COURSE PLANS

UNIT 5

1. BASIS

In this unit we continue studying the interaction function in human beings. We will cover the structure and functions of the human nervous system, learning how the central nervous system and peripheral nervous system work with different organs: the brain (brain, cerebellum and brain stem), the spinal cord and the peripheral nervous system. Pupils will learn about the structure and composition of the central nervous system and peripheral nervous system, the skeleton (bones and joints), the composition of the muscles and types of muscles and the relationship between the interaction function and health. We will also look at reaction time, the importance of x-rays and the importance of some researchers in understanding the interaction function.

February 

2. METHODOLOGY

As pupils study this unit they will be able to recognise the organs that make up the central nervous system and peripheral nervous system, and know what they do; identify some of the bones and joints that make up the skeleton; differentiate types of muscles and describe how movement occurs. They will find out about some alterations of the nervous system and skeletal muscles and their causes and acquire basic precautions to look after these parts of the body parts. They will also use basic competencies to understand information and develop social and thinking skills.

CONTENTS	EVALUATION CRITERIA	LEARNING STANDARDS
• Functions of the nervous system. • The central nervous system. Organs involved and tasks performed. • The peripheral nervous system. Sensory nerves and motor nerves. • Composition of the skeleton. Bone types and types of joints. • Identification and classification of bones and joints with photos and drawings. • Composition of the muscles. Types of muscles. • Identification and classification of muscles through photos and drawings. • Description of movement indicating the participation of the different elements involved. • Health and the nervous system. • Frequent muscle and bone injuries due to injury and poor posture. • Health and hygiene of the locomotor system. • Carry out experiments to measure reaction or response time.	1. Learning about the structure and composition of the central nervous system, its organs and the functions they perform.	1.1. Define *nervous system.* Identify and name the organs of the central nervous system and describe the functions they perform. 1.2. Define peripheral nervous system. Define motor nerves and sensory nerves and describe their functions. Describe the different ways signals are carried through the nervous system.
	2. Identify and name bones and joints that form the skeleton.	2.1. Define skeleton, describing the composition of the bones and types of bone. 2.2. Identify, locate and name bones. Identify, name and locate different types of joints according to their mobility.
	3. Identify and name the muscles that make up the muscle system and describe how movements are produced.	3.1. Define the muscle system. Identify, locate and name muscles. 3.2. Differentiate between locomotor muscles and muscles not attached to bones and describe how movements are performed.
	4. Describe various nervous system disorders, bone, muscle and joint injuries, identifying their causes and developing guidelines and strategies to maintain hygiene and health of the nervous system and the locomotor system.	4.1. Name and define different nervous system disorders, injuries to the muscles and skeleton, and describe the root causes and patterns of hygiene and prevention to maintain the health of the nervous system and the locomotor system.

• X-rays and their importance in the diagnosis of injury. • Biography of Ramón y Cajal. Appreciating people who, through their scientific discoveries, have contributed to the progress of humanity. • Understand information, learn vocabulary, use language as a tool for communication and maintain a positive attitude towards reading. • Knowledge of and use of mathematical operations and mathematical strategies to resolve problems. • Understand social reality and be responsible citizens, showing respect and solidarity to nature. • Knowledge and responsible use of ICT to investigate ecosystems. • Use strategies to process information and apply it to different contexts. • Initiative and perseverance in tackling problems and defending opinions, developing attitudes of respect and collaboration when working together.	5. Carry out experiments of perception and measurement of reaction or response times.	5.1. Know what *reaction time* is. Apply mathematical strategies to find out reaction time or response time in simple experiments.
	6. Know and appreciate the advances in medicine and the importance of people whose efforts have made scientific discoveries and contributed to the progress of humanity.	6.1. Describe the importance of some advances in the diagnosis and treatment of injuries of the locomotor system, and learn about and appreciate the work of some researchers on the interaction function.
	7. Understand information, acquire vocabulary about the nervous system, express knowledge and opinions both orally and in writing and show interest in reading texts about the interaction function in humans.	7.1. Understand information, acquire vocabulary about the nervous system and locomotor system, express knowledge and opinions both orally and in writing and show interest in reading texts about the interaction function in humans.
	8. Learn about and apply mathematical elements, operations and strategies to solve problems about the number of bones that make up the hand.	8.1. Learn about and apply mathematical elements, operations and strategies to solve problems about the number of bones that make up the hands.
	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.	9.1. Obtain and organise information, working with the unit structure, and using digital resources with interest and responsibility.
	10. Show initiative and perseverance in tackling problems and defending opinions, developing attitudes of respect and collaboration when working together in a group.	10.1. Show initiative, accepts mistakes when doing self-evaluation, perseveres in reinforcement tasks and actively participates in cooperative learning exercises.

3. COMPETENCIES

COMPETENCIES	CONTENTS AND ACTIVITIES BY COMPETENCY
Linguistic competency.	Using elements of non-verbal communication, or in different registers, in different communicative situations. Recognising how a person feels or what he or she perceives through mime and facial expressions. Reading the initial reading and the recommended texts in the reading plan.
Mathematical competency and basic competencies in Science and Technology.	Recognising the importance of science in our daily lives. Appreciating the contribution to our health that the discoveries of Santiago Ramón y Cajal have had. Developing and promoting a healthy lifestyle in terms of food and exercise. Maintaining correct posture when sitting in the classroom.
Digital competency.	Developing and publishing information about themselves derived from information obtained through technological means. Creating a mural showing frequent accidents and injuries in the field of sport, and protective measures to avoid them.
Learning to learn.	Showing awareness of the learning process. Applying some tips on caring for the nervous system and the locomotor system. *Multiple Intelligences*: Using your own body to locate bones and muscles, thus developing, in particular, bodily-kinaesthetic intelligence.
Social and Civic competencies.	Engaging in or promoting actions with a social purpose. Locating physical obstacles in the environment that may involve architectural barriers for people with reduced mobility and proposing corrective measures. *Values:* Respecting and empathising with people with reduced mobility.
Sense of initiative and entrepreneurial spirit.	Prioritising the achievement of group goals over personal interests. Creating a bar chart showing the results obtained by classmates when carrying out the experiment to measure reaction time.
Cultural awareness and expression	Showing respect for the most important works of cultural heritage worldwide. Appreciating the contribution to the cultural heritage of artists such as Salvador Dali and Giuseppe Arcimboldo.