

COURSE PLANS

UNIT 8.

1. BASIS

Through the activities studied in this unit, pupils will acquire the following knowledge: energy and the forms in which it is found; sources of renewable and non-renewable energy; the need for energy, the problems of energy consumption and some tips for energy conservation; some domestic ways of harnessing the sun's energy; some experiments using heat, light and electricity.

May

2. METHODOLOGY

As pupils work their way through the unit, they will be able to define energy and know some of the forms in which it is found; differentiate sources of renewable and non-renewable energy; acquire a basic idea of the energy needs that exist and develop guidelines for saving energy; experiment with heat, light and strength. They will apply their skills in the two projects: ways of saving energy and investigating energy facts.

CONTENTS	EVALUATION CRITERIA	LEARNING STANDARDS
<ul style="list-style-type: none"> • Energy. • The forms energy can take. • Sources of energy. • Sources of renewable and non-renewable energy. • Use of energy sources in human activities. • Problems arising from the use of non-renewable energy sources. • Strategies and basic guidelines to reduce energy consumption. 	<p>1. Acquire a basic understanding of energy and know the ways in which sources of energy are found.</p>	<p>1.1. Define energy and identify and name the ways that energy is manifested in nature and in phenomena in the immediate environment.</p> <p>1.2. Define source of energy, identify and name different sources, and distinguish renewable from non-renewable sources.</p>
<ul style="list-style-type: none"> • Harnessing energy from the sun. Carrying out experiments. • Some energy transformations. Appliances that can transform energy. • Carry out experiments in which energy causes changes. • Carry out experiments with heat and light. • Be aware of the impact of human activities on nature, arising from the use of energy sources. 	<p>2. Identify, name and describe human activities in which sources and forms of energy are used, and know the consequences of high energy consumption and some guidelines to reduce it.</p>	<p>2.1. Name various human activities in which different sources of energy are used and describe some of the consequences of high energy consumption.</p> <p>2.2. Describe some basic strategies that can be carried out in the home environment and broader surroundings aimed at decreasing energy consumption.</p>
	<p>3. Describe simple processes in which energy transformations occur and know some appliances and devices that perform these transformations.</p>	<p>3.1. Identify, name and describe in a simple way some energy transformations and the appliances and devices where they occur.</p>
	<p>4. Develop habits of observation and search for causes to explain natural phenomena.</p>	<p>4.1. Show interest, observe and persevere in the search for causes to explain natural phenomena and experiments in the classroom or laboratory.</p>

	5. Acquire awareness of environmental impact, from the high energy consumption of human activities, to developing an attitude and lifestyles that is more respectful of nature.	5.1. Appreciate and offer a reasoned critique of the impact of the high consumption of non-renewable sources. 5.2. Propose alternatives to current ways of producing and using energy.
	6. Understand information, acquire vocabulary about energy, express knowledge and opinions both orally and in writing and show interest in reading.	6.1. Understand information, acquire vocabulary about energy, express knowledge and opinions both orally and in writing and show interest in reading.
	7. Think of ways to save energy in the home.	7.1. Make a poster to illustrate ways of saving energy in the home.
	8. Know about and use ICT in a responsible way and use strategies to process information and apply it to different contexts, actively participating in their own learning process.	8.1. Obtain and organise information, working with the unit structure, and using digital resources with interest and responsibility. 8.2 Use the internet to find out facts about energy and create a fact file.
	9. Show initiative and perseverance when tackling problems and defending opinions, developing attitudes of respect and collaboration when working in a group.	9.1. Show an entrepreneurial spirit, accept mistakes when doing self-evaluation, persevere in reinforcement tasks and actively participate in cooperative learning exercises.

3. COMPETENCIES

COMPETENCIES	CONTENTS AND ACTIVITIES BY COMPETENCY
Linguistic competency.	<p>Understanding the meaning of written texts.</p> <p>Correctly explaining the meaning of the phrase "We are consuming these energy sources very quickly."</p> <p>Reading the initial reading and the recommended texts in the reading plan</p>
Mathematical competency and basic competencies in Science and Technology.	<p>Being aware of the changes produced by man in the natural environment and the implications for future life.</p> <p>Being aware of the problems of high energy consumption and applying some energy conservation measures.</p>
Digital competency.	<p>Using different sources to look for information.</p> <p>Searching the web for information on energy to create a fact file.</p>
Learning to learn.	<p>Developing strategies that encourage the rigorous understanding of content.</p> <p>Creating a poster with ideas on how to save energy in the home.</p> <p><i>Multiple Intelligences:</i> Making a kite, promoting development, particularly, of their visual-spatial intelligence.</p>
Social and Civic competencies.	<p>Designing a scale of values for themselves and acting in accordance with it.</p> <p>Being aware of the problems of high energy consumption and applying some energy conservation measures.</p> <p><i>Values:</i> Learning to behave correctly according to different values.</p> <p>Showing respect to classmates when giving an opinion and working in a team</p>
Sense of initiative and entrepreneurial spirit.	<p>Finding possibilities in the immediate surroundings that others do not appreciate.</p> <p>Proposing new strategies to reduce energy consumption at school.</p>
Cultural awareness and expression	<p>Expressing feelings and emotions from artistic codes.</p> <p>Making a poster with measures to conserve energy in the home.</p>