

## COURSE PLANS

### UNIT 7.

#### 1. BASIS

This unit deals with matter and materials and covers the following areas: matter, its general properties and some specific properties; differences between pure substances and mixtures; the characteristics of the three states of matter; some of the changes of state of matter, physical (changes in its state of aggregation) and chemical (combustion); some uses of natural and man-made materials in relation to their specific properties. The projects involve looking for materials in the home and telling the story of a material including its origin and how it is made.

April

#### 2. METHODOLOGY

As they work through this unit, pupils will acquire a basic idea of what matter is and its properties, learn about some units, basic tools and procedures for measuring the general properties of matter. They will be able to differentiate between pure substances and mixtures; identify the states of matter and recognise the changes that occur in matter such as changes of state or combustion. They will be able to differentiate between natural and man-made materials and know and use mathematical elements and strategies and ICT to measure mass and volume. They will understand information and acquire vocabulary about matter to express their knowledge both orally and in writing and to interpret information.

CONTENTS	EVALUATION CRITERIA	LEARNING STANDARDS
<ul style="list-style-type: none"> <li>• Matter, its general and specific properties: mass and volume.</li> <li>• How to measure mass and volume; instruments, units and procedures.</li> <li>• Some specific properties of matter.</li> <li>• Carry out experiments to measure mass and volume.</li> <li>• Basic ideas of pure substance and mixture. Some pure substances and mixtures from the immediate environment.</li> <li>• The states of matter. Basic characteristics of each state.</li> <li>• Carry out experiments to check the behaviour of matter depending on its state.</li> <li>• Changes of state.</li> <li>• Combustion. Elements involved and elements that are produced.</li> <li>• Carry out experiments on changes of state and combustion.</li> <li>• Natural materials and their uses. Properties of natural materials which are used in human activities.</li> <li>• Common man-made materials and their use in human activities. Properties of the materials for which they are used.</li> <li>• Looking for materials in the</li> </ul>	<p>1. Acquire a basic idea of what matter is and its properties, and learn about some units, basic instruments and procedures for measuring the mass and volume of an object.</p>	<p>1.1. Define matter, mass and volume, identify and name instruments and basic units to measure mass and volume and describe methods of measurement.</p> <p>1.2. Name the colour, texture, elasticity and other simple differentiating specific properties of substances and materials.</p>
	<p>2. Acquire basic ideas of pure substances and mixtures, and name and identify pure substances and mixtures in the immediate environment.</p>	<p>2.1. Define pure substances and mixtures and identify pure substances and mixtures in the immediate environment.</p>
	<p>3. Know the basic properties of each of the states of matter and identify and describe changes of state that occur in nature and in the immediate surroundings.</p>	<p>3.1. Name the states of matter and identify the state of objects and substances from their immediate environment.</p> <p>3.2. Identify, name and describe changes of state and find the causes that produce them.</p>
	<p>4. Know the elements and the process of combustion and distinguish these changes from physical changes.</p>	<p>4.1. Define combustion and name the elements involved and those produced. Identify and name common fuels.</p>

<p>home and presenting the information in a chart.</p> <ul style="list-style-type: none"> <li>• Finding out the story of a material.</li> <li>• Attitude of respect for nature and incorporation of active methods to carry it out.</li> <li>• Positive attitude towards observing physical phenomena and generating hypotheses that explain them.</li> </ul>	<p>5. Acquire a basic understanding of material, learn about natural and man-made materials.</p>	<p>5.1. Define material, identify and name natural and man-made materials and describe their use in human activities.</p> <p>5.2. Do a project on materials in the home and present the information in a chart.</p> <p>5.3. Find out the story of a material and prepare a poster with the information.</p>
	<p>6. Carry out experiments that enable them to observe, identify cause and effect, and generate hypotheses.</p>	<p>6.1. Pay attention and show curiosity in carrying out experiments. Submit hypotheses to explain the changes that are being observed.</p>
	<p>7. Understand information, acquire vocabulary about matter, express knowledge and opinions both orally and in writing and show interest in reading texts about matter.</p>	<p>7.1. Understand information, acquire vocabulary about matter, express knowledge and opinions both orally and in writing and show interest in reading texts about matter.</p>
	<p>8. Know and use mathematical elements and strategies to measure mass and volume.</p>	<p>8.1. Know and use mathematical elements, operations and strategies to measure mass and volume.</p>
	<p>9. 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.</p>	<p>9.1. Obtain and organise information, working with the unit structure, and using digital resources with interest and responsibility.</p>

	10. Show initiative and perseverance when tackling problems and defending opinions, developing attitudes of respect and collaboration when working in a group.	10.1. Show an entrepreneurial spirit, accept mistakes when doing self-evaluation, persevere in reinforcement tasks and actively participate in cooperative learning exercises.
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### 3. COMPETENCIES

COMPETENCIES	CONTENTS AND ACTIVITIES BY COMPETENCY
Linguistic competency.	Using knowledge of language structure, spelling and grammar rules to produce written texts. Applying spelling and grammar rules when writing a text describing the work of miners of the past. Reading the initial reading and the recommended texts in the reading plan.
Mathematical competency and basic competencies in Science and Technology.	Learning how to measure mass and volume. Presenting information in different formats.
Digital competency.	Using digital tools to build knowledge. Using the Internet to research new materials.
Learning to learn.	Generating strategies for learning in different learning contexts. Finding out about different materials in the home and the origin and lifecycle of a material. <i>Multiple Intelligences:</i> Developing the different multiple intelligences. Finding out about a material including its origin, how it is made and whether it can be recycled, encouraging, particularly, the development of natural and scientific intelligence
Social and Civic competencies.	Knowing about and applying the rights and duties of citizen coexistence to the context of school. Depositing waste generated at school in the appropriate places. <i>Values:</i> Learning to behave correctly according to different values. Being aware of the importance of recycling
Sense of initiative and entrepreneurial spirit.	Showing personal initiative to initiate or promote new action. Proposing measures to reuse the paper used in the context of school.
Cultural awareness and expression	Expressing feelings and emotions from artistic codes. Producing a poster about the story of a material.