Curriculum Description: Grade 6 Science

IW Academy Grade 6 Science is a dynamic and comprehensive course aimed at introducing sixth-grade students to the fascinating world of science. This captivating program is strategically developed to inspire young minds and ignite their curiosity about the natural world around them. The course is designed to blend theoretical knowledge with interactive experimentation, ensuring a well-rounded understanding of scientific principles. The focus Areas are:

- Electricity.
- Elements and compounds.
- The human body and its health.
- The behavior of light.
- Forms of energy and its sources.
- Water.

To teach skills in this course, the course uses a variety of teaching methods to ensure mastery of the intended skills, as well as the correct applications of said skills and acquired knowledge. Different teaching methods include: Engaging video explainers, video lectures, AI, advanced graphics and animations, interactive exercises, games, interactive illustrations, various assessment modes and online exams.

Throughout this course, students will delve into various scientific disciplines including biology, chemistry, physics, and earth science. They'll explore the basics of life science, water, studying organisms, Elements and compounds, and rsearch into the mysteries of the human body, and learn about the process of photosynthesis and the role it plays in our ecosystem.

Students will also be given a basic introduction to atoms, molecules, and chemical reactions in the chemistry portion. They will learn about different Electricity, light, Elements and compounds. Through exciting activities, they'll witness the magic of science firsthand.

The physics module will introduce students to fundamental concepts such as force, energy, energy sources, and motion. They will learn about the different types of energy and the laws of motion through interactive demonstrations and activities.

"IW Academy Grade 6" meets all national science education standards. It engages students with interactive activities and experiments, key scientific vocabulary, and thought-provoking questions to develop their critical thinking skills. It also includes assessment tools to monitor students' progress, ensuring they understand the concepts and are ready to advance.

By the end of the course, students will have a greater understanding of the world around them, the ability to think scientifically and a newfound appreciation of how science plays a significant role in our everyday lives. They'll be prepared to tackle more advanced scientific concepts in the future, equipped with a strong foundation laid in this course.

This is not just a course; it's a journey. A journey of exploration, discovery, and learning that is sure to captivate any young mind with a curiosity about the natural world.

Please note: This course meets all national standards for Grade 6 Science education, in USA, Jordan and other similar educational curriculum.

Join us for a year of exciting exploration in the world of science!

#	Unit	Skills
1	Chapter 1: Electricity	• The concept of electrification, • types of electric charges (negative charge, positive charge, neutral charge), • clarification of the methods of charging objects (charging by rubbing, by touch, and by friction), • explain how lightning occurs, • distinguish between lightning and thunderbolt, • the importance of a lightning rod, • distinguish between static electricity and kinetic electricity, • explain the function of the parts of the electric circuit, • the concept of electric current and electric circuit, • determine the forms of electrical lamps' conduction, • determine the sources of electric current, • explain how to generate an electric current using magnets, and • clarify public safety procedures in dealing with electricity.
2	Chapter 2: Elements and Compounds	• Clarify the symbols of the elements • classify the elements into metals and non-metal • clarify the susceptibility of some elements to form • clarify the elements' susceptibility to thermal conductivity • clarify the elements' ability to conduct electricity • the concept of metals and non-metals • mention examples of metals and non-metals • the importance of metals, determine the uses of metals • the concept of acid and base • explain how to detect acids and bases • mention examples of an acid and base • the concept of a reagent • determine the types of reagents (natural, synthetic) • mention examples of a natural reagent • mention examples of an industrial reagent • determine the properties of acids and bases • mention the uses of acids and bases • clarify the types of acids (natural acids, industrial acids) • the concept of natural acids • the concept of industrial acids.
3	Chapter 3: The Human Body and its Health	• Identify the energy groups (carbohydrates, fats), determine the importance of carbohydrates and fats • identify the building group (proteins), determine the importance of proteins, identify the protective groups (vitamins, mineral salts) • determine the types and sources of vitamins, • determine the importance of vitamins, • determine the importance of mineral salts • mention some sources and types of mineral salts,

		• clarify the benefits of water for the body • identify the digestive system and its parts, • clarify the mechanism of the digestive system • identify the circulatory system and its parts, • clarify the mechanism of work of the circulatory system, • clarify the structure of the heart • identify the respiratory system and its parts, • clarify the mechanism of the respiratory system, • identify the types of respiratory movements (inhalation, exhalation) • distinguish between inhalation and exhalation, clarify the effect of exercise on the rate of breathing during exercise • identify the components of the excretory system (urinary system, skin system), identify the urinary system and its parts, • clarify the importance and function of the kidneys, explain the mechanism of the urinary system • identify the skin system and its parts, • mention the functions and importance of the skin, • identify the stent and movement system, • identify the components of the stent and movement system (skeletal system, muscular system) • identify the skeletal system and its parts, • identify the muscular system and its parts, clarify types of muscles, • explain how muscles work, explain how the human body systems integrate, and explain how to maintain health of the body.
4	Chapter 4: The Behavior of Light	• The concept of refraction of light, • clarification of how light is decomposed in a prism, • interpretation of the rainbow phenomenon, • interpretation of seeing objects in different colors • identify the types of lenses (convex lens, cup lens), • clarify the principle of work of the convex lens and the concave lens • identify the characteristics of the convex and concave lens, • determine the shapes of the concave lens, define the shapes of the concave lens • clarify the characteristics of the imagination in the convex lens, • clarify the characteristics of the imagination in the concave lens • explain applications to lenses eye lens), clarify the principle of the working of the eye lens, mention the parts of the eye, and clarify some uses of convex and concave lenses in practical life.
5	Chapter 5: Forms of Energy and its Sources	• The concept of energy, identify forms of energy, mention examples of forms of energy, the concept of kinetic energy, factors on which the kinetic energy of a body depends (speed, mass) • mention examples of energy transformations, • identify non-renewable energy sources, • the concept of fossil fuels, clarify the types fossil fuels • explain how coal is formed, mention the uses of coal, • explain how oil and natural gas are formed, • the concept of oil and natural gas, • mention the uses of oil and natural gas • identify renewable energy sources, • explain the importance of the sun to living organisms, mention the uses of solar cells • mention the uses of wind energy, mention the pros and cons of each energy source, and explain how to rationalize energy consumption.

6	Chapter 6: Water	• Identify ordinary water sources, clarify how water is distributed on the ground, the importance of dams, • explain the mechanism of the underground reservoir and its relationship to groundwater • the concept of springs, identify unusual water sources, the concept of wastewater, • clarify the stages of wastewater treatment, • the concept of gray water • clarify how to treat gray water, • the concept of seawater desalination, explain the mechanism of desalination by distillation, • explain water problems, state the causes of water scarcity • mention solutions to solve the water problem, • explain how to rationalize water consumption at home and in agriculture, and • explain the concept of water harvesting.