sands using a stereomicroscope. -Using dichotomic keys. -Studying decorative rocks in the streets. -Making graphics about the origins of the different types of rocks. -Completing a comparative chart about rocks. -Identifying rocks in a virtual laboratory. -Making a rock collection and making sheet for each one. -Answering questionnaires. -Playing a quiz about rocks (true or false). -Describing pictures of landscapes. -Drawing landscapes around Ubrique. -Completing a comparative chart about Ubrique's landscapes. -Working as a scientist from the Natural History Museum (in the Internet). -Looking at some minerals and noting down their characteristics in a chart.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -Rocks: types and origin. -Rocks and landscapes -Minerals: concept and properties. -The use of rocks and minerals.
Procedures	<ul style="list-style-type: none"> -Observing natural objects, drawing and noting down carefully in a notebook. -Extract information from charts and graphics. -Use simple dichotomic keys. -Get hardness and density of a mineral.
Attitudes	<ul style="list-style-type: none"> -Value objectivity and accuracy. -Be interested to understand the world around us. -Be interested on the origin of different materials we have in our houses. -Recognise the importance of saving non-renewable materials.
ASSESSMENT	<ul style="list-style-type: none"> -Written tests. -Activity Book. -Rock collection.
FURTHER INFORMATION	Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/5solidearth/guiasolidearth.html

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TITLE	THE DIVERSITY OF LIFE
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Activity book. -Internet (website of this subject). -Microscopes to observe cells. -Water from ponds. -Comic about bacteria. -Educational films about protozoa. -Stereomicroscope to observe moulds, mosses, ferns and flowers. -Leaves and flowers collection. -Pinsapar of Grazalema/Bothanical garden
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides and M ^a Carmen Chilla Castro
AIMS	
English	<ul style="list-style-type: none"> -Use the verbs belong and include to express the group a species belong to. Answer the question “Which one is the odd one out?” -Compare living beings using similar to, different from, to have something in common... -Answer questions about the function of a plant organs. For instance, what is the flower for? It’s for reproduction. -Use these words properly: autotrophic, bush, cell, classify, eucaryotic, feed, female, fern, fertilization, flowering plant, fruit, fungus, fungi, grass, heterotrophic, kingdom, leaf, leaves, living beings, male, moss, mould, microscope, mushroom, photosynthesis, pluricellular, pollination, procaryotic, root, seed, species, stamen, stem, tiny, unicellular.
Content	<ul style="list-style-type: none"> -Compare autotrophic and heterotrophic beings. -Explain the meaning of the following words: unicellular, pluricellular, eucaryotic, procaryotic, tissue, bacteria, protozoo, mushroom, autóctono, endemismo. -Recognise the parts of a microscope. -Handle a microscope. -Calculate how much does your mycroscope increase an object. -Write down and draw carefully what you see using a microscope. -List the five kingdoms and their characteristic. -List the classification categories from species to kingdom. -Explain what a species is and how they are named scientifically. -Explain the origin of pinsapo. -Talk about benefits and damages caused by bacteria. -Explain the three main types of fungi. -Explain how a fungus feed. -List the four groups inside the plant kingdom and explaing the differences among them.

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	<ul style="list-style-type: none"> -Explain what photosynthesis is. -Recognise the main trees and bushes in our region. -Recognise the parts of a flower. -Explain how pollination, fertilization and dispersal take place.
ACTIVITIES/ TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Reading, questions and exercises from the Activity Book. -Learning to use the microscope. -Looking at cells (protozoo, algae and onion) using the microscope. -Looking for scientific names on the Internet. -Working as a scientist from the Natural History Museum in the Mission Explore website. -Dicussing about bacteria: useful, useless or harmful? -Looking at moulds, mosses, ferns and flowers using the stereomicroscope. -Completing comparative table. -Visiting the Pinsapar to learn about the main plants in our area and to learn the origin of Abies pinsapo. -Looking into some flowers in the laboratory. -Making a leaves collection.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -Basic concepts. -The microscope. -The five kingdoms. -Classification into smaller groups. -The plant kingdom. -Nutrition in plants. -Plant reproduction.
Procedures	<ul style="list-style-type: none"> -Handle microscopes and stereomicroscopes. -Looking into tiny objects and write down your observations. -Extract information from charts and graphics. -Compare different living beings.
Attitudes	<ul style="list-style-type: none"> -Value objectivity and accuracy. -Be interested to understand the microscopic world. -Recognise the importance of tiny living beings. -Demonstrate respect for any living being. -Enjoy the beautiness of plants.
ASSESMENT	<ul style="list-style-type: none"> -Activity book including lab-sheets. -Field notebook with information from El Pinsapar. -Written tests. -Leaves collection. -Homework.
FURTHER INFORMATION	<p>Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/6diversity/guiadiversity.html</p>

SCIENCE: UNIT 7 PLAN

TITLE	THE DIVERSITY OF LIFE
GROUP	1° ESO
RESOURCES AND MATERIALS	<ul style="list-style-type: none"> -Activity Book (information and activities). -Website of this subject and other sites from Internet. -Educational films. -Silkworms. -Collection of shells and dichotomic key. -Rest of food from a barn owl. -Fishes. -Quiz about animals. -Mission Explore (game from the British Natural History Museum). -Guessing animals. The mysterious animal game.
TEACHERS	
Content teacher	Pablo Acosta Robles
English teacher	Josefina Herrera Cides and M ^a Carmen Chilla Castro
AIMS	
English	<ul style="list-style-type: none"> -Using the verb “belong to” to relate animals and their groups. -Answer this question “Which is the odd one out?”. -Learning the names of common animals. -Learning to describe animals -Find out the name of an animal after listening to its description. -Ask questions about the appearance of an animal? -Using the verb “be for” and answer the question “What is it for?”. -Comparing animals using these words: similarities, similar to, have in common, differences, different from. -Using this words: amphibian, aquatic, arthropod, backbone, beak, bone, breathe, bugs, endangered, environment, feather, fin, gills, legs, insect, invertebrate, lay eggs, lung, mammal, mollusc, oviparous, reptile, scale, skeleton, skin, shell, species, threaten, vertebrate, viviparous, wing.
Content	<ul style="list-style-type: none"> -Say the group a given animal belongs to. -Compare vertebrates and invertebrates. -Compare the different groups of arthropods. -Compare the different groups of molluscs. -Compare the different groups of vertebrates. -Use a dichotomic key. -Observe an animal, draw and describe it. -Observe the vital cycle of an animal (silkworm and frog). -Relate respiratory system to the place where the animals live in. -Compare land animal reproduction and aquatic animal reproduction. -Value every living beings, especially endangered species.
ACTIVITIES/	<ul style="list-style-type: none"> -Complete a comparative table about the different types of animals.

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TEACHING TECHNIQUES	<ul style="list-style-type: none"> -Studying a collection of pictures about animals and setting the groups they belong to. -Making an animal card. -Listening to the description of a mysterious animal and making a picture of it. -Guessing animals. -Working as a zoologist from the British Natural History Museum (Mission Explore game). -Learnig English vocabulary about animals using the website of this subject. -Surfing a website about arthropods. -Homework: follow the vital cycle of a silkworm until it becomes a butterfly. -Laboratory work: identifying molluscs using a dichotomic key. -Laboratory work: dissection of “egagrópilas”. -Laboratory work: dissection of a fish. -Field work: urban birds. -Contest: questions and answers about animals.
CONTENTS	
Concepts	<ul style="list-style-type: none"> -Introduction. -Invertebrates. -Vertebrates. -Describing animals in English. -Endangered species.
Procedures	<ul style="list-style-type: none"> -Summarise information in a table. -Make an animal card. -Be careful and tidy in the lab. -Pay attention during a dissection and to take notes carefully.
Attitudes	<ul style="list-style-type: none"> -Value observation of nature. -Be interested to understand the animal world. -Recognise the importance of animals, specially endangered animals. -Respect any animals.
ASSESMENT	<ul style="list-style-type: none"> -Written tests. -Lab-sheets. -Animals card. -Homework. -Work about silkworm. -Work about rest of food from a barn owl.
FURTHER INFORMATION	<p>Visit http://www.ieslosremedios.org/~pablo/webpablo/web1eso/7animals/guiaanimals.html</p>