

SCIENTIFIC FACTS

Ques: What is the basic unit of life?

Ans: The cell

Explanation: The cell is the smallest unit of life that can replicate independently, and cells are often called the “building blocks of life.”

Ques: What molecule carries genetic information?

Ans: DNA (Deoxyribonucleic Acid)

Explanation: DNA carries the genetic instructions used in the growth, development, functioning, and reproduction of all known living organisms.

Ques: What process do plants use to convert sunlight into food?

Ans: Photosynthesis

Explanation: Photosynthesis is the process by which green plants and some other organisms use sunlight to synthesize foods with the help of chlorophyll from carbon dioxide and water.

Ques: What is the powerhouse of the cell?

Ans: Mitochondria

Explanation: Mitochondria are known as the powerhouse of the cell because they produce ATP, the cell’s main energy-carrying molecule.

Ques: Which organ is responsible for pumping blood throughout the human body?

Ans: The heart

Explanation: The heart pumps blood through the circulatory system, supplying oxygen and nutrients to the tissues and removing carbon dioxide and other wastes.

Ques: What is the name of the pigment that gives skin its color?

Ans: Melanin

Explanation: Melanin is the pigment responsible for the color of skin, hair, and eyes in humans and other animals. It protects against damage from UV radiation.

Ques: What is the function of red blood cells?

Ans: To transport oxygen

Explanation: Red blood cells contain hemoglobin, which binds to oxygen in the lungs and carries it to tissues throughout the body.

Ques: What is the largest organ in the human body?

Ans: Skin

Explanation: The skin is the largest organ of the human body and serves as a protective barrier, regulates temperature, and allows the sensation of touch.

Ques: What part of the brain controls voluntary movements?

Ans: Cerebrum

Explanation: The cerebrum is the largest part of the brain and is responsible for voluntary movements, intelligence, memory, and personality.

Ques: What is the role of the enzyme amylase?

Ans: To break down starches into sugars

Explanation: Amylase is an enzyme found in saliva and the pancreas that breaks down starches into simple sugars for digestion.

Ques: What is the chemical formula for water?

Ans: H₂O

Explanation: Water is composed of two hydrogen atoms and one oxygen atom.

Ques: What is the periodic table?

Ans: A tabular arrangement of chemical elements

Explanation: The periodic table organizes elements by increasing atomic number and groups elements with similar chemical properties together.

Ques: What is the most abundant gas in Earth's atmosphere?

Ans: Nitrogen

Explanation: Nitrogen makes up about 78% of the Earth's atmosphere.

Ques: What element has the chemical symbol O?

Ans: Oxygen

Explanation: Oxygen is a chemical element with the symbol O and atomic number 8.

Ques: What type of bond involves the sharing of electron pairs between atoms?

Ans: Covalent bond

Explanation: Covalent bonds involve the sharing of electron pairs between atoms, leading to a stable balance of attractive and repulsive forces between atoms.

Ques: What is the pH range of acids?

Ans: 0 to 7

Explanation: The pH scale ranges from 0 to 14, with acids having a pH less than 7, neutral substances at pH 7, and bases having a pH greater than 7.

Ques: What is the chemical formula for ozone?

Ans: O₃

Explanation: Ozone is a molecule composed of three oxygen atoms and is found in the Earth's stratosphere, where it absorbs harmful ultraviolet radiation.

Ques: What is a catalyst?

Ans: A substance that speeds up a chemical reaction without being consumed

Explanation: Catalysts increase the rate of chemical reactions by providing an alternative reaction pathway with a lower activation energy.

Ques: What is the process of solid turning directly into gas called?

Ans: Sublimation

Explanation: Sublimation is the transition of a substance from the solid phase to the gas phase without passing through the liquid phase.

Ques: What element is used in the manufacturing of computer chips?

Ans: Silicon

Explanation: Silicon is a semiconductor material widely used in the production of integrated circuits and computer chips.

Physics Science General Knowledge Questions with Answers

Ques: What is the speed of light in a vacuum?

Ans: Approximately 299,792 kilometers per second (km/s)

Explanation: The speed of light in a vacuum is a fundamental constant of nature.

Ques: Who developed the theory of relativity?

Ans: Albert Einstein

Explanation: Albert Einstein proposed the theory of relativity, which revolutionized our understanding of space, time, and gravity.

Ques: What is the force that attracts objects toward the center of the Earth?

Ans: Gravity

Explanation: Gravity is the force by which a planet or other body draws objects toward its center.

Ques: What is the unit of electric current?

Ans: Ampere

Explanation: The ampere (A) is the unit of electric current in the International System of Units (SI).

Ques: What is the principle that states energy cannot be created or destroyed?

Ans: The law of conservation of energy

Explanation: The law of conservation of energy states that the total energy of an isolated system remains constant; it is conserved over time.

Ques: What is the unit of frequency?

Ans: Hertz (Hz)

Explanation: The hertz is the unit of frequency in the International System of Units (SI), defined as one cycle per second.

Ques: What principle explains why airplanes can fly?

Ans: Bernoulli's principle

Explanation: Bernoulli's principle states that an increase in the speed of a fluid occurs simultaneously with a decrease in pressure, which helps generate lift in airplane wings.

Ques: What is the difference between speed and velocity?

Ans: Speed is a scalar quantity; velocity is a vector quantity

Explanation: Speed is the rate of change of distance, while velocity is the rate of change of displacement and includes direction.

Ques: What is the law of inertia?

Ans: Newton's first law of motion

Explanation: Newton's first law of motion states that an object at rest stays at rest, and an object in motion stays in motion unless acted upon by an external force.

Ques: What is the unit of electric resistance?

Ans: Ohm (Ω)

Explanation: The ohm is the SI unit of electrical resistance, named after Georg Simon Ohm.

Ques: What is the Earth's outermost layer called?

Ans: The crust

Explanation: The crust is the Earth's outermost layer, composed of solid rock.

Ques: What causes earthquakes?

Ans: The movement of tectonic plates

Explanation: Earthquakes are caused by the sudden release of energy in the Earth's crust due to the movement of tectonic plates.

Ques: What is the name of the supercontinent that existed millions of years ago?

Ans: Pangaea

Explanation: Pangaea was a supercontinent that existed during the late Paleozoic and early Mesozoic eras.

Ques: What is the process by which water cycles from the Earth's surface to the atmosphere and back?

Ans: The water cycle

Explanation: The water cycle describes the continuous movement of water on, above, and below the surface of the Earth.

Ques: What type of rock is formed from molten lava?

Ans: Igneous rock

Explanation: Igneous rocks form through the cooling and solidification of magma or lava.

Ques: What type of rock is formed from the accumulation of sediment?

Ans: Sedimentary rock

Explanation: Sedimentary rocks form from the accumulation and compaction of mineral and organic particles over time.

Ques: What is the most abundant mineral in the Earth's crust?

Ans: Quartz

Explanation: Quartz is the most abundant mineral in the Earth's crust and is composed of silicon dioxide (SiO_2).

Ques: What is the process by which rocks are broken down into smaller pieces?

Ans: Weathering

Explanation: Weathering is the process that breaks down rocks and minerals into smaller particles through mechanical, chemical, and biological processes.

Ques: What is the name of the boundary between the Earth's crust and mantle?

Ans: The Mohorovičić discontinuity (Moho)

Explanation: The Moho is the boundary that separates the Earth's crust from the underlying mantle.

Ques: What causes the Earth's magnetic field?

Ans: The movement of molten iron in the Earth's outer core

Explanation: The Earth's magnetic field is generated by the motion of molten iron and nickel in the outer core, creating electric currents.

Ques: What is the closest planet to the Sun?

Ans: Mercury

Explanation: Mercury is the smallest and innermost planet in the Solar System.

Ques: What is the name of our galaxy?

Ans: The Milky Way

Explanation: The Milky Way is the galaxy that contains our Solar System.

Ques: What is a light-year?

Ans: A measure of distance

Explanation: A light-year is the distance that light travels in one year, about 9.46 trillion kilometers.

Ques: Who was the first person to walk on the Moon?

Ans: Neil Armstrong

Explanation: Neil Armstrong became the first person to walk on the Moon on July 20, 1969, during the Apollo 11 mission.

Ques: What is the largest planet in our solar system?

Ans: Jupiter

Explanation: Jupiter is the largest planet in our solar system, with a diameter of about 142,984 kilometers.

Ques: What is a supernova?

Ans: A stellar explosion

Explanation: A supernova is a powerful and luminous explosion of a star, often resulting in the formation of a neutron star or black hole.

Ques: What is the name of the largest moon of Saturn?

Ans: Titan

Explanation: Titan is the largest moon of Saturn and is notable for its dense atmosphere and surface lakes of liquid methane and ethane.

Ques: What is a comet?

Ans: A celestial object composed of ice, dust, and rocky material

Explanation: Comets are icy bodies that, when passing close to the Sun, heat up and display a visible atmosphere (coma) and sometimes a tail.

Ques: What is the term for a planet outside our solar system?

Ans: Exoplanet

Explanation: An exoplanet is a planet that orbits a star outside our solar system.

Ques: What is the primary source of the Sun's energy?

Ans: Nuclear fusion

Explanation: The Sun's energy is produced by nuclear fusion reactions in its core, where hydrogen atoms fuse to form helium and release energy.

Ques: What is the study of insects called?

Ans: Entomology

Explanation: Entomology is the scientific study of insects.

Ques: What is the primary gas found in the sun?

Ans: Hydrogen

Explanation: The sun is primarily composed of hydrogen, which it converts into helium through nuclear fusion.

Ques: What type of organism produces its own food using sunlight?

Ans: Autotroph

Explanation: Autotrophs, such as plants, produce their own food through photosynthesis.

Ques: What is the SI unit of temperature?

Ans: Kelvin

Explanation: The Kelvin (K) is the base unit of temperature in the International System of Units (SI).

Ques: What is the hardest natural substance on Earth?

Ans: Diamond

Explanation: Diamonds are the hardest natural substance due to their strong carbon-carbon bonds.

Ques: What is the term for the study of fungi?

Ans: Mycology

Explanation: Mycology is the branch of biology concerned with the study of fungi, including their genetic and biochemical properties.

Ques: What is the main component of natural gas?

Ans: Methane

Explanation: Methane (CH_4) is the primary component of natural gas, a fossil fuel used for heating, electricity generation, and as a fuel for vehicles.

Ques: What is the term for an organism that can make its own food?

Ans: Autotroph

Explanation: Autotrophs are organisms that produce their own food from inorganic substances, typically through photosynthesis or chemosynthesis.

Ques: What is the hardest known natural material?

Ans: Diamond

Explanation: Diamonds are composed of carbon atoms arranged in a crystal lattice structure, making them the hardest known natural material.

Ques: What is the term for a substance that speeds up a chemical reaction without being consumed?

Ans: Catalyst

Explanation: Catalysts increase the rate of a chemical reaction by lowering the activation energy, without undergoing permanent chemical change themselves.

Ques: What is the term for the study of the physical features of the Earth?

Ans: Geology

Explanation: Geology is the science that deals with the Earth's physical structure and substance, its history, and the processes that act on it.

Ques: What is the most common type of star in the Milky Way galaxy?

Ans: Red dwarf

Explanation: Red dwarfs are the most common type of star in the Milky Way galaxy, characterized by their small size and low luminosity.

Ques: What is the name of the process by which green plants produce glucose and oxygen from carbon dioxide and water using sunlight?

Ans: Photosynthesis

Explanation: Photosynthesis is the process by which green plants use sunlight to convert carbon dioxide and water into glucose and oxygen.

Ques: What is the term for the positively charged center of an atom?

Ans: Nucleus

Explanation: The nucleus is the central part of an atom, containing protons and neutrons, and has a positive charge due to the presence of protons.

Ques: What is the term for the process by which cells divide to produce two identical daughter cells?

Ans: Mitosis

Explanation: Mitosis is the process of cell division in which a single cell divides to produce two genetically identical daughter cells.

Ques: What is the name of the scientist who developed the theory of evolution by natural selection?

Ans: Charles Darwin

Explanation: Charles Darwin proposed the theory of evolution by natural selection, explaining how species evolve over time through the survival and reproduction of individuals with favorable traits.

Ques: What is the term for the study of the chemical processes within and relating to living organisms?

Ans: Biochemistry

Explanation: Biochemistry is the branch of science that explores the chemical processes and substances that occur within living organisms.

Ques: What is the name of the process by which water is converted into vapor?

Ans: Evaporation

Explanation: Evaporation is the process by which water changes from a liquid to a gas or vapor, typically as a result of heat.

Ques: What is the term for the transfer of heat through direct contact?

Ans: Conduction

Explanation: Conduction is the transfer of heat through direct contact between materials, with heat moving from the hotter object to the cooler one.

Ques: What is the name of the largest bone in the human body?

Ans: Femur

Explanation: The femur, or thigh bone, is the longest and strongest bone in the human body, extending from the hip to the knee.

Ques: What is the primary function of the roots of a plant?

Ans: To absorb water and nutrients

Explanation: Roots anchor the plant in the soil and absorb water and essential nutrients needed for growth and development.

Ques: What is the chemical formula for sodium chloride?

Ans: NaCl

Explanation: Sodium chloride, commonly known as table salt, consists of one sodium (Na) atom and one chlorine (Cl) atom.

Ques: What is the process by which green plants convert light energy into chemical energy?

Ans: Photosynthesis

Explanation: Photosynthesis is the process by which green plants use sunlight to convert carbon dioxide and water into glucose and oxygen, storing energy in the form of chemical bonds.

Ques: What is the term for the study of the structure and function of the human body?

Ans: Anatomy

Explanation: Anatomy is the branch of biology that deals with the study of the structure of organisms and their parts.

Ques: What is the name of the process by which bacteria reproduce?

Ans: Binary fission

Explanation: Binary fission is a form of asexual reproduction in which a bacterial cell divides into two genetically identical daughter cells.

Ques: What is the term for the change of state from a gas to a liquid?

Ans: Condensation

Explanation: Condensation is the process by which a gas changes into a liquid, usually when cooled.

Ques: What is the chemical formula for carbon dioxide?

Ans: CO₂

Explanation: Carbon dioxide consists of one carbon (C) atom and two oxygen (O) atoms.

Ques: What is the term for the process by which the body's immune system attacks its own cells?

Ans: Autoimmunity

Explanation: Autoimmunity occurs when the immune system mistakenly targets and attacks the body's own tissues and organs.

Ques: What is the name of the scientist who discovered the structure of DNA?

Ans: James Watson and Francis Crick

Explanation: James Watson and Francis Crick are credited with the discovery of the double-helix structure of DNA in 1953.

Ques: What is the term for the measurement of the amount of matter in an object?

Ans: Mass

Explanation: Mass is the measurement of the amount of matter in an object, typically measured in grams or kilograms.

Ques: What is the chemical symbol for gold?

Ans: Au

Ques: What planet is known as the Red Planet?

Ans: Mars

Ques: What is the main gas found in the Earth's atmosphere?

Ans: Nitrogen

Ques: What is the most abundant element in the universe?

Ans: Hydrogen

Ques: What is the formula for calculating force?

Ans: $F = ma$ (Force = mass \times acceleration)

Ques: What organ in the human body is responsible for filtering blood?

Ans: Kidneys

Ques: What is the study of fungi called?

Ans: Mycology

Ques: What is the boiling point of water in Celsius?

Ans: 100°C

Ques: What is the pH level of pure water?

Ans: 7 (neutral)

Ques: Who discovered penicillin?

Ans: Alexander Fleming

Ques: What is the largest bone in the human body?

Ans: Femur

Ques: What gas do plants absorb from the atmosphere?

Ans: Carbon dioxide

Ques: What is the chemical formula for table salt?

Ans: NaCl (Sodium chloride)

Ques: What is the most abundant metal in the Earth's crust?

Ans: Aluminum

Ques: What is the smallest planet in our solar system?

Ans: Mercury

Ques: What is the process by which cells divide?

Ans: Mitosis

Ques: What force keeps the planets in orbit around the Sun?

Ans: Gravity

Ques: What is the main component of natural gas?

Ans: Methane (CH₄)

Ques: What is the study of the human mind and behavior called?

Ans: Psychology

Ques: What type of cell lacks a nucleus?

Ans: Prokaryotic cell

Ques: What is the symbol for the element iron?

Ans: Fe

Ques: What process converts sugar into alcohol?

Ans: Fermentation

Ques: What is the main gas that contributes to the greenhouse effect?

Ans: Carbon dioxide

Ques: What is the term for animals that eat both plants and meat?

Ans: Omnivores

Ques: What is the measure of the amount of matter in an object?

Ans: Mass

Ques: What is the atomic number of carbon?

Ans: 6

Ques: What is the term for a change in an organism's genetic material?

Ans: Mutation

Ques: What is the most common isotope of hydrogen?

Ans: Protium

Ques: What is the basic unit of heredity?

Ans: Gene

Ques: What is the main organ of the circulatory system?

Ans: Heart

Ques: What is the name of the galaxy that contains our Solar System?

Ans: The Milky Way

Ques: What is the chemical symbol for sodium?

Ans: Na

Ques: What is the term for water vapor turning into liquid water?

Ans: Condensation

Ques: What is the largest organ in the human body?

Ans: Skin

Ques: What is the process by which plants lose water vapor through their leaves?

Ans: Transpiration

Ques: What is the main structural component of plant cell walls?

Ans: Cellulose

Ques: What is the chemical formula for methane?

Ans: CH₄

Ques: What is the name of the enzyme that breaks down lactose?

Ans: Lactase

Ques: What is the process by which green plants make their own food?

Ans: Photosynthesis

Ques: What is the hardest naturally occurring mineral?

Ans: Diamond

Ques: What is the main element in steel?

Ans: Iron

Ques: What is the term for the amount of energy required to raise the temperature of 1 gram of water by 1 degree Celsius?

Ans: Calorie

Ques: What is the term for a positively charged ion?

Ans: Cation

Ques: What is the main gas exhaled by humans?

Ans: Carbon dioxide

Ques: What is the term for the splitting of a heavy nucleus into two lighter nuclei?

Ans: Nuclear fission

Ques: What is the main pigment responsible for photosynthesis in plants?

Ans: Chlorophyll

Ques: What is the name of the process by which cells obtain energy from glucose?

Ans: Cellular respiration

Ques: What is the name of the acid found in the stomach?

Ans: Hydrochloric acid

Ques: What is the name of the scientist who proposed the theory of evolution by natural selection?

Ans: Charles Darwin

Ques: What is the main component of the Earth's core?

Ans: Iron

Ques: What is the chemical formula for carbon dioxide?

Ans: CO₂

Ques: What is the term for an animal that is active during the day?

Ans: Diurnal

Ques: What is the name of the organelle that produces energy in the cell?

Ans: Mitochondria

Ques: What is the main component of the cell membrane?

Ans: Phospholipids

Ques: What is the process by which a liquid changes into a gas?

Ans: Evaporation

Ques: What is the term for the amount of matter in a given volume?

Ans: Density

Ques: What is the main source of energy for the Earth?

Ans: The Sun

Ques: What is the term for the tendency of an object to resist a change in its motion?

Ans: Inertia

Ques: What is the name of the process by which plants absorb carbon dioxide and release oxygen?

Ans: Photosynthesis

Ques: What is the term for the process by which a solid changes directly into a gas?

Ans: Sublimation

Ques: What is the name of the force that opposes motion between two surfaces in contact?

Ans: Friction

Ques: What is the term for the smallest particle of an element that retains the properties of that element?

Ans: Atom

Ques: What is the name of the gas used by plants during photosynthesis?

Ans: Carbon dioxide

Ques: What is the chemical formula for ammonia?

Ans: NH_3

Ques: What is the term for a chemical reaction that absorbs energy from its surroundings?

Ans: Endothermic reaction

Ques: What is the main gas found in natural gas?

Ans: Methane

Ques: What is the name of the process by which organisms produce offspring?

Ans: Reproduction

Ques: What is the name of the scientist who developed the first successful polio vaccine?

Ans: Jonas Salk

Ques: What is the chemical formula for sulfuric acid?

Ans: H_2SO_4

Ques: What is the term for the study of the relationships between organisms and their environment?

Ans: Ecology