

France Eduational Curriculum Alignment

The presentations offered by The Educated Choices Program provide support for teaching and learning of the following standards:

History, High School		Environment and Modern Agriculture	Healthful Eating
The Mediterranean world: Traces of Antiquity and the Middle Ages (10-12 hours)	Chapter 1 The ancient Mediterranean Greek and Roman traces Objectives of the chapter This chapter aims to recall that Mediterranean Antiquity is the crucible of Europe. For this we can distinguish times, figures and political constructions that served as a reference in subsequent periods; show how Athens combines democratic regime and the establishment of a maritime empire; show how Rome develops a huge territorial empire with a mix of different cultural heritages and Mediterranean religions. Waypoints and opening Pericles and Athenian Democracy. The Principality of Augustus and the Birth of the Roman Empire. Constantine, emperor of an empire that became Christianized and territorially reorganized.		



	The medieval Mediterranean is a space of exchanges and conflicts at the crossroads of three civilizations Objectives of the chapter to show how civilizations come into contact to show how civilizations built relationships to show how civilizations experienced conflict in a space marked by Jewish, Christian and Muslim monotheism. We can highlight the emergence of large groups of civilizations contacts and clashes between Christianity and Islam the religious and political heterogeneity between Rome and Byzantium and within the Muslim world; the persistence of the circulation of goods, people and ideas in this Mediterranean area linked to Northern Europe, Asia and Africa. Waypoints and Opening Bernard of Clairvaux and the Second Crusade Venice, great maritime and commercial power.	
Theme 2 15th-16th centuries: a new relationship to the world, a time of change intellectual (11-12 hours)	Chapter 1 The Atlantic opening and the consequences of the discovery of "New world" Objectives of the chapter This chapter aims to show the shift in the exchanges of the Mediterranean towards the Atlantic after 1453 and 1492, as well as the beginning of a form of globalization. We can highlight the following consequences in Europe and in the conquered territories:	



- the constitution of colonial empires (conquistadors, merchants, missionaries...);
- economic circulation between the Americas, Africa, Asia and Europe;
- slavery before and after the conquest of the Americas;
- The progress of knowledge of the world
- The future of the populations of the Americas (conquest and clashes, evolution of Amerindian settlement, European settlement, interbreeding, microbial shock).
- Waypoints and Opening
- Gold and silver, from the Americas to Europe.
- Bartolomé de Las Casas and the Valladolid controversy.
- The development of the "sugar" economy and slavery in the Portuguese islands and in Brazil

Chapter 2

Renaissance, Humanism and religious reforms

• the mutations of Europe

Objectives of the chapter

• This chapter aims to show how the intellectual and artistic effervescence of the time leads to the desire to break with the "Middle Ages" and to return to Antiquity.

We can highlight

- The printing press and the consequences of its diffusion
- The new relationship to traditional texts
- A renewed vision of man which translates into letters, arts and sciences;



	 he Protestant and Catholic reforms that are part of this context. Waypoints and opening 1508 – Michelangelo undertakes the realization of the fresco of the Sixtine Chapel. Erasmus, prince of the humanists. 1517 – Luther opens the time of reforms. 	
Theme 3 The State in the Modern Era: France and England (11-12 hours)	Chapter 1 The Affirmation of the State in the Kingdom of France Objectives of the chapter • This chapter aims to show • the affirmation of the French state and its multiple dimensions • the characterization of the French monarchy We can highlight • the role of war in asserting monarchical power • the extension of the territory subject to royal authority • monarchical power and religious conflicts • the development of the royal administration, tax collection and control of economic life • the will of the royal power to submit the nobility • the limits of royal authority Waypoints and opening • 1539 • the ordinance of Villers-Cotterêts • the construction of the French administration. • Colbert developed a maritime and mercantilist policy, and founded	



the India and Levant companies.

- Versailles, the "Sun King" and court society.
- The Edict of Nantes and its revocation.

Chapter 2

The British model and its influence

- Objectives of the chapter aim to
 - show how the outline of a representative government as well as the definition of major principles and fundamental rights inspired philosophers during the 18th century, and resulted in the founding of a new political regime endowed with a constitution written with the birth of the United States of America.
- We can highlight:
 - English political and social development at the end of the 17th century
 - the affirmation of the rights of Parliament against the English crown, around the revolution of 1688
 - the influence of the British regime on philosophers of the Lights
 - the reversal of English values against their metropolis by American settlers
 - The drafting of a constitution and its challenges
 - The limits of the application of democratic principles (slaves, Native Americans...)
 - The influence of the French intervention on the minds and the finance situation of the kingdom of France.

Waypoints and Opening

• 1679 and 1689 – Habeas Corpus and the Bill of Rights, the refusal of



	royal arbitrariness. Voltaire, England and the publication of the Philosophical Letters or English Letters: 1726 -1733. Washington, first President of the United States of America.	
Theme 4 Dynamics and Breaks in 17th and 18th Century Societies (11-12 hours)	Chapter 1 The Enlightenment and the Development of Science Objectives of the chapter This chapter aims to show the crucial role of the scientific spirit in 17th and 18th century Europe We can highlight the rise of the scientific spirit in the 17th century its dissemination the extension of its fields of application in the 18th century (for example by L'Encyclopédie) the role of physiocrats in France the development and application of new techniques at the origins of "industrial Revolution" the role of women in scientific and cultural life. Waypoints and opening Galileo, a symbol of the scientific breakthrough of the 17th century century 1712 – Thomas Newcomen develops a steam engine to pump water in the mines. Émilie du Châtelet, woman of science.	



Chapter 2	
Tensions, mutations and tensions in the society of orders	
Objectives of the chapter	

Human biology and courses, High School	pathophysiology program - tech path, specialist	Environment and Modern Agriculture	Healthful Eating	
Organizing and Integrated Functioning of the Human Being	Concepts and content Required capacities Technological activities supporting training		/	



- From device to molecule
- Organization levels
- Cuts and orientation in space
- Cavities and organs
- Fabrics cells
- Ultrastructures
- Molecules

Characterize and identify the different levels of organization

- Apparatus or system
- Organ
- Tissue
- Cell
- Ultrastructure cell
- Molecule.

Orient X-rays or anatomical diagrams.

- Differentiate between sagittal, frontal and transverse sections
- Study of medical imaging images
- Locate the organs of the cranial and spinal cavities, thoracic, abdominal and pelvic

Organ or animal dissection in the context of current regulations

- Handling a flayed skin or anatomical models
- Compare epithelial tissue and connective tissue
- Relate the structural characteristics of a tissue to its function
- Microscopic observations of histological sections.

Identify the structural and functional diversity of cells

- Microscopic observations of cells
- Identify the different cellular ultrastructures and cite their main role
- Use of 3D modeling software
- Identify the molecules involved in the organization of cellular ultrastructures



	 Exploration techniques Medical imaging Microscopy Analysis biochemical Link exploration techniques to the level of organization studied Interdependence of systems or devices Identify the exchanges of material and information within the body between different systems Roots: cyt(o), hist(o). 	
Musculoskeletal and Motor Skills	Concepts and content Required skills Technological activities supporting training Anatomy and physiology of the musculoskeletal system Organization of the skeleton Organization of systems central nervous peripheral Organization of the nerve Structure of the neuron Flow of nervous impulse Structure of striated muscle Mechanism of the muscle contraction The neuromuscular junction Identify the main elements of the axial skeletons and appendicular Identify the constituents of a mobile joint Manipulation of anatomical models.	



- Identify the main building blocks of the central and peripheral nervous systems
 - Dissection of a brain and spinal cord in the framework of the regulations in force
 - o Describe the organization of a nerve

Microscopic observations of histological sections

Dilaceration of nerves

- Diagram, annotate and orient a neuron
- Characterize the nerve impulse (resting potential and potential action)
- Analyze experiments showing the properties nerve impulses at the level of the neuron and the nerve
- In silico experimentation (carried out using computers) of stimulation of a neuron and a nerve

Identify the building blocks of skeletal striated muscle and describe the Hierarchical organization from muscle to myofibril

- Muscle breakdown and staining of muscle fibers
- Microscopic observations of histological sections
- Diagram a sarcomere
- Simply present the sliding of the myofilaments
- Identify the components of a neuromuscular junction and explain how it works

Exploration technique of the musculoskeletal system

- X-ray
- Computed tomography (CT) or scan
- Resonance Imaging
- Magnetic (MRI)
- Explain the principle of radiography
- Present its medical interests, its dangers and the consequent contraindications
- Identify bone damage or abnormalities



- Compare computed tomography and radiography
- Deduce the diagnostic interests of CT scans
- List the signals used in MRI
- Present the diagnostic value of MRI
- Use of snapshots of medical imaging techniques.

Device impairments locomotor

- an example of pathology
- central nervous system violations
 - Spinal cord injury
 - Brain injury
 - stroke
- Identify clinical and paraclinical signs.
 - Identify clinical and paraclinical signs
 - Identify risk factors
 - Associate symptoms with physiological dysfunction
- Justify the treatments
 - Explain the consequences of spinal cord injury depending on its severity and location
 - Compare the consequences of damage to the brain depending on its location
- Use of snapshots of medical imaging techniques.
 - Roots: arthr(o), cerebr(o), cervic(o), chondr(o), cost(o), cox(o), gon(o), medull(o), myel(o),
 - my(o), nevr(o), neur(o), oste(o), rachis, rachid(o), tendin(o), thorac(o).
- Medical terms
 - o aphasia, amnesia, paraplegia, quadriplegia, paresthesia



Digestive System and Nutrition Concepts and content Required capacities Technological activities supporting training Nutrition and eating balance Composition of food Concept of nutrients Differentiate between foods and nutrients o classify nutrients into macronutrients and micronutrients o classify into organic and mineral molecules Combine proteins, carbohydrates, lipids, vitamins and minerals with their main roles energetic structural functional Distinguish among biomolecules polymers dimers monomers Balanced diet and food Imbalances o an example of malnutrition by excess intake obesity o an example of malnutrition by deficiency Anatomy and physiology of the digestive system o organization of the digestive device histology of the digestive tract o mechanical phenomena and chemicals digestive enzymes nutrient absorption and water explain the importance of water in the body.



Experimental study of the composition of a food using identification tests

- Distinguish between the notions of quantitative and qualitative needs
- Identify factors of variations in quantitative and qualitative needs
- Establish an energy balance based on expenses and contributions

Compare a food ration to reference values

- Calculate and interpret BMI
- Identify risk factors
- Identify pathological consequences

Present treatments

- Use of software allowing the study of different diets food
- Identify clinical and paraclinical signs
- Identify risk factors
- Identify the qualitative or quantitative origin of the deficiency
- Identify the different organs of the digestive system
- Distinguish accessory glands and digestive tract
- Manipulation of cutaway or anatomical models.

Compare the histology of different organs of the digestive tract and connect structure to function

- Microscopic observation of the tunics of the digestive tract
- Explain the mechanical phenomena of digestion
- Present and locate the stages of digestion of the different biomolecules
- Deduce from the analysis of experiences the conditions of action of digestive enzymes and the role of bile
- Show the importance of the association of mechanical and biochemical phenomena in the efficiency of digestion
- Highlight the involvement of the intestinal microbiota in digestion
- Perform enzymatic digestion experiments
- Link the structural features of the mucosa intestinal to its absorption function



Cardiovascular System and Blood Circulation	Concepts and content Required capacities Technological activities supporting training Anatomy and physiology of the cardiovascular device	
	 Explain the absorption of water by osmosis Introduce the pathways of blood and lymphatic absorption Link absorption pathways to hydrophobic properties of nutrient hydrophiles Performing dialysis experiments Microscopic comments Exploration technique of the digestive tract Present the principle of fibroscopy Show interest in digestive exploration Identify the risks associated with the technique An example of digestive pathology malabsorption Identify clinical signs Associate symptoms with physiological dysfunction Roots: adip(o), appendic(o), bucc(o), chol(e), cholecyst(o), col(o), duoden(o), enter(o), gastr(o), hepat(o), jejun(o), ile(o), odont(o), esophagus(o), pharyng(o), rect(o), stomat(o). Medical terms anorexia, cachexia, diarrhea, hematemesis, polyp, polyphagia, rectal bleeding, ulcer. Links with the teaching of physics and chemistry for health chemical analysis for control of the composition of biological media analysis of energy requirements for a thoughtful diet the role of biomolecules in the body for good health prevention 	



 heart anatomy

- Mechanical aspect of the heart revolution
- Cardiac automatism
- General organization of the circulatory system
- Histology and properties
- Hemodynamics of vessels
- Identify the main building blocks of the heart.
- Characterize the different structures of the heart and relate them to their function.
- Performing a dissection of the heart.
- Analyze recordings of cardiac activity and identify the different phases of the heart cycle.
- Determine stroke volume (SV), calculate heart rate (fC) and cardiac output (CO).
- Identify the different parts of nodal tissue.
- Analyze experimental results showing the properties nodal tissue.
- Diagram the circulatory system.
- Compare the structure of the walls of arteries, veins and capillaries and establish a link with their function.
- Microscopic observations of histological sections.
- Voltage arterial measurement
- Blood pressure
 - o systolic
 - o diastolic
- Cardiac regulation
- An example of regulation heart rate
 - o Case of a hemorrhage
- Exploration techniques of the cardiovascular device
 - Angiography
 - Ultrasound



- o Doppler
- Scintigraphy
- electrocardiography
- Examples of pathologies of the cardiovascular device
 - Atherosclerosis
 - o Myocardial infarction and angina
 - two pathologies coronary vessels
- Introduce the method of measuring blood pressure.
- Identify hypertension or hypotension.
- Identify the elements of the reflex arc.
- Analyze experiences highlighting the roles of different elements of the cardiac reflex arc.
- In-silico cardiac regulation experiments (using computers).
- Build a reflex arc.
- Explain the principle of ultrasound, scintigraphy and angiography.
- Identify the diagnostic value of
 - Angiography
 - Ultrasound
 - Doppler
 - o Scintigraphy.
- Identify the different waves on the path of a normal electrocardiogram (ECG) and relate them to the phases electrical and mechanical cardiac cycle.
- Calculate heart rate from an ECG.
- Compare the pace of a normal ECG to that of a pathological ECG.
- Use of results from medical imaging techniques.
- Identify the phases of evolution of pathogenesis.
- Associate the main physiopathological consequences with affected vessel and the importance of the obstruction
- Identify pathogenicity factors and deduce preventative measures.



	 Compare the clinical signs of angina and myocardial myocardium (IDM). Highlight the interest of ECG and cardiac enzyme assay in the diagnosis of MI. Explain the roles of the different possible treatments. Roots angi(o), arteri(o), athero, bar(o), cardi(o), coronar(o), hem(o), ox(o), necr(o), phleb(o), thromb(o), valvul(o), vascul(o), vas(o). Medical terms arrhythmia, aneurysm, embolism, fibrosis, ischemia, necrosis, sclerosis, stenosis, thrombosis. Links with the teaching of physics and chemistry for health the properties of fluids in the analysis of blood pressure. 	
Respiratory System and Gas Exchange	Concepts and content Required capacities Technological activities supporting training • Anatomy and histology of the respiratory system • Organization of the respiratory device • Histology of the • Trachea, bronchi, bronchioles Alveolar-capillary barrier • Transport and exchanges of respiratory gasses • Nature and meaning of gas exchange • Transport of oxygen in the blood • Hemoglobin Affinity Modulation Factors for dioxygen • Carbon Dioxide Carbo Transport • Cellular respiration • Energy production	



- Mitochondria Techniques
 - Respiratory device exploration
 - o X-ray, fibroscopy, scanography, spirometry
- Identify the organs in the chest cavity and specify their relationship with the cardiovascular system.
- Observation of a lung-heart block.
- Relate the tissue composition of organs and their functions.
- Identify the elements constituting the alveolar-capillary barrier.
 - Link the structure of the barrier to its function.
- Microscopic observations of histological sections.
- Justify the direction of gas diffusion
 - between alveolar air and blood
 - between blood and tissues.
- List the different forms of oxygen transport.
- Diagram the molecular structure of hemoglobin and indicate the oxygen binding site.
 - Deduce hemoglobin saturation curves, the quantity of oxygen fixed at the level of the lungs and that released at tissue level under different conditions
 - Interpret the influence of pH, CO2 or temperature on the percentage of hemoglobin saturation.
 - Justify the interest of these modulations during the muscular activity
- Compare the forms of carbon dioxide transport to those of oxygen
- Identify the molecules consumed and produced during cellular respiration
 - Specify the location of the process
 - o Introduce the technique of spirometry.
 - Determine lung volumes and capacities from a spirogram.
- Show the interest of the different techniques for the diagnosis of



respiratory pathologies		
 Use of dedicated software 		
Examples of pathology		
 Asthma 		
 Smoking 		
Identify clinical signs		
Identify risk factors		
 Link the pathophysiological mechanisms with associated treatment and prevention. 		
 List the main constituents of tobacco smoke and clarify their pathophysiological effects. 		
● Roots		
 bronch(o), laryng(o), nas(o), ox(o), -pnea, pneum(o), pulm(o), rhine(o), spir(o), trachea(o). Medical terms: cyanosis, sputum, hemoptysis 		
	 Use of dedicated software Examples of pathology Asthma Smoking Identify clinical signs Identify risk factors Link the pathophysiological mechanisms with associated treatment and prevention. List the main constituents of tobacco smoke and clarify their pathophysiological effects. Roots bronch(o), laryng(o), nas(o), ox(o), -pnea, pneum(o), pulm(o), 	 Use of dedicated software Examples of pathology Asthma Smoking Identify clinical signs Identify risk factors Link the pathophysiological mechanisms with associated treatment and prevention. List the main constituents of tobacco smoke and clarify their pathophysiological effects. Roots bronch(o), laryng(o), nas(o), ox(o), -pnea, pneum(o), pulm(o), rhine(o), spir(o), trachea(o).

Humanities, Literatu	re and Philosophy, High School	Environment and Modern Agriculture	Healthful Eating
Semester 1 The Powers of Speech	The first part of the course focuses on the role of language and speech in human societies. It covers • the arts and techniques aimed at mastering public speech in varied contexts • judicial and political • artistic • intellectual		



- the forms of power and authority associated with speech in its various forms
- the variety of its effects to
 - persuade
 - please
 - o move
- This study is based on a reference period which reveals the links between Antiquity and the Classical Age
 - From the Greek bard reciting Homer from city to city in the eloquence of the classic pulpit, stage or even conversation, passing through the disputes of the medieval universities or the orators who addressed the Assembly Athenian or the Roman Senate, these periods provide the context and the works in which the art of speech has found a particular development.
- Nourished by the discovery of works and speeches mainly from the period of reference, this teaching aims in particular to teach how to:
- identify, appreciate and analyze the processes and effects of the art of speech;
- self-implement these processes and effects within the framework of well-constructed written and oral expressions
- measure the questions and the conflicts of values that the art of speech has raised
- The teaching is divided into three parts or according to three axes, relating respectively to the art of speech, the authority of speech and the seductions of speech.

The art of speech

• The constitution of rhetoric, the regulated art of speech and eloquence, forms the first axis of study. This makes it possible to approach the different aspects and the classic divisions of the



- rhetoric, speech genres and parts of speech, as well as the qualities and speaker culture. The heritage of ancient rhetoric in the aesthetics of the classical age, which could be called The age of eloquence, constitutes an easily identifiable axis of study.
- The study takes into account the diversity of speaking situations (public debates in assembly, trial, ceremonies...) and that of the related literary forms (poems sacred and profane, written speeches, dialogues...), as well as the specificity of the contexts historical, social and institutional in which this knowledge and techniques have developed and transmitted.
- The differences and relationships between speech and writing are also taken into account and consideration

The authority of speech

• The forms of authority associated with the exercise of speech constitute the second axis of this theme.

In ancient Greece, the poet invoking the Muse appears as the first master of truth and keeper of memory

- Other forms of authorized speech which developed during the reference period
 - o political, religious, scholarly speech, didactic...
- Attention is paid to how each establishes and manifests the form of authority it claims, on the principles and values it invokes to do so, and on the strategies it favors
- Beyond the ancient, medieval and classical framework, this study can extend into a reflection on the rules to which public speech is subject in its various forms, on the social codes that govern the different kinds of communication, and on the relationship between speech and action

The seductions of speech

• The effects of speech, its power to please, to seduce and to move



constitute the third axis of this chapter

- These effects are first studied from the poetic, rhetorical and philosophical reference periods
- This study aims in particular to examine
 - o poetic speech
 - the staging of speech and its relationship with the other arts
 - o fictional methods (fable, parable, allegory, etc.)
 - the values of truthfulness, sincerity and authenticity in verbal communication
 - o the seductive word and the processes of influence
 - love and its declarations
 - the seductions of speech have been a subject of controversy since Antiquity
 - the poet and the playwright have staged, sometimes satirically, the orator and the philosopher
 - the philosopher has sued the orator and the poet for sophistry and lies
 - the study of these arguments and these representations provides first-grade students with the opportunity to approach philosophy in its complex relations with the arts of language from the outset
 - If the study of the powers of speech must be based mainly on ancient texts, classical and medieval, it can be enriched with comparative references to other societies and cultures than those that constituted and collected the Greco-Latin heritage
 - With the use of certain texts and documents from later periods, it calls for an implementation perspective of the ancient and medieval heritage and a reflection on its transmission until our era



Semester 2 The second part of the first year program is linked to the period extending from the Renaissance to the Enlightenment (15th century - 18th century). Representations of the World This period begins with the development of humanist ideas and the discovery of "new worlds" It is also marked by a series of revolutions in science and technology. These upheavals are inseparable from changes in the economy societies policies o artistic and literary forms minds and mores It is the variation and transformation of representations of the world (of the inhabited earth as of the cosmos) that this part is consecrated It is approached by three entrances, which may overlap in practice Discover the world and plurality of cultures o Describe, figure, imagine the man and the animal Without being specific to the reference period, these themes find a particularly rich expression there Discovery of the world and plurality of cultures • With the rediscovery of ancient culture and the religious crisis, two kinds of upheavals marked European culture during the reference period ■ the discovery of new lands ■ the change in the dimensions of the world, linked to the astronomical revolution science and the invention of optical instruments. Just as the cruelty of wars of religion, the violence of distant conquests provoked a crisis of conscience and aroused a new critical view of European societies



- Simultaneously, the transition from the medieval image of a closed and ordered world to that of an open space, even infinite, implied a questioning of the place of man in the universe, and the emergence of new metaphysical systems
- The echoes of these changes have been multiplied by the new production and distribution of printed works, and carried by a whole variety of texts and works
- memoirs on conquests and colonizations, travel stories, fictions of desert islands or interstellar travels, introduction of exoticism into art, staging of encounters with representatives of distant cultures, treatises on the customs of peoples and on the history of human race, essays in social and political criticism.
- It is from this repertoire that the teachers choose the texts to be studied, taking care both the relationship and the distance between the questions of this period and those of today.

Describe, figure, imagine

Under a second aspect, we are interested in the forms that the representation of the world and things of the world has taken during the period under review, in the sciences and philosophy as in letters and the arts.

- In this respect, one may be led to mention by example
- the development of the printed book, with its methods of illustration, organization and diffusion
- a taste for inventories of the world, through natural history books
- terrestrial or celestial and cartography, the encyclopedic ideal, the exotic descriptions and interest in the extraordinary
- the invention of artificial perspective in painting and the challenges of representation in the visual arts
- the issues of imitation in poetry and literature



• the evolution of literary forms

The role of the imagination and the use of fiction in the development of knowledge about

- nature and man
- man and animal

The relationship with the animal reveals the place that man attributes to himself in nature and in the world, with strong philosophical, ethical and practical implications.

- The reference period is characterized by a questioning of the boundary between man and animal, as it was generally accepted in the Middle Ages
- From Montaigne to Buffon, this separation appears more fragile or debatable
- The status of the animal becomes a major issue, as evidenced by the importance of the quarrel over "the animal-machine"
- The questions of animal intelligence and communication between animals are abundantly debated
- Similarities, analogies and dissimilarities between men and beasts are meticulously explored, by the fabulist as well as by the naturalist
- The study of the texts of the reference period makes it possible to explore the complexity of these relationships and reflect on what knowledge of other species brings to the knowledge of man. I
- t also allows to address some lively questions of today
 - o animal exploitation
 - $\circ \quad \text{animal rights} \quad$
 - o "animal cultures"...



