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Index

Education — 411 courses

Education

01 The alkali metals

The elements found in Group 1 of the periodic table are collectively known as the alkali metals. This group includes lithium, sodium, potassium, rubidium, caesium, and francium, all sharing distinct chemical characteristics.

02 Reactions of halogens

Halogens are the highly reactive non-metal elements found in Group 7 of the periodic table. This group includes fluorine, chlorine, bromine, iodine, and astatine. Their high reactivity stems from their electron configuration, as they readily gain an electron to achieve a stable octet.

03 The halogens

The elements in Group 7 of the periodic table are collectively known as the halogens. These non-metals are highly reactive and exist as diatomic molecules, meaning each molecule consists of two atoms covalently bonded together, such as F_2 or Cl_2.

04 Halogen displacement reactions

Halogen displacement reactions occur when a more reactive halogen displaces a less reactive halogen from its compounds. This principle is crucial for understanding the relative reactivity of elements within Group 7 of the periodic table.

05 The noble gases

The elements found in Group 0 of the periodic table are collectively known as the noble gases. These elements include helium, neon, argon, krypton, xenon, and radon, all of which are colorless, odorless, monatomic gases under standard conditions.

06 Extended response - Groups

The periodic table organizes elements into groups based on their similar chemical properties. Elements within the same vertical column, or group, share a common number of valence electrons, which dictates their reactivity and how they interact with other elements.

07 Rates of reaction

The rate of a chemical reaction quantifies how quickly reactants are consumed and products are formed. It is fundamentally determined by the frequency of successful collisions between reactant particles. For a reaction to proceed, these particles must not only collide but also do so with sufficient energy and correct orientation.

08 Investigating rates

Chemical reactions occur at varying speeds, from instantaneous explosions to the slow rusting of iron. The rate of reaction quantifies how quickly reactants are consumed or products are formed over time. Understanding and controlling reaction rates is crucial in many industrial processes, such as manufacturing and food preservation.

09 Skills - Rates of reaction

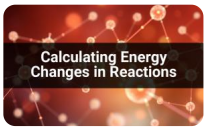
The rate of reaction measures how quickly reactants are consumed or products are formed over time. Understanding reaction rates is crucial in chemistry for optimizing industrial processes and predicting reaction outcomes.

10 Heat energy changes

Most chemical reactions involve a change in heat energy, leading to observable temperature shifts in their surroundings. These changes are fundamental to understanding how chemical processes interact with their environment. The energy transformations dictate whether a reaction feels hot or cold to the touch.

11 Reaction profiles

Energy profile diagrams are visual tools that model the energy changes occurring throughout a chemical reaction. These diagrams illustrate the energy of reactants, products, and the transition state, providing a comprehensive overview of the reaction pathway.

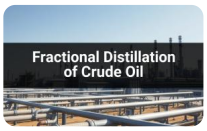


12 Calculating energy changes

Chemical reactions involve the breaking of existing bonds and the formation of new ones. This process is always accompanied by a change in energy, which can either be released into the surroundings or absorbed from them.

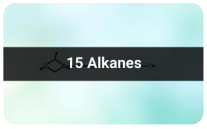
13 Crude oil

Crude oil is a naturally occurring fossil fuel, formed over millions of years from the ancient remains of marine organisms. These organisms, primarily plankton and algae, settled on the seabed after death and were covered by layers of sediment.



14 Fractional distillation

Fractional distillation is a vital industrial process used to separate crude oil into simpler, more useful mixtures. Crude oil itself is a complex mixture of thousands of different hydrocarbons, each with unique properties.



15 Alkanes

Alkanes are a homologous series of hydrocarbons, meaning they are organic compounds composed solely of carbon and hydrogen atoms. These molecules are characterized by having only single covalent bonds between their carbon atoms, making them saturated hydrocarbons. The simplest alkane is methane (CH_4), a primary component of natural gas.

16 Incomplete combustion

Welcome to this learning session on 16 Incomplete Combustion In this course we shall address:Combustion: Complete vs. IncompleteIncomplete Combustion: Products and HazardsKey Hazards: Carbon Monoxide and SootReal-World Sources and PreventionEnvironmental Impact and MitigationThere will be a quiz at the end to test your knowledge.

17 Acid rain

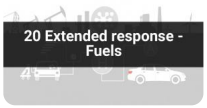
Rainwater is naturally slightly acidic due to the dissolution of carbon dioxide from the atmosphere, forming carbonic acid, which typically gives it a pH of around 5.6. Acid rain, however, is significantly more acidic, with a pH usually below 5.0, and sometimes as low as 2.4 in severely affected areas. This increased acidity is primarily caused by atmospheric pollutants.

18 Choosing fuels

Most modern vehicles rely on petrol or diesel oil for propulsion, which have been the dominant fuels for over a century. However, hydrogen is emerging as a promising alternative, offering a different set of characteristics and environmental considerations.

19 Cracking

Cracking is a crucial process in oil refineries, primarily carried out after fractional distillation. Its main purpose is to convert long-chain hydrocarbon molecules, which are less useful, into shorter, more valuable ones.



20 Extended response - Fuels

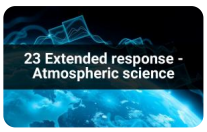
Crude oil is a naturally occurring, unrefined petroleum product composed of hydrocarbon deposits and other organic materials. It is a complex mixture of various hydrocarbons, predominantly belonging to the alkane homologous series, which are saturated hydrocarbons with single bonds.

21 The early atmosphere

Welcome to this learning session on 21 The early atmosphere In this course we shall address:Volcanic beginnings and modern balanceOceans form, dissolving atmospheric CO2Marine life sequesters carbonPhotosynthesis and oxygen emergenceEvidence of oxygen's riseThere will be a quiz at the end to test your knowledge.

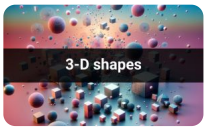
22 Greenhouse effect

Welcome to this learning session on Greenhouse effect In this course we shall address:Understanding the Greenhouse EffectGreenhouse Gases: Sources and Heat TrappingGlobal Warming and Climate ChangeEvidence for Global WarmingScientific Consensus on Climate ChangeThere will be a quiz at the end to test your knowledge.



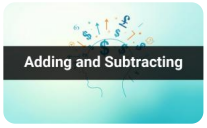
23 Extended response - Atmospheric science

Atmospheric science is the study of Earth's atmosphere, its processes, and how it interacts with other systems. Understanding these interactions is crucial for evaluating complex environmental challenges like global warming.



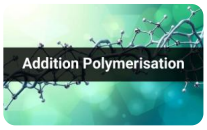
3-D shapes

Three-dimensional (3-D) shapes, also known as solids, are objects that occupy space and have length, width, and height. Unlike two-dimensional shapes which are flat, 3-D shapes can be held and observed from different angles.



Adding and Subtracting

This course provides a foundational understanding of adding and subtracting numbers without a calculator, a core skill for GCSE Maths. It covers essential mental methods for quick calculations, alongside detailed explanations of column addition and subtraction techniques. Learners will gain proficiency in both conceptual understanding and practical application, including solving multi-step word problems.



Addition Polymerisation

Polymers are large molecules, also known as macromolecules, formed from the covalent bonding of many smaller, identical or similar units. These giant molecules consist of repeating structural units connected end-to-end, creating long chains. Polymers are ubiquitous in daily life, ranging from natural substances like DNA and proteins to synthetic materials such as plastics and rubber.

Addition Polymers

Polymerisation is a chemical process where small, reactive molecules, known as monomers, join together to form very large molecules called polymers. This process typically involves the formation of new covalent bonds between the monomer units.

African Cloth Parachute Game

Discover the cultural heritage and physical benefits of the African Cloth Parachute Game, a traditional Ghanaian activity that builds teamwork and coordination. Learn how to transform large textiles into a tool for creative play and community bonding.

Agricultural Machinery

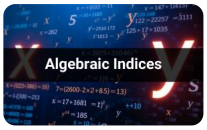
Understanding and identifying the uses of simple farm tools, equipment, implements, and machines is essential for effective crop production. This knowledge allows farmers to efficiently produce vegetable crops and ornamental plants, optimizing their work from soil preparation to harvesting.

Alcohols

Welcome to this learning session on Alcohols In this course we shall address:Alcohol Functional GroupEthanol Structure and PropertiesCommon Alcohol ReactionsAlcohol Production MethodsAlcohol ApplicationsThere will be a quiz at the end to test your knowledge.

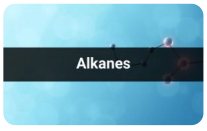
Alcohols: Structure and Reactions

Alcohols are a class of organic compounds characterized by the presence of a hydroxyl functional group, which is an -OH group, attached to a saturated carbon atom. This functional group is responsible for many of the characteristic properties of alcohols.



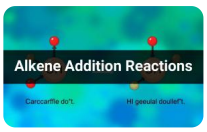
Algebraic Indices

This course provides a comprehensive guide to algebraic indices, building upon foundational numerical index concepts. Learners will explore the four fundamental index laws, understand their application in simplifying algebraic expressions, and learn crucial rules for handling coefficients and powers within brackets. The material is designed to enhance problem-solving skills for GCSE Maths Edexcel Board, Foundation section.



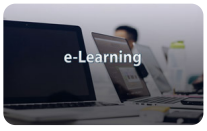
Alkanes

Hydrocarbons are organic compounds composed solely of hydrogen and carbon atoms. They form the backbone of many organic molecules and are fundamental to understanding organic chemistry.



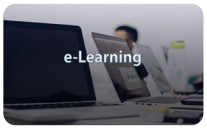
Alkene Addition Reactions

Welcome to this learning session on Alkene Addition Reactions In this course we shall address:Alkene Addition Reactions OverviewHydrogenation and HalogenationAlkene Hydration ReactionsAlkene CombustionTesting Alkene UnsaturationThere will be a quiz at the end to test your knowledge.



Alkene Reactions

Alkenes are unsaturated hydrocarbons characterized by at least one carbon-carbon double bond (C=C). This double bond makes them significantly more reactive than alkanes, which only possess single bonds. The presence of the pi bond within the double bond is key to alkenes' reactivity.



Alkenes

Alkenes are a class of hydrocarbons, which are organic compounds composed solely of carbon and hydrogen atoms. They are distinct from alkanes due to a specific structural feature that gives them unique chemical properties.

Alloys

Alloys are mixtures of two or more elements, where at least one of these elements is a metal. They are created to enhance the properties of pure metals, which often lack the desired strength, hardness, or corrosion resistance for specific applications.

Alternators and Dynamos

Electrical generators are devices that convert mechanical energy into electrical energy. This conversion is based on the principle of electromagnetic induction, where a conductor moving through a magnetic field, or a changing magnetic field around a conductor, induces an electromotive force (EMF) and thus an electric current.

Amazon Rainforest: Sustainable Management Strategies

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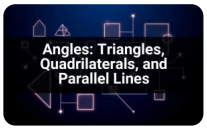
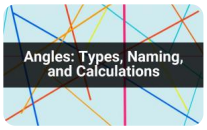
Angles in polygons

Polygons are closed two-dimensional shapes made up of straight line segments. Understanding the angles within and outside these shapes is crucial for various geometric problems. Every polygon has both interior angles, which are inside the shape, and exterior angles, which are formed by extending one side of the polygon.



Angles: Triangles, Quadrilaterals, and Parallel Lines

Angles are fundamental to geometry, defining the relationships between lines and shapes. Understanding how angles behave within different figures is crucial for solving a wide range of mathematical problems. This course will cover the essential rules for angles in common polygons and with parallel lines.



Angles: Types, Naming, and Calculations

Angles are fundamental components of geometry, representing the amount of turn between two intersecting lines or surfaces. They are measured in degrees, with a full circle encompassing 360 degrees. Understanding angles is crucial for various fields, from architecture and engineering to art and navigation.

Applied Technology: Materials, Mechanics, Construction, Electrical Trades

Manufactured boards, created from both wood and non-wood residues, are crucial in modern construction and furniture industries. These engineered materials offer a sustainable and efficient solution, especially as natural resources become increasingly scarce and environmental concerns grow.

Applied Technology: Materials, Safety, and Operations

Timber undergoes several crucial steps in the woodwork industry to transform into the products we use daily. These phases are vital for ensuring the quality and longevity of wooden items.

Applied Technology: Safety, Engines, Construction, Measurement

Staying safe in the workshop is an essential aspect of woodworking practice, protecting not just oneself but also others in all environments. Woodworking technology involves a wide range of potentially hazardous tools and machines, making safety rules crucial. Beyond tools, proper handling of materials is also vital to prevent accidents.

Applying First Aid Knowledge

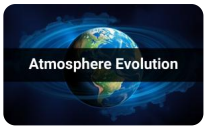
Learn to transform theoretical first aid into life-saving actions for emergencies. Master the use of first aid kits and practical techniques for managing injuries in a Ghanaian school setting.

Area Formulae for Common Geometric Shapes

Understanding area formulae is a fundamental skill in geometry and is essential for solving many practical problems. These formulae allow us to quantify the two-dimensional space occupied by various shapes, from simple squares to more complex polygons.

Arm Wrestling and Tug of War

Master the strength, strategy, and teamwork required for two of Ghana's most exciting physical contests. Learn official rules, professional techniques, and the rich history behind these tests of power and coordination.



Atmosphere Evolution

Welcome to this learning session on Atmosphere Evolution In this course we shall address:Primordial Atmosphere and Early OceansPhotosynthesis and Oxygen AccumulationGeological Carbon SinksCarbon Dioxide Levels Over TimeKey Atmospheric TransformationsThere will be a quiz at the end to test your knowledge.

Atmospheric Pollution

Atmospheric pollution refers to the presence of harmful substances in the Earth's atmosphere, which can originate from natural processes or human activities. These pollutants can have detrimental effects on human health, ecosystems, and the climate.

Atmospheric Pollution Sources

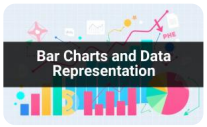
Atmospheric pollution refers to the presence of harmful substances in the Earth's atmosphere, which can cause adverse effects on human health, ecosystems, and materials. These pollutants can be in the form of gases, liquid droplets, or solid particles. Understanding their origins is the first step in addressing their impact.

Averages and Range Fundamentals

Averages and range are fundamental concepts in statistics used to summarize and understand data sets. Averages, specifically the mean, median, and mode, provide a single value that represents the central tendency of the data. The range, on the other hand, indicates the spread or variability within a data set, showing the difference between the highest and lowest values.

Averages from Frequency Tables

When working with large datasets, organizing information into a frequency table simplifies analysis. A frequency table lists data values and the number of times each value appears, known as its frequency. It is crucial to remember that the frequency itself is not the data value, but rather a count of how often a specific data value occurs.



Bar Charts and Data Representation

Bar charts are powerful visual tools used to represent data from tally charts or frequency tables. They provide a clear and immediate understanding of quantities across different categories, making complex data accessible at a glance. This method is particularly effective for showing comparisons between discrete groups.

Bearings: Navigation and Measurement

Bearings are a fundamental concept in navigation, providing a precise way to describe direction. They are always measured clockwise from a fixed north line, ensuring a consistent and unambiguous reference point for pilots, sailors, and surveyors. This standardized approach allows for clear communication of directional information across various fields.

Biosphere Services and Human Exploitation

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Black Body Radiation

All objects continuously emit and absorb infrared radiation, a fundamental aspect of thermal physics. This radiation is a form of electromagnetic wave, carrying thermal energy away from or towards an object. Understanding this process is crucial for comprehending how objects interact with heat and light in various environments.

Calculating Probability and Expected Outcomes

Expected outcome, or expectation, is the average result you would anticipate from an event if it were repeated many times. It's a theoretical value, not a guarantee of any single trial, but a powerful predictor over the long run.

Calculator and Number Skills

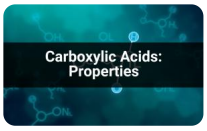
This course provides a comprehensive guide to essential calculator functions and fundamental number skills, focusing on the correct application of the order of operations and understanding reciprocals. It aims to equip learners with the precision and techniques required for success in mathematics exams, particularly for the GCSE Maths Edexcel Board.

Carbon Footprint

Welcome to this learning session on Carbon Footprint In this course we shall address:Carbon Footprint FundamentalsStrategies for Carbon ReductionEnergy and Carbon CaptureLife Cycle Assessment (LCA)Policy and Future ReductionThere will be a quiz at the end to test your knowledge.

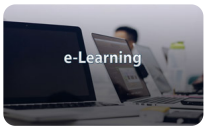
Carbon Footprint and LCA

Welcome to this learning session on Carbon Footprint and LCA In this course we shall address:Carbon Footprint FundamentalsCarbon Footprint Reduction and NeutralityLCA: Introduction and Life Cycle StagesLCA Impacts, Benefits, and LimitationsComparing Carbon Footprint and LCAThere will be a quiz at the end to test your knowledge.



Carboxylic Acids: Properties

Carboxylic acids are organic compounds characterized by the presence of a carboxyl functional group. They are widely found in nature and are essential in various industrial processes.



Catalysts

Welcome to this learning session on Catalysts In this course we shall address:Catalyst Basics and MechanismHomogeneous and Heterogeneous CatalystsIndustrial ApplicationsEnzymes as Biological CatalystsBenefits and Environmental ImpactThere will be a quiz at the end to test your knowledge.

Catalysts and Activation Energy

Catalysts are substances that increase the rate of a chemical reaction without being chemically changed or consumed in the process. They achieve this by providing an alternative reaction pathway.

Causes of Deciduous Woodland Deforestation

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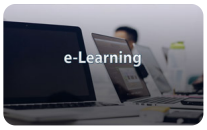


Chemical Equilibrium

Chemical equilibrium is a state in a reversible reaction where the rate of the forward reaction becomes equal to the rate of the backward reaction. This does not mean the reaction has stopped; instead, it is a dynamic process where both reactions continue to occur simultaneously.

Chemical Tests for Anions

Anions are negatively charged ions that play a crucial role in many chemical compounds. Identifying these ions in an unknown sample is a fundamental skill in chemistry, often achieved through specific chemical tests.

Chemical Tests for Cations

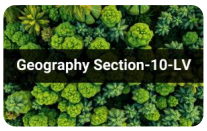
Cations are positively charged ions, typically formed when metal atoms lose electrons. Identifying specific cations in a sample is a fundamental skill in chemistry, essential for qualitative analysis.

Chemical Tests for Gases

Identifying unknown gases is a fundamental skill in chemistry, crucial for both experimental analysis and safety. Qualitative gas tests allow chemists to determine the presence of specific gases based on their unique chemical properties and reactions.

Circles

Circles are fundamental geometric shapes defined by all points equidistant from a central point. Understanding their basic components is crucial for various mathematical and real-world applications.



Climate, Vegitation and Soils in Ghana

This course provides a comprehensive understanding of Ghana's climate, vegetation, and soil types. It explores their interrelationships and highlights their socio-economic importance for sustainable development. Learners will gain insights into the diverse physical settings and human interactions within Ghana's environment.

Coastal Deposition: Forming Beaches, Spits, and Bars

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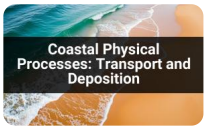
Coastal Erosion Management: Hard and Soft Engineering

Create a course for GCSE students

Coastal Landscapes: Weathering, Movement, Erosion

Create a course for GCSE students



Coastal Physical Processes: Transport and Deposition

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Collecting like terms

This course provides a comprehensive guide to collecting like terms in algebra, a fundamental skill for simplifying expressions. Learners will explore the definitions of expressions, equations, and formulae, understand the golden rules for identifying and combining like terms, and practice simplifying various algebraic examples. The course also highlights common mistakes and offers examiner tips to help students master this essential mathematical concept.

Collision Theory

Collision theory is a model used to explain how chemical reactions occur and why reaction rates differ. It posits that for a chemical reaction to take place, reactant particles must collide with each other.

Collision Theory Principles

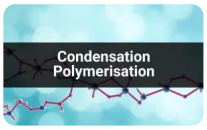
Collision theory is a model used to explain how chemical reactions occur and why reaction rates differ. It states that for a chemical reaction to take place, reactant particles must collide with each other.

Comparing Data: Averages, Spread & Charts

Comparing data sets is a crucial skill in statistics, allowing us to identify similarities, differences, and underlying patterns between groups. This process helps in making informed decisions and drawing valid conclusions from numerical information.

Completing Two-Way Tables

Two-way tables are powerful tools used in statistics to display the frequencies or counts of two categorical variables simultaneously. They help organize data in a way that makes it easy to see relationships and distributions between different categories. These tables are fundamental for understanding how two variables interact.



Condensation Polymerisation

Condensation polymerisation is a type of polymerisation where monomers react to form a polymer, with the simultaneous elimination of a small molecule, typically water. This process is distinct from addition polymerisation, where monomers add together without the loss of any atoms.

Congruent triangles

Congruent triangles are triangles that are identical in shape and size. This means all corresponding sides and all corresponding angles are equal. If you can perfectly superimpose one triangle onto another, they are congruent.

Conscientious Objectors

This course explores the evolution of conscientious objection from 1916 to 1945, focusing on legal changes, societal reactions, and the treatment of objectors during the World Wars.

Conserving Earth's Resources

Earth provides a vast array of natural resources essential for human survival and development. These resources are broadly categorized as finite or renewable, each requiring careful management to ensure long-term availability.

Conserving Resources

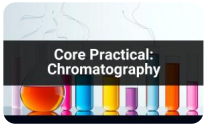
Resource conservation involves protecting and preserving Earth's natural resources, which are essential for human survival and well-being. These resources include water, air, soil, minerals, forests, and fossil fuels. Many of these are finite, meaning they exist in limited quantities and cannot be replenished on a human timescale.

Coordinates

This course provides a foundational understanding of coordinate geometry, covering how to describe positions on a grid, identify and plot points, and work with negative coordinates. It also delves into the concept of midpoints, explaining the formula and its application in finding the center of geometric shapes like rectangles. Learners will gain essential skills for the GCSE Maths Edexcel Board.

Core Practical: Chromatography

Chromatography is a powerful analytical technique used to separate components in a mixture. This separation relies on the differential distribution of components between two phases: a stationary phase and a mobile phase.



Core Practical: Chromatography

Chromatography is a powerful analytical technique used to separate components within a mixture. It relies on the differential distribution of substances between two phases: a stationary phase and a mobile phase.

Core Practical: Compound Identification

Identifying unknown chemical compounds is a fundamental skill in chemistry, crucial for quality control, forensic science, and research. This practical module focuses on systematically determining the identity of an unknown ionic compound.

Core Practical: Reaction Rate

This core practical investigates factors affecting the rate of reaction, specifically focusing on the reaction between sodium thiosulfate and hydrochloric acid. The "disappearing cross" method is commonly used to observe the formation of a precipitate, which obscures a mark. By measuring the time taken for the cross to disappear, we can determine the reaction rate.

Core Practical: Reaction Rate

This practical aims to investigate factors affecting the rate of reaction using a visual method. Understanding how to accurately measure reaction rates is fundamental in chemistry, providing insights into chemical kinetics.

Core Practical: Water Purification

Water purification is the process of removing undesirable chemicals, biological contaminants, suspended solids, and gases from water. The goal is to produce water fit for a specific purpose, such as drinking, industrial use, or medical applications.

Core Practical: Water Purification

Water purification is a critical process used to remove impurities from water, making it safe for various uses, including drinking and laboratory experiments. Impurities can include dissolved salts, suspended solids, and microorganisms.

Corrosion & Prevention

Corrosion is a natural process that converts a refined metal into a more stable form, such as its oxide, hydroxide, or sulfide. It is a gradual destruction of materials, usually metals, by chemical and/or electrochemical reaction with their environment. This process can lead to significant structural damage and economic losses across various industries.

Corrosion and Prevention

Welcome to this learning session on Corrosion and Prevention In this course we shall address:Introduction to Corrosion and Metal DegradationRusting: Iron Corrosion and its CausesFactors Influencing Corrosion RateGeneral Strategies for Corrosion PreventionSacrificial and Barrier Protection MethodsThere will be a quiz at the end to test your knowledge.

Counting Strategies

This course introduces fundamental counting strategies essential for systematically determining all possible combinations or arrangements. Learners will explore methods like systematic listing and the multiplication principle, applying them to various real-world scenarios. The aim is to develop a clear, organized approach to problem-solving in mathematics, particularly useful for probability and combinatorics.

Cracking Hydrocarbons

Cracking is a process of thermal decomposition that breaks down large, complex hydrocarbon molecules into smaller, more useful ones. These larger molecules are typically found in less valuable fractions of crude oil, such as fuel oil or bitumen.

Cracking Hydrocarbons

Cracking is a process that breaks down large, long-chain hydrocarbon molecules into smaller, more useful hydrocarbon molecules. These larger molecules are typically found in less valuable fractions of crude oil, such as fuel oil or bitumen.

Crafting Compelling Arguments & Rhetorical Devices

A compelling argument is one that effectively persuades an audience to accept a particular viewpoint or take a specific action. It goes beyond merely stating an opinion, instead offering well-reasoned support and evidence.

Crime in the Early Modern England Period

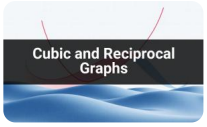
This course explores the evolution of crime, punishment, and law enforcement in England between c1500 and c1700, highlighting key historical events and societal changes.

Crude Oil & Distillation

Crude oil is a finite, naturally occurring fossil fuel formed from the remains of ancient marine organisms over millions of years. It is a complex mixture of hydrocarbons with varying chain lengths and is found deep within the Earth's crust.

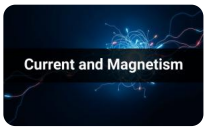
Crude Oil and Distillation

Crude oil is a naturally occurring fossil fuel formed from the remains of ancient marine organisms over millions of years. It is a complex mixture of hydrocarbons, which are compounds made primarily of hydrogen and carbon atoms.



Cubic and Reciprocal Graphs

This course provides a comprehensive guide to understanding and interpreting cubic and reciprocal graphs. Learners will explore their unique shapes, learn how to construct them using tables of values, and practice identifying different graph types based on their equations.



Current and Magnetism

Welcome to this learning session on Current and Magnetism In this course we shall address:Magnetic Fields and Direction from ConductorsConductor Magnetic Field StrengthSolenoids and Their FieldsSolenoid Magnetic Field StrengthElectromagnetism ApplicationsThere will be a quiz at the end to test your knowledge.

Current, Magnetism and Force

Electromagnetism is a fundamental force of nature that describes the interaction between electricity and magnetism. This interaction is not merely a coincidence; electricity and magnetism are two facets of the same phenomenon. Moving electric charges, or currents, create magnetic fields, and conversely, changing magnetic fields can induce electric currents.

Cylinders

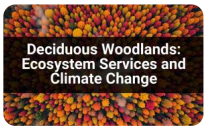
Cylinders are fundamental three-dimensional geometric shapes characterized by two parallel circular bases and a single curved surface connecting them. They are ubiquitous in our daily lives, appearing in everything from food cans to water pipes and even architectural columns.

Dangers and Uses of EM Spectrum

The electromagnetic (EM) spectrum encompasses a wide range of waves, from long radio waves to short gamma-rays, all traveling at the speed of light in a vacuum. These waves differ in wavelength and frequency, which dictates their energy and how they interact with matter. Understanding both the potential dangers and beneficial uses of each part of the spectrum is crucial for safety and technological advancement.

Deciduous Woodlands: Components, Climate, and Cycles

Create a course for GCSE students



Deciduous Woodlands: Ecosystem Services and Climate Change

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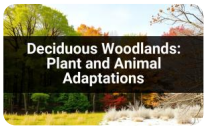

Deciduous Woodlands: Plant and Animal Adaptations

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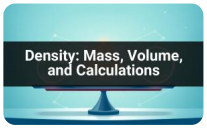
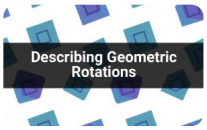
Decimals and Place Value

This course provides a foundational understanding of decimal numbers and their place value. Learners will explore how to accurately compare, order, and perform operations with decimals, building essential skills for various mathematical contexts. The content is aligned with GCSE Maths Edexcel Board requirements for the Number unit.



Density: Mass, Volume, and Calculations

This course provides a comprehensive understanding of density, a fundamental physical property of matter. Learners will explore its definition, learn how to use the density formula triangle, and practice calculations involving mass, volume, and density. The material is tailored for GCSE Maths Edexcel Board, focusing on the Ratio and Proportion unit.



Describing Geometric Rotations

Geometric transformations are fundamental operations that change the position, orientation, or size of a geometric figure. These include translations, reflections, rotations, and enlargements. Understanding these transformations is crucial for various fields, from computer graphics to engineering design.

Disease Prevention: Immunisation and Vaccination

Master the science behind vaccines and their role in protecting Ghana’s public health. Learn how immunisation works, explore different vaccine types, and discover how herd immunity shields our communities.

Distance–time graphs

This course introduces distance–time graphs, a fundamental tool in mathematics for visualizing motion. Learners will explore how to interpret various features of these graphs, including identifying periods of rest, constant speed, and changes in direction. Through practical examples and step-by-step analysis, the course aims to build a solid understanding of how distance–time graphs provide comprehensive information about a journey.

Distinguishing Correlation From Causal Relationships

A causal relationship exists when a change in one variable directly leads to a change in another variable. This direct link means that the first variable is the cause, and the second is the effect. Understanding causality is crucial for making informed decisions and predictions in various fields, from medicine to economics.

DNA & Natural Polymers

Natural polymers are large molecules, or macromolecules, composed of many repeated smaller units called monomers. These polymers are essential for life, forming the structural and functional components of living organisms. They include proteins, nucleic acids, and polysaccharides.

Drought in California: Causes, Impacts, and Solutions

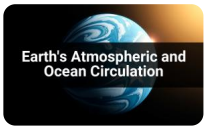
Create a course for GCSE students

Early and Modern Atmosphere

Introduction to Earth's Atmosphere Earth's atmosphere is a vital layer of gases enveloping our planet, crucial for sustaining life. It shields us from harmful solar radiation, regulates temperature, and provides the necessary gases for biological processes.

Earth's Atmosphere Composition

Introduction to Earth's Atmosphere Earth's atmosphere is a vital layer of gases surrounding our planet, held in place by gravity. This gaseous envelope is essential for sustaining life, regulating temperature, and protecting the surface from harmful solar radiation. Without it, Earth would be a barren, lifeless world, much like the moon.



Earth's Atmospheric and Ocean Circulation

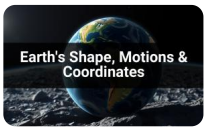
Create a course for GCSE students

Earth's Resources & Sustainability

Introduction to Earth's Natural Resources Earth provides a vast array of natural resources essential for human survival and development. These resources encompass everything from the air we breathe and the water we drink to the minerals and energy sources that power our societies. Understanding these resources is fundamental to managing our planet responsibly.

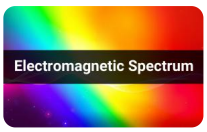
Earth's Resources and Sustainability

Introduction to Earth's Resources Earth's resources encompass all materials and energy sources provided by nature that are useful to humans. These resources are fundamental for sustaining life, supporting economies, and enabling technological advancements.



Earth's Shape, Motions & Coordinates

This course explores the Earth's unique shape, its fundamental movements of rotation and revolution, and the essential geographic coordinates of latitude and longitude. You will learn how these concepts influence our daily lives, from day and night cycles to global time zones and navigation, with examples relevant to Ghana.



Electromagnetic Spectrum

The electromagnetic (EM) spectrum encompasses all forms of electromagnetic radiation, which are waves that propagate through space or matter. These waves are created by the oscillation of electric and magnetic fields, which are perpendicular to each other and to the direction of wave propagation.

Engineering Materials, Engines, Building, Electrical Power

A stakeholders' forum in building construction projects is a crucial meeting involving all key players. This platform allows stakeholders to explore opportunities and avenues to achieve the ultimate goal of a successful project, ensuring good pricing, quality, and timely completion. It fosters communication, collaboration, and transparency among all parties.

Enlargements: Scale Factor and Centre on a Grid

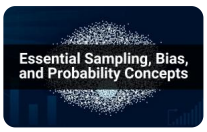
An enlargement is a transformation that changes the size of a shape but not its orientation or angles. To fully describe an enlargement, two key pieces of information are required: the scale factor and the centre of enlargement. Think of it like zooming in or out on an image on a digital screen.

Environmental Hazards and Disasters in Ghana

This course provides a comprehensive understanding of environmental hazards and disasters in Ghana. It covers their definitions, causes, impacts, and management strategies, including preparedness and response. Learners will explore various natural and human-induced hazards, identify vulnerable areas in Ghana, and understand the importance of proactive measures for sustainable development and community resilience. The content aligns with the JHS Social Studies curriculum.

Equilibrium: Temperature, Pressure

Chemical equilibrium is a state in a reversible reaction where the rate of the forward reaction equals the rate of the reverse reaction. At this point, the concentrations of reactants and products remain constant, although the reactions continue to occur.

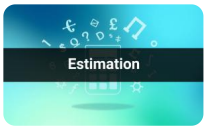


Essential Sampling, Bias, and Probability Concepts

In statistics, a population refers to the entire group of individuals, objects, or data points that a researcher is interested in studying. This could be all students in a school, all trees in a forest, or every customer of a business. Understanding the full scope of the population is crucial for defining research objectives.

Estimating Averages from Grouped Data

Sometimes, data is presented in a frequency table using class intervals, rather than individual data points. This grouping occurs when dealing with large datasets, making it impractical or impossible to record every single value. For example, a survey of thousands of people's ages might group them into 10-year intervals.



Estimation

This course provides a foundational understanding of estimation, a crucial skill in mathematics for quickly approximating answers. Learners will explore various rounding techniques, including rounding to one significant figure, and apply these methods to complex calculations involving division, powers, and geometric formulas. The course also covers how to determine if an estimate is an overestimate or an underestimate, preparing students for non-calculator examinations and real-world problem-sol...

Ethiopian Drought: Impacts on People and Ecosystems

Create a course for GCSE students

Evolution of Atmosphere

Welcome to this learning session on Evolution of Atmosphere In this course we shall address:Early Atmosphere and OceansLife's Oxygen RevolutionGeological Carbon Dioxide StorageFossil Fuels: Stored CarbonHuman Impact on AtmosphereThere will be a quiz at the end to test your knowledge.

Exact Values of Sine, Cosine, Tangent

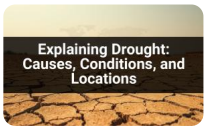
Exact trigonometry values are fundamental in mathematics, particularly when working without a calculator. These values represent the precise ratios of sides in special right-angled triangles, providing a deeper understanding of trigonometric functions.

Expanding Brackets

This course provides a comprehensive guide to expanding brackets, a fundamental skill in algebra. Learners will master the distributive property, confidently handle negative signs in multiplication, and learn to simplify complex algebraic expressions by collecting like terms. The material is designed to build a strong foundation for further algebraic studies, aligning with GCSE Maths Edexcel Board requirements.

Expanding Double Brackets

This course provides a foundational understanding of how to expand double brackets in algebraic expressions. It covers three primary methods: one-at-a-time, FOIL, and the grid method, offering clear examples and explanations for each. Mastering these techniques is crucial for simplifying complex equations and solving quadratic expressions in mathematics.



Explaining Drought: Causes, Conditions, and Locations

Create a course for GCSE students

Exploring UK Climate and Its Influences

Create a course for GCSE students

Extended Response - Forces

Extended response questions in physics require more than just a single answer; they demand a detailed explanation, analysis, or evaluation of a given scenario. These questions often assess your ability to apply multiple physics principles, design experiments, or critically evaluate scientific information.

Extended Response - Magnetism

Extended response questions in physics require more than just a single answer; they demand detailed explanations, justifications, and the application of multiple scientific principles. These questions often assess your ability to link different concepts, analyze scenarios, and communicate your understanding coherally.

Extended Response - Space Physics

Extended response questions in AQA GCSE Physics Higher Paper 2 require detailed, structured answers that demonstrate a deep understanding of scientific concepts. These questions often ask candidates to explain complex phenomena, evaluate evidence, or compare theories.

Extended Response - Waves

Welcome to this learning session on Extended Response - Waves In this course we shall address:Extended Response TechniquesUnderstanding the Electromagnetic SpectrumHarmful Effects of EM RadiationApplications of EM RadiationEnsuring Radiation SafetyThere will be a quiz at the end to test your knowledge.

Extended Response: Atmosphere

Atmospheric pollutants are substances released into the air that can harm human health, damage ecosystems, and impact climate. These substances can be natural, such as volcanic ash, or anthropogenic, originating from human activities.

Extended Response: Chemical Analysis

Chemical analysis is a fundamental aspect of chemistry, involving the determination of the chemical composition of a sample. It allows scientists to identify unknown substances, quantify components, and understand the properties of materials. This process is crucial in various fields, including forensic science, environmental monitoring, and quality control in industry.

Extended Response: Organic Chemistry

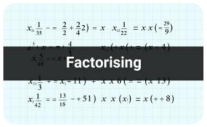
Extended response questions in organic chemistry require more than simple recall; they demand a thorough understanding of concepts, their applications, and their implications. These questions often involve linking different areas of the curriculum, such as industrial processes, environmental impacts, and chemical tests.

Extended Response: Rates & Equilibria

Introduction to Extended Response Questions Extended response questions in chemistry require more than just recalling facts; they demand a deeper understanding and the ability to apply concepts to specific scenarios. These questions often ask you to explain, justify, or evaluate, linking multiple scientific principles together.

Extended Response: Using Resources

Extended response questions in chemistry require a detailed, structured answer that demonstrates a deep understanding of the topic. These questions often ask you to explain, evaluate, or compare complex concepts, drawing upon various aspects of the curriculum.



Factorising

This course provides a comprehensive guide to factorising algebraic expressions, a fundamental skill in mathematics. Learners will understand factorising as the reverse of expanding brackets, learn to identify the highest common factor, and master the step-by-step process for fully factorising various expressions. The course also addresses common pitfalls and provides worked examples to solidify understanding.

Factorising Quadratics

This course provides a comprehensive guide to factorising quadratic expressions, a fundamental skill in algebra. Learners will master techniques for factorising expressions of the form $x^2 + bx + c$ and the special case of the difference of two squares. The material is designed to build confidence and prepare students for common exam questions, emphasizing practical application and verification methods.

Factors, Multiples, and Primes

This course provides a comprehensive guide to understanding factors, multiples, and prime numbers, essential concepts in mathematics. Learners will explore definitions, learn to identify these number properties, and apply techniques like factor trees for prime factorization. The material is designed to build a strong foundation for further mathematical studies.

Fertilisers

Fertilisers are substances, natural or synthetic, applied to soil or plant tissues to supply one or more plant nutrients essential for the growth of plants. They are crucial for enhancing crop yield and quality in agriculture.

First Aid: Concepts and Principles

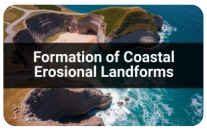
Master the essential life-saving skills and protocols required to act confidently during emergencies in Ghana. This module covers the history, core principles, and the critical DRABC and ABC rules for first responders.

Flame Emission Spectroscopy

Flame Emission Spectroscopy (FES) is an analytical technique used to determine the concentration of certain metal ions in a sample. It relies on the principle that when metal atoms are heated in a flame, they emit light at specific wavelengths. This emitted light is then analyzed to identify the elements present and their quantities.

Flame Emission Spectroscopy

Flame Emission Spectroscopy (FES) is an analytical technique used to detect and quantify metal ions in a sample. It relies on the principle that when metal atoms are heated in a flame, their electrons become excited and jump to higher energy levels. As these excited electrons return to their ground state, they emit light at specific wavelengths.



Formation of Coastal Erosional Landforms

Create a course for GCSE students

Formulae

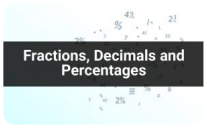
This course provides a foundational understanding of mathematical formulae, covering their definition, purpose, and application. Learners will explore how to substitute values into formulae and correctly apply the order of operations (BIDMAS) to solve various problems, from calculating cooking times to determining physical distances and geometric areas. The material is designed to enhance problem-solving skills in algebra.

Foundations of Academic Reading & Comprehension

Academic reading is a specialized skill distinct from casual reading, requiring active engagement and critical thinking. It involves more than just understanding words; it demands analyzing arguments, evaluating evidence, and synthesizing information from complex texts. Developing strong academic reading skills is crucial for success in higher education and beyond.

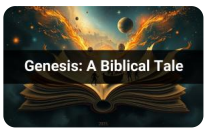
Fractions

This course provides a comprehensive guide to understanding and working with fractions, a fundamental concept in mathematics. Learners will explore how to divide objects, identify equivalent fractions, simplify expressions, and calculate fractions of given amounts. Practical examples and expert tips are included to build confidence and proficiency in fraction operations.



Fractions, Decimals and Percentages

This course provides a comprehensive guide to understanding and converting between fractions, decimals, and percentages. Learners will explore essential conversion techniques, common equivalents, and strategies for solving word problems involving these fundamental mathematical concepts. It is designed to build a strong foundation for GCSE Maths Edexcel Board, Foundation section, Ratio and Proportion unit.



Genesis: A Biblical Tale

Exceptional customer service is the ultimate competitive advantage and the lifeblood of any successful organization. This practical e-learning course is designed to equip your team with the modern skills, mindset, and techniques needed to consistently deliver outstanding customer experiences. You will learn how to master effective communication, manage challenging interactions with professionalism, and leverage empathy to build lasting customer loyalty. The course emphasizes moving beyond transa...

Geological Influences on Coastal Landforms

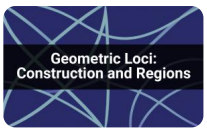
Create a course for GCSE students

Geometric Constructions: Angles, Triangles, Bisectors

Geometric constructions involve creating geometric figures using only two tools: a compass and an unmarked straightedge, often referred to as a ruler. This ancient practice, dating back to the Greeks, forms the bedrock of Euclidean geometry. Understanding these fundamental constructions is crucial for developing spatial reasoning and a deeper appreciation for mathematical principles.

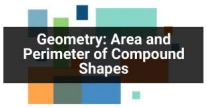
Geometric Constructions: Perpendicular Lines and Bisectors

Geometric constructions are a foundational aspect of geometry, involving the creation of geometric figures using only two basic tools: a compass and a straightedge (ruler). This ancient practice, dating back to Euclid's Elements, emphasizes precision and understanding fundamental geometric principles.



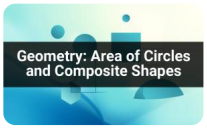
Geometric Loci: Construction and Regions

A locus is defined as a set of points that satisfy a specific geometric condition. These conditions can range from simple distance requirements to more complex relationships between points, lines, or other shapes.



Geometry: Area and Perimeter of Compound Shapes

Compound shapes are figures made up of two or more basic geometric shapes, such as rectangles, triangles, or circles. Calculating their area and perimeter often requires a strategic approach, as direct formulas for these complex shapes do not exist.



Geometry: Area of Circles and Composite Shapes

The area of a circle is the space enclosed within its boundary. To calculate this, you need to know the formula: Area = π × Radius², often written as A = πr². This formula is fundamental in geometry and has been known for millennia.

Ghana's Physical Environment

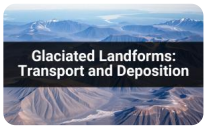
Explore Ghana's diverse physical environment, from its geographical location and administrative divisions to its varied relief features. This course delves into the country's highlands, lowlands, and distinct physiographic regions. Discover the vital drainage systems, including major rivers, lakes, and lagoons, and understand their economic importance as well as the challenges they pose for development.

Glacial Processes and UK Landscapes

Create a course for GCSE students

Glacial Valley Erosional Landforms

Create a course for GCSE students

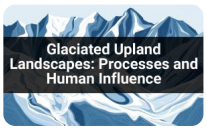


Glaciated Landforms: Transport and Deposition

Create a course for GCSE students

Glaciated Upland Erosional Landforms

Create a course for GCSE students



Glaciated Upland Landscapes: Processes and Human Influence

Create a course for GCSE students

Global Climate Change

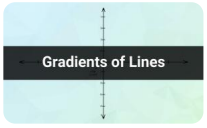
Global climate change refers to long-term shifts in temperatures and weather patterns across the planet. These shifts can be natural, but since the 19th century, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels.

Global Climate Change

Welcome to this learning session on Global Climate Change In this course we shall address:Climate Change: Basics and EvidenceOverview of Climate Change ImpactsSea Level Rise and Ice MeltExtreme Weather EventsFuture Projections and SolutionsThere will be a quiz at the end to test your knowledge.

Global Ecosystems: Climate, Biomes, and Local Factors

Create a course for GCSE students



Gradients of Lines

This course introduces the fundamental concept of gradients in straight-line graphs, explaining how they measure steepness and how to calculate them using the "distance up over distance across" rule. Learners will explore practical examples, understand different types of gradients, and discover their real-world applications in various fields.

Grammar for Precision and Style

Achieving precision and stylistic elegance in writing is crucial for effective communication, particularly in academic and professional contexts. This module moves beyond foundational grammar rules to explore how nuanced grammatical choices can significantly enhance the clarity and impact of your writing. Mastering these advanced techniques allows for more sophisticated expression of complex ideas.

Graphing Reaction Rates

Rate graphs are visual representations that show how the concentration of reactants or products changes over time during a chemical reaction. These graphs are fundamental for understanding the kinetics of a reaction, providing insights into its speed and progress.

Greenhouse Gases

Greenhouse gases (GHGs) are atmospheric gases that absorb and emit radiant energy within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. They play a crucial role in regulating Earth's temperature, making our planet habitable.

Greenhouse Gases and Effect

Greenhouse gases are atmospheric gases that absorb and emit radiant energy within the thermal infrared range, causing the greenhouse effect. They are crucial for maintaining Earth's temperature at a level suitable for life.

Growth and Decay

This course introduces the fundamental concepts of growth and decay, focusing on how repeated percentage changes model real-world scenarios. Learners will explore compound interest, depreciation, and population changes using multipliers and index notation. The material is designed to build a strong foundation for understanding financial and scientific applications of percentage change.

HCF and LCM

This course provides a foundational understanding of Highest Common Factor (HCF) and Lowest Common Multiple (LCM), essential concepts in number theory. Learners will explore prime factorization, index notation, and the use of Venn diagrams to efficiently calculate HCF and LCM for various numbers. The material is tailored for the GCSE Maths Edexcel Board, focusing on key techniques and common pitfalls.

History of Volleyball

Trace the journey of volleyball from its 19th-century origins to its status as a premier global and Ghanaian sport. Explore how rules evolved, the sport's rise in West Africa, and its commitment to inclusive play.

Hockey Dribbling Techniques

Master the essential skills of ball control to outmaneuver opponents and dominate the hockey pitch. This module covers speed, agility, and deceptive moves tailored for the Ghanaian Senior High School curriculum.

Hockey Hitting Techniques

Master the art of powerful and precise hitting in field hockey to dominate the pitch. Learn the mechanics of the drive, scoop, slap, and reverse hits while prioritizing safety for you and your teammates.

Hockey Rules, Grip and Pushing

Master the fundamentals of field hockey, from understanding the equipment and game rules to perfecting your grip and the essential push pass. Grounded in the Ghanaian SHS curriculum, this module builds your foundation for success on the pitch.

Holderness Coast: Physical & Human Coastal Change

Create a course for GCSE students

Human Activity and Coastal Landscape Change

Create a course for GCSE students

Human Activity: Climate Change Causes and Impacts

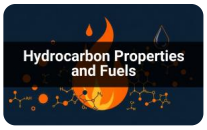
Create a course for GCSE students

Human Activity's Impact on Glaciated Uplands

Create a course for GCSE students

Hydrocarbon Properties

Hydrocarbons are organic compounds composed solely of hydrogen and carbon atoms. They form the basis of many fuels and materials essential to modern society. Understanding their properties is fundamental to predicting their behavior and applications.



Hydrocarbon Properties and Fuels

Hydrocarbons are organic compounds composed solely of hydrogen and carbon atoms. They form the backbone of many essential substances, including fuels like petrol, diesel, and natural gas. Their diverse structures lead to a wide range of physical and chemical properties.

Identities and Proof

This course provides a foundational understanding of algebraic identities and proof techniques. Learners will explore the key differences between identities and equations, learn how to prove identities through algebraic manipulation, and apply these skills to demonstrate properties of numbers. The content is designed to build a strong base in algebraic reasoning.

Importance of Vegetable and Ornamental Crops in the Livelihood of Producers, and Methods of Transferring Production Technology

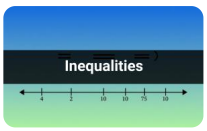
Welcome to this section, where we will explore how to mobilize resources and build crucial networks for successful agricultural production. As agriculture transitions from subsistence to a modern commercial enterprise, understanding these concepts becomes essential for all stakeholders.

Indices

This course provides a comprehensive understanding of indices, also known as exponents or powers, which are fundamental in mathematics for simplifying expressions. Learners will explore various index laws, including multiplication, division, and power of a power rules, along with special cases like negative and fractional powers. The material is designed to build a strong foundation for GCSE Maths Edexcel Board students.

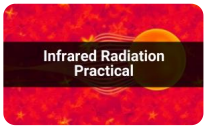
Induced Potential

Electromagnetic induction is a fundamental principle in physics, describing how a changing magnetic field can create an electromotive force (EMF), or potential difference, across an electrical conductor. This phenomenon is crucial for understanding how electricity is generated and transmitted.



Inequalities

This course provides a foundational understanding of inequalities, covering their symbols, representation on number lines, and application in error intervals. Learners will explore how to interpret and solve various types of inequalities, including compound inequalities, and identify integer solutions. The material is designed to enhance problem-solving skills for GCSE Maths Edexcel Board, focusing on the Algebra unit.



Infrared Radiation Practical

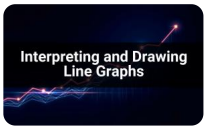
This module focuses on the 'Infrared Radiation Practical', a core experiment in physics designed to explore thermal energy transfer. You will learn how the nature of a surface significantly influences its ability to emit and absorb infrared radiation. This practical provides a hands-on understanding of key concepts related to heat transfer.

Interacting Forces

Forces are fundamental to understanding how objects move and behave in the universe. They are pushes or pulls that can cause an object to accelerate, change direction, or deform. Every force involves an interaction between at least two objects, even if one of those objects is not immediately visible.

International Trade, Globalisation, and Exchange Rates

International trade involves the exchange of goods and services across national borders, enabling countries to specialize in producing what they do most efficiently. This specialization leads to greater overall output and variety for consumers worldwide. Trade fosters economic interdependence, where nations rely on each other for essential products and resources.



Interpreting and Drawing Line Graphs

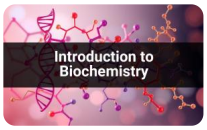
A time series graph is a specific type of line graph designed to illustrate how a particular variable changes over a defined period. This visual representation is crucial for identifying patterns, cycles, and significant shifts in data over time. For instance, economists frequently use time series graphs to track economic indicators like GDP growth or inflation rates over decades.

Interpreting Spearman's Rank Correlation Coefficient

Spearman's Coefficient Introduction Spearman's rank correlation coefficient, denoted as r_s, quantifies the strength and direction of a monotonic relationship between two ranked variables. It is a non-parametric measure, meaning it does not assume a normal distribution of the data.

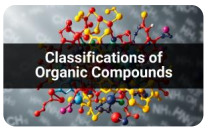
Introduction to Alkenes

Welcome to this learning session on Introduction to Alkenes In this course we shall address:Alkenes: Definition and FormulaEthene, Propene, and Butene IsomersUnderstanding Displayed StructuresDrawing Ethene and Propene StructuresDrawing Butene Isomer StructuresThere will be a quiz at the end to test your knowledge.



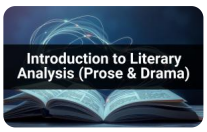
Introduction to Biochemistry

Welcome to this learning session on Introduction to Biochemistry In this course we shall address:What is Biochemistry?Proteins: Structure, Function, Building BlocksDNA: Genetic Information and NucleotidesCarbohydrates: Energy, Structure, ExamplesBiochemistry's Role, Impact, and FutureThere will be a quiz at the end to test your knowledge.



Introduction to Chemistry, Scientific Method, and Atoms

Organic chemistry is a specialized branch of chemistry dedicated to the study of carbon compounds. These compounds, with the exception of carbon oxides, carbonates, carbides, and cyanides, form the basis of all known life on Earth and constitute a vast array of synthetic materials.



Introduction to Literary Analysis (Prose & Drama)

Welcome to this learning session on Introduction to Literary Analysis (Prose & Drama) In this course we shall address:Understanding Literary AnalysisNarrative Techniques: Point of ViewNarrative Techniques: Flashback & ForeshadowingCharacter Development: Types and ArcsPlot Structure: Exposition to ClimaxPlot Structure: Falling Action & ResolutionSetting and Atmosphere: Place and TimeSetting and Atmosphere: Mood and ToneLiterary Themes: Identifying Central IdeasSymbolism: Objects and ActionsImager...

Introduction to Vegetable Crops and Ornamental Plants

The cultivation and sale of vegetable crops and ornamental plants represent a rewarding and profitable venture, particularly in regions like Ghana. Ornamental plants significantly enhance landscapes in new homes, contributing to aesthetic value and property appeal. With the right skills and knowledge, individuals can transform this agricultural pursuit into a successful enterprise.

Investigating Refraction Practical

The 'Investigating Refraction Practical' is a key required experiment in physics, designed to explore how light behaves when it passes from one medium to another. This practical specifically focuses on light entering and exiting a rectangular glass block.

Irrigation Systems

Modern irrigation systems are crucial for agricultural production, especially in regions like Ghana where agriculture heavily relies on seasonal rainfall. This dependence on rain often leads to seasonal crop production, which is becoming unsustainable for year-round cultivation. Implementing efficient irrigation ensures consistent crop yields and food security.

just for the test

Effective test preparation is crucial for academic success and reducing stress. It involves more than just memorizing facts; it requires a strategic approach to learning and recall. This course will guide you through various methods to optimize your study efforts and perform your best.

Key Drivers of Tropical Rainforest Deforestation

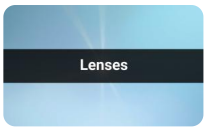
Create a course for GCSE students

Land-Use Change and River Systems

Create a course for GCSE students

Le Chatelier's Principle

Welcome to this learning session on Le Chatelier's Principle In this course we shall address:Chemical Equilibrium BasicsIntroducing Le Chatelier's PrincipleConcentration Effects and OptimizationIndustrial Applications of Le Chatelier'sLe Chatelier's Principle SummaryThere will be a quiz at the end to test your knowledge.



Lenses

Lenses are transparent optical devices that use refraction to converge or diverge light rays. Refraction is the bending of light as it passes from one medium to another, such as from air into glass or plastic, due to a change in its speed. This bending allows lenses to focus light, forming images that can be magnified or reduced.

Life Cycle Assessment

Life Cycle Assessment (LCA) is a systematic methodology for evaluating the environmental impacts associated with all stages of a product's life. This comprehensive approach considers a product from its inception, through its use, and to its final disposal or recycling.

Life Cycle Assessment (LCA)

Life Cycle Assessment, or LCA, is a comprehensive methodology used to evaluate the environmental impacts associated with all stages of a product's or service's life. This includes everything from raw material extraction through materials processing, manufacturing, distribution, use, repair and maintenance, and disposal or recycling.

Line of Best Fit: Interpolation and Extrapolation

A line of best fit is a straight line that best represents the data on a scatter plot. It illustrates the general trend of the relationship between two variables, allowing for visual analysis of correlation.

Line Segment Lengths Using Pythagoras' Theorem

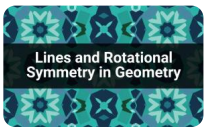
A line segment is a fundamental concept in geometry, defined as a section of a straight line that is bounded by two distinct endpoints. Unlike a line, which extends infinitely in both directions, a line segment has a measurable, finite length.

Linear Equations 1

This course introduces the fundamental concepts of linear equations, explaining them through the analogy of balanced scales. Learners will discover how to isolate unknown variables by performing inverse operations on both sides of an equation. The material covers one-step and two-step equations, providing clear examples and practice problems essential for building a strong algebraic foundation.

Linear Equations 2

This course builds upon foundational algebra, focusing on solving more complex linear equations. Learners will master techniques for handling equations involving brackets, variables on both sides, and fractions, developing systematic problem-solving skills essential for advanced mathematics.



Lines and Rotational Symmetry in Geometry

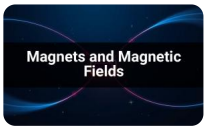
Symmetry is a fundamental concept in geometry, art, and nature, describing a balanced and proportionate similarity between two halves of an object. It implies that one part of an object is a mirror image or a rotated version of another part. Understanding symmetry helps us analyze shapes and patterns more deeply.

Lower Course River Landform Development

Create a course for GCSE students

Lower Course River Landforms: Meanders and Ox-bows

Create a course for GCSE students



Magnets and Magnetic Fields

Magnetism is a fundamental force of nature that governs the interaction between magnetic materials. It is responsible for phenomena ranging from the Earth's magnetic field to the operation of electric motors and generators. Understanding magnetism begins with recognizing the basic properties of magnets and how they interact.

Mapping Essentials: Understanding Our Environment

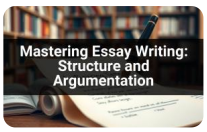
This course introduces fundamental concepts of mapping, including different map types, scales, and methods for representing Earth's diverse relief features. Learners will explore how maps serve as essential tools for navigation, planning, and understanding geographical information. The content builds on prior knowledge, enhancing clarity and engagement for a comprehensive learning experience.

Market Structures and Government Intervention

Market structures describe the competitive environment in which firms operate. These structures are defined by several key characteristics, including the number of firms, the nature of the product, barriers to entry, and the degree of control over price.

Mastering Area and Volume Conversions

Converting units of area and volume requires a different approach than simple length conversions. Unlike length, which is one-dimensional, area involves two dimensions and volume involves three, leading to squared and cubed multipliers respectively. Understanding these distinctions is crucial for accurate measurements in various fields.



Mastering Essay Writing: Structure and Argumentation

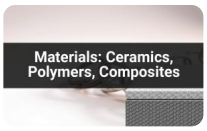
Academic essays are fundamental to demonstrating understanding and critical thinking in higher education. They provide a structured way to present arguments, analyze information, and communicate ideas effectively to an academic audience. Mastering this skill is crucial for success in exams and future studies.

Mastering Time: Clocks, Timetables, and Calculations

Time can be expressed using two primary systems: the 12-hour clock and the 24-hour clock. Each system has its own conventions and is used in different contexts globally.

Materials: Ceramics, Polymers, Composites

Materials science is an interdisciplinary field that investigates the relationship between the structure, properties, processing, and performance of materials. Understanding these relationships allows scientists and engineers to design and develop new materials with specific characteristics for various applications. This module will focus on three key classes of materials: ceramics, polymers, and composites.



Materials: Ceramics, Polymers, Composites

Materials are broadly categorized based on their chemical composition and atomic structure, which dictate their physical and chemical properties. Understanding these classifications is crucial for selecting the right material for a specific application, from everyday objects to advanced engineering components.

Meaning and Importance of Agricultural Science

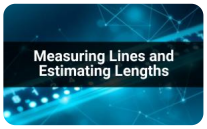
Welcome to this section on Agricultural Science, where we will delve into the meaning and profound importance of agriculture. This module aims to provide an in-depth understanding of the industry, enabling you to develop a more accurate and comprehensive perspective.

Measuring and drawing angles

Angles are fundamental geometric figures formed by two rays, called sides, sharing a common endpoint, known as the vertex. They represent the amount of rotation between these two rays. Understanding angles is crucial for various fields, from architecture to navigation.

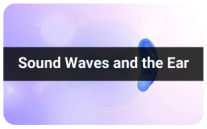
Measuring Economic Performance and AD/AS

Aggregate Demand (AD) represents the total demand for all finished goods and services produced in an economy at a given price level and in a given time period. It is essentially the total amount of spending in an economy.



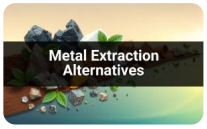
Measuring Lines and Estimating Lengths

Welcome to this learning session on Measuring Lines and Estimating Lengths In this course we shall address:Importance of Accurate MeasurementRulers, Millimeters, and CentimetersAccurate Line Measurement TechniquePrecision and UnitsDrawing Lines Accurately: PreparationDrawing Lines Accurately: ExecutionUnderstanding Length EstimationUsing Scale for EstimationEstimating Real-World HeightsScale Estimation: Surfboard and BusCalculating Bus Length by ScaleSummary and Key TakeawaysThere will be a quiz...



Measuring Wave Velocity

Wave velocity is a fundamental property describing how fast a wave travels through a medium. It is distinct from the speed of the particles oscillating within the wave; instead, it refers to the speed at which the wave's energy and disturbance propagate.



Metal Extraction Alternatives

Metals are crucial for modern society, used in everything from construction to electronics. Extracting these metals from their natural ores is a fundamental industrial process.

Methods of Collecting Geospatial Data

This course explores the diverse methods of collecting geospatial data, including traditional field surveys, modern remote sensing, GPS, and satellite imagery. It highlights the advantages of these techniques, such as accuracy and efficiency, while also addressing challenges like cost and data interpretation. The course emphasizes the critical role of geospatial data in urban planning, environmental management, and disaster response.

Metric units

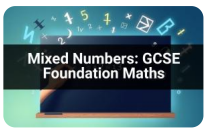
The metric system is an international decimal system of measurement, widely used for its simplicity and ease of conversion. It is based on powers of ten, meaning conversions between units primarily involve multiplying or dividing by 10, 100, or 1000.

Microphones and Loudspeakers

Microphones and loudspeakers are essential components in modern audio technology, acting as transducers that convert energy from one form to another. A transducer is any device that converts energy from one form into another, and in this context, they deal with sound and electrical energy.

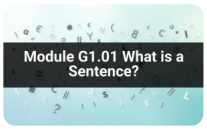
Mining in Ghana

Ghana possesses abundant minerals like gold, diamonds, and bauxite, making mining crucial to its economy. This sector provides employment and generates significant revenue for the country. However, illegal small-scale mining, known as 'galamsey', poses severe environmental challenges, including water body destruction and vegetation loss. This course explores mineral locations, mining methods, economic importance, and the necessity of responsible practices for long-term national benefits.



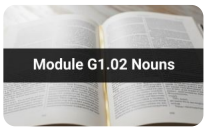
Mixed Numbers: GCSE Foundation Maths

This course provides a comprehensive guide to understanding and working with mixed numbers and improper fractions, essential concepts for GCSE Foundation Mathematics. Learners will master conversions between these forms and apply them to various arithmetic operations, including multiplication, subtraction, and division, through practical examples and examiner insights. The aim is to build a strong foundational understanding for tackling more complex number problems.



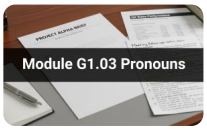
Module G1.01 What is a Sentence

A complete sentence is the fundamental unit of written communication, designed to convey a full and coherent thought. It always includes a subject, which performs an action, and a verb, which describes that action or state of being. Mastering sentence structure is essential for clear expression, preventing misunderstandings in both academic and professional settings.



Module G1.02 Nouns

Nouns are fundamental building blocks of language, serving as naming words for virtually everything around us. They allow us to refer to specific entities, general categories, and even abstract concepts. Understanding nouns is crucial for constructing clear and coherent sentences.



Module G1.03 Pronouns

Pronouns are fundamental words in English that serve to replace nouns, making sentences less repetitive and more fluid. They are essential for clear and concise communication, preventing the constant re-mentioning of names or specific objects.

Module G1.04 Verbs and Simple Tenses

Verbs are fundamental components of language, often referred to as 'action words' because they describe what a subject does. They are the dynamic elements that drive sentences forward, conveying movement, existence, or a state of being. Understanding verbs is essential for constructing coherent and meaningful sentences.

Module G1.05 Subject Verb Agreement

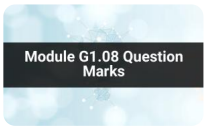
Subject-verb agreement is a foundational grammatical principle that ensures sentences are clear and grammatically correct. It primarily focuses on matching the number of the subject with the number of the verb. This means a singular subject requires a singular verb, and a plural subject requires a plural verb.

Module G1.06 Adjectives

Adjectives are fundamental descriptive words used to provide essential detail about nouns in any form of writing. In a professional context, this precision is crucial for clear and unambiguous communication, preventing misunderstandings.

Module G1.07 Adverbs

Adverbs are words that modify verbs, adjectives, or other adverbs, providing additional detail about an action or description. They primarily answer the questions of how, when, or where an action happens, enriching the meaning of sentences.



Module G1.08 Question Marks

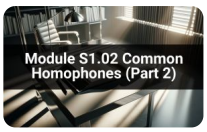
Welcome to Module G1.08, where our primary focus is mastering the correct use of question marks. This module is designed to enhance your punctuation skills, which are crucial for clear and effective communication in both personal and professional settings.

Module G1.09 Exclamation Marks and Commas in Lists

This module focuses on the correct and effective use of exclamation marks and commas in lists, essential for clear written communication. Understanding these punctuation marks helps convey precise meaning and tone in various contexts. Mastering their application is a key component of functional English skills.

Module S1.01 Common Homophones (Part 1)

Homophones are words that sound exactly the same when spoken but possess distinct meanings and spellings. Understanding these subtle differences is vital for clear and effective written communication, especially in professional settings.



Module S1.02 Common Homophones (Part 2)

Homophones are words that sound alike but have different meanings and spellings. They are a common source of confusion in written English, even for native speakers. Mastering them is crucial for clear and effective communication, especially in professional contexts where precision is valued.

Module S1.03 More Homophones

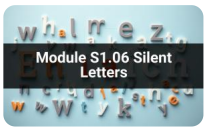
Homophones are words that sound alike but have different meanings and spellings. They are a common source of confusion in written English, often tripping up even experienced writers. Mastering these words is crucial for clear, professional communication and for achieving higher levels of literacy.

Module S1.04 Forming Plurals Regular

Understanding how to form plurals is a fundamental aspect of English grammar, essential for clear and effective communication. Plurals indicate that there is more than one of a particular noun, allowing us to accurately describe quantities in both spoken and written language.

Module S1.05 Forming Plurals Irregular

Welcome to Module S1.05, where we will explore the fascinating world of irregular plurals in English. Unlike most nouns that simply add '-s' or '-es' to form their plural, irregular plurals follow unique patterns that must be learned individually. Mastering these forms is crucial for accurate and professional communication, especially in fields like healthcare.



Module S1.06 Silent Letters

Silent letters are a fascinating and sometimes challenging aspect of the English language. These are letters that appear in the spelling of a word but are not pronounced when the word is spoken. Understanding them is crucial for both accurate spelling and clear pronunciation.

Module S1.07 Prefixes

Prefixes are groups of letters added to the beginning of a word, known as a root word, to change its meaning. This simple addition can completely transform the sense of a word, making it a powerful tool in English vocabulary. Understanding prefixes helps in deciphering unfamiliar words and expanding one's linguistic capabilities.

Module S1.08 Suffixes and Doubling Rules

Welcome to this learning session on Module S1.08 Suffixes and Doubling Rules In this course we shall address:Understanding suffixes and word functionAdjective suffixes: -ful and -lessThe doubling rule for -ing and -edForming adverbs (-ly) and nouns (-ness)Business application and reviewThere will be a quiz at the end to test your knowledge.

Module S1.09 High Frequency Workplace Words

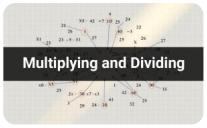
Welcome to Module S1.09, focusing on high-frequency workplace words that often pose spelling challenges. Mastering these words is crucial for maintaining professionalism and clarity in all forms of written communication, from emails to reports. This module provides practical tools and memorable mnemonics to help you conquer these common pitfalls.

Momentum

Welcome to this learning session on Momentum In this course we shall address:Defining Momentum and its Vector NatureCollisions: Interactions Between ObjectsPrinciple of Conservation of MomentumApplying Conservation to CollisionsApplying Conservation to ExplosionsThere will be a quiz at the end to test your knowledge.

Momentum and Force

Momentum is a fundamental concept in physics, describing the quantity of motion an object possesses. It is a measure of how much 'oomph' an object has, taking into account both its mass and its velocity. A heavier object or an object moving faster will have greater momentum.

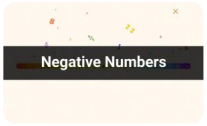


Multiplying and Dividing

This course provides a comprehensive guide to mastering multiplication and division without a calculator, essential skills for GCSE Maths. It covers mental strategies, detailed written methods like short and long multiplication and division, and practical application through word problems. Learners will gain confidence in fundamental arithmetic operations, crucial for academic success and everyday problem-solving.

Natural Climate Change: Causes and Evidence

Create a course for GCSE students



Negative Numbers

This course provides a foundational understanding of negative numbers, essential for GCSE Mathematics. Learners will explore their representation, comparison, and all four basic operations: addition, subtraction, multiplication, and division. Practical applications of negative numbers in everyday contexts will also be covered.

Netball Footwork and Passing Skills

Master the essential movement and ball-handling techniques required for competitive Netball play in Ghana. Learn to navigate the court with legal footwork and deliver precise passes to your teammates under pressure.

Netball Game Play and Rules

Master the flow of a full netball match by learning official regulations and tactical game play. This module covers everything from the opening whistle to strategic goal scoring and match timing.

Netball Shooting Techniques and Roles

Master the art of netball scoring by developing precise shooting techniques and understanding the strategic roles of the Goal Shooter and Goal Attack. Learn to execute one-handed and two-handed shots while mastering the offensive teamwork required for success on the court.

NPK Fertilisers

Fertilisers are substances added to soil to supply essential nutrients for plant growth. They are crucial in modern agriculture, enabling higher crop yields and ensuring food security for a growing global population.

Operations on Decimals

This course provides a comprehensive guide to performing fundamental operations—addition, subtraction, multiplication, and division—with decimal numbers. Learners will master the essential rules and techniques, reinforced by practical examples and real-world applications. Understanding these operations is crucial for various mathematical and everyday scenarios.

Operations on Fractions

This course provides a comprehensive guide to performing fundamental operations on fractions, including addition, subtraction, multiplication, and division. Learners will master the essential steps and techniques required to confidently solve fraction-based problems without a calculator, aligning with GCSE Maths Edexcel Board requirements.

Other Compound Measures

This course introduces compound measures, which combine two or more fundamental measurements. Learners will explore concepts like pressure and various types of rates, understanding their formulas and applications. The material is designed to enhance problem-solving skills for real-world scenarios in mathematics.

Percentage Change 1

This course introduces two fundamental methods for calculating percentage increases and decreases, essential skills for GCSE Maths. Learners will explore step-by-step calculations, understand the use of multipliers, and apply these concepts to real-world scenarios like price changes and reductions. The material is designed to build a solid foundation in ratio and proportion.

Percentage Change Calculations

This course provides a comprehensive guide to calculating percentage increases and decreases without a calculator. Learners will explore practical applications in real-world scenarios, understand common pitfalls, and develop essential skills for solving percentage-related problems in various contexts.

Perimeter and area

Perimeter and area are fundamental concepts in geometry that describe different aspects of two-dimensional shapes. Perimeter refers to the total distance around the boundary of a shape, while area quantifies the amount of surface enclosed within that boundary.

Personal and Menstrual Hygiene

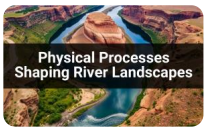
Master the essentials of daily cleanliness and menstrual health to stay confident and healthy throughout your teenage years. This course explores practical hygiene habits, menstrual cycle management, and the cultural beliefs surrounding health in Ghana.

Physical Geography Extended Writing Skills

Create a course for GCSE students

Physical Processes and Changing UK Landscapes

Create a course for GCSE students



Physical Processes Shaping River Landscapes

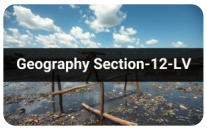
Create a course for GCSE students

Pie Charts: Construction and Interpretation

Pie charts are circular statistical graphics divided into sectors, illustrating numerical proportions. Each sector's arc length, and consequently its area and central angle, is proportional to the quantity it represents. This visual representation makes it easy to compare parts of a whole at a glance.

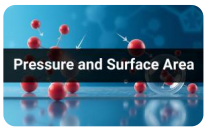
Place Value

This course provides a foundational understanding of place value, a core concept in mathematics that underpins how we read, write, and manipulate numbers. It covers the importance of digit position, practical applications in ordering numbers, and essential principles for working with money, including profit and loss calculations. Learners will gain crucial skills for the GCSE Maths Edexcel Board, specifically within the Number unit.



Pollution in Ghana

This course provides a comprehensive overview of pollution in Ghana, focusing on both air and water contamination. It examines the causes, common pollutants, and significant impacts on human health, ecosystems, and infrastructure. The course also explores various measures and sustainable practices for preventing and mitigating pollution, offering practical insights relevant to the Ghanaian context.

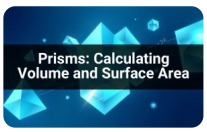


Pressure and Surface Area

Chemical reaction rates are influenced by several key factors that determine how quickly reactants transform into products. These factors include the concentration of reactants, the temperature of the reaction mixture, the presence of catalysts, and the physical state of the reactants.

Primary Economic Activities in Ghana

This course explores primary economic activities in Ghana, focusing on agriculture and lumbering. You will learn about the characteristics, benefits, challenges, and solutions related to subsistence and commercial farming. Additionally, the course covers the processes, importance, and issues of lumbering, providing a comprehensive understanding of these vital sectors in Ghana's economy.



Prisms: Calculating Volume and Surface Area

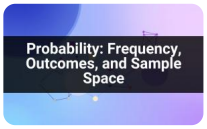
A prism is a three-dimensional solid characterized by a constant cross-section along its length. This means that if you were to slice the prism at any point parallel to its base, the shape and size of the cut surface would always be identical.

Probability & Statistics Problem Solving

Statistical problem-solving involves collecting, analyzing, interpreting, and presenting data to make informed decisions. It is a fundamental skill in many fields, from scientific research to business analytics, helping us understand patterns and predict future outcomes.

Probability Fundamentals: Scale, Events, & Outcomes

Probability is a branch of mathematics that deals with the likelihood of an event occurring. It quantifies uncertainty, allowing us to make informed decisions in situations where outcomes are not guaranteed.



Probability: Frequency, Outcomes, and Sample Space

Probability is a branch of mathematics that deals with the likelihood of different events occurring. It helps us quantify uncertainty and make informed decisions based on the chances of various outcomes.

Probability: Independent Events and Tree Diagrams

Welcome to this learning session on Probability: Independent Events and Tree Diagrams In this course we shall address:Independent Events: Definition and ExamplesVisualizing Events with Tree DiagramsTree Diagram Worked ExampleApplying Tree Diagram RulesPractice Problem and SolutionThere will be a quiz at the end to test your knowledge.

Problem-Solving Practice for GCSE Statistics

Welcome to this learning session on Problem-Solving Practice for GCSE Statistics In this course we shall address:Problem-Solving StrategiesData Visualization and RepresentationApplying Bar Charts for ComparisonUnderstanding Averages: The MeanCalculating UnknownsThere will be a quiz at the end to test your knowledge.

Processes of Poultry Production and Sale

Poultry production involves a series of interconnected processes, from initial planning to the final sale of products. Understanding these stages is crucial for anyone looking to engage in successful poultry farming. This section provides an overview of the entire production cycle and the resources required.

Production and Marketing of Vegetation Crops and Ornamental Plants

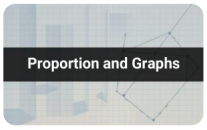
Welcome to this section, where we will explore the production and marketing of vegetable crops and ornamental plants. This module aims to equip you with the essential knowledge and skills needed to successfully plan, organize, produce, and market these agricultural products.

Properties of Alloys

An alloy is a mixture of two or more elements, at least one of which is a metal. These mixtures are created to enhance the properties of pure metals, often resulting in materials with superior strength, hardness, or corrosion resistance.

Properties of EM Waves

Electromagnetic (EM) waves are a fundamental part of physics, consisting of oscillating electric and magnetic fields that are perpendicular to each other and to the direction of wave propagation.



Proportion and Graphs

This course provides a comprehensive understanding of direct and inverse proportion, including their mathematical representations and graphical interpretations. Learners will explore how to identify proportional relationships, solve related problems, and use graphs for conversions, aligning with GCSE Mathematics Foundation curriculum standards.

Proportion: Direct and Inverse Relationships

This course provides a foundational understanding of proportion, a key concept in mathematics. Learners will explore both direct and inverse proportion, understand their characteristics, and apply practical methods to solve real-world problems. The content is designed to enhance problem-solving skills for GCSE Maths students.

Pure Substances and Formulations

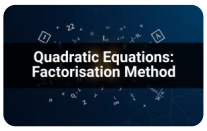
A formulation is a mixture that has been designed to give a product the best properties for a specific use. These mixtures are carefully designed by mixing components in specific, measured quantities.

Purity & Formulations

In chemistry, understanding the concepts of purity and formulations is fundamental. Purity refers to a substance consisting of only one type of atom or molecule, without any contaminants. This distinction is crucial for both scientific research and industrial applications.

Pythagoras’ theorem

Introduction to Pythagoras' Theorem Pythagoras' theorem is a fundamental rule in geometry, specifically used to determine the length of an unknown side in any right-angled triangle. This powerful theorem simplifies complex spatial problems into straightforward algebraic calculations. It is named after the ancient Greek mathematician Pythagoras of Samos, who is credited with its first proof, though its principles were known to earlier civilizations.



Quadratic Equations: Factorisation Method

This course provides a foundational understanding of solving quadratic equations by factorisation, a key skill for GCSE Maths. Learners will explore the step-by-step process, examine various worked examples, and tackle special cases. The material is designed to build confidence in algebraic problem-solving for the Foundation tier.

Quadratic Graphs: Foundations

This course provides a foundational understanding of quadratic graphs, essential for GCSE Maths. Learners will explore how to generate points from quadratic equations, plot them accurately, and draw smooth parabolic curves. Key concepts like the turning point will be explained, along with practical tips for precise graph construction. This unit aims to build confidence in visualizing and interpreting quadratic functions.

Quadrilaterals

Welcome to this learning session on 02 Quadrilaterals In this course we shall address:What are Quadrilaterals?Understanding the SquareExploring the RectangleSquare vs. Rectangle: Key DifferencesProperties of a ParallelogramDelving into the RhombusParallelogram vs. Rhombus: A ComparisonCharacteristics of a TrapeziumDiscovering the KiteQuadrilateral Family TreeLines and Rotational SymmetryQuadrilaterals in Everyday LifeThere will be a quiz at the end to test your knowledge.

Rate of Reaction Basics

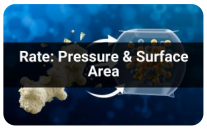
The rate of reaction is a measure of how quickly reactants are consumed and products are formed in a chemical process. Understanding reaction rates is crucial in chemistry, as it allows scientists and engineers to control and optimize chemical processes.

Rate of Reaction Basics

The rate of reaction refers to how quickly reactants are converted into products in a chemical process. It essentially measures the speed at which a chemical change occurs.

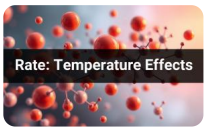
Rate of Reaction Graphs

Chemical reactions involve changes in the quantities of reactants and products over time. To visualize and analyze these changes, we often plot the concentration or amount of a substance against time.



Rate: Pressure & Surface Area

Reactions occur at varying speeds, from explosive to incredibly slow. Several factors can influence how quickly reactants transform into products.



Rate: Temperature Effects

Temperature is a fundamental factor that significantly influences the speed at which chemical reactions occur. Generally, an increase in temperature leads to a faster reaction rate, while a decrease in temperature slows it down.

Rates of Change

This course introduces the fundamental concept of rates of change, exploring how quantities vary over time through graphical representation. Learners will interpret distance-time, depth-time, and velocity-time graphs, understanding how gradients reveal crucial information such as speed, acceleration, and the intensity of change in various real-world scenarios. It provides a solid foundation for analyzing dynamic processes in mathematics and science.

Ratio 1

This course provides a foundational understanding of ratios, a key concept in mathematics for comparing quantities. Learners will explore how to express ratios, simplify them, find equivalent ratios, and apply these skills to solve real-world problems involving sharing amounts proportionally. The content is designed to build a strong base for further study in ratio and proportion.

Ratio 2: Problem Solving Essentials

This course provides a comprehensive guide to solving ratio problems, focusing on techniques for dividing quantities and handling differences within ratios. Learners will master essential problem-solving strategies without a calculator, crucial for success in GCSE Mathematics Foundation exams. We will explore practical examples and real-world applications to solidify understanding.

Reaction Time

Welcome to this learning session on Reaction Time In this course we shall address:Understanding Reaction Time FundamentalsFactors and Measurement MethodsImpairment: Distractions, Substances, FatigueReaction Time and Driving SafetyImproving Reaction Time for SafetyThere will be a quiz at the end to test your knowledge.

Reading and Interpreting Measurement Scales

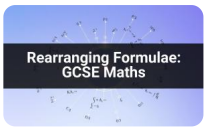
Welcome to this learning session on Reading and Interpreting Measurement Scales In this course we shall address:Fundamentals of Reading Measurement ScalesCalculating Division Values on ScalesReading a Gram Scale ExampleScales with Varied Unit DivisionsInterpreting a Meter Rule ExampleEstimating Measurements on ScalesEstimating Liquid Volume in MillilitersSolving Multi-Scale Weight ProblemsStep-by-Step Strategy for WeightsCalculating Individual Object WeightsPractice: Weight of Identical SpheresS...

Real and Virtual Images

In optics, an image is a reproduction of an object formed by light rays. These images are fundamental to how lenses and mirrors work, allowing us to see magnified views, focus light, or correct vision.

Real-life graphs

This course introduces the concept of real-life graphs, demonstrating how they visualize and explain practical situations such as comparing costs or analyzing service charges. Learners will develop skills in interpreting graph scales, understanding different cost structures, and calculating key metrics like fixed costs and rates of change from graphical representations.



Rearranging Formulae: GCSE Maths

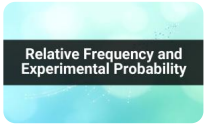
This course provides a foundational understanding of rearranging algebraic formulae, a crucial skill in mathematics. Learners will explore how to identify the subject of a formula, substitute values to find unknowns, and manipulate equations to change their subject. The content is tailored for the GCSE Maths Edexcel Board, focusing on the Algebra unit within the Foundation section.

Red-shift

Welcome to this learning session on Red-shift: Expanding Universe and Cosmic Mysteries In this course we shall address:Red-shift: Phenomenon and ObservationRed-shift: Expanding Universe and Big BangCosmic Microwave Background RadiationDark Matter: Invisible Component and EvidenceDark Energy: Cosmic Acceleration and FutureThere will be a quiz at the end to test your knowledge.

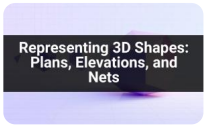
Reflections on Coordinate Grids

A reflection is a type of transformation that flips a shape over a line, known as the mirror line. Every point in the original shape has a corresponding point in the reflected image, equidistant from the mirror line.



Relative Frequency and Experimental Probability

Probability is a measure of the likelihood that an event will occur. When we estimate this likelihood from observed data, such as results from experiments or surveys, we often use a concept known as relative frequency. This method is particularly useful when the theoretical probability is difficult or impossible to calculate directly.



Representing 3D Shapes: Plans, Elevations, and Nets

Plans and elevations are fundamental concepts in technical drawing and geometry, representing three-dimensional objects in two dimensions. These 2D drawings provide different perspectives of a 3D shape, allowing for precise communication of its form and structure.

Resultant Forces

Welcome to this learning session on Resultant Forces In this course we shall address:Understanding Resultant ForceCalculating 1D Resultant ForceBalanced and Unbalanced ForcesResolving Forces into ComponentsCalculating 2D Resultant ForceThere will be a quiz at the end to test your knowledge.

Reverse Percentages

This course introduces the concept of reverse percentages, a crucial skill in mathematics for finding original values after a percentage change. Learners will master the use of multipliers for both increases and decreases, applying these techniques to solve real-world problems involving prices, measurements, and financial calculations. This topic is essential for GCSE Maths Edexcel Board, particularly within the Ratio and Proportion unit.

Reversible Reactions

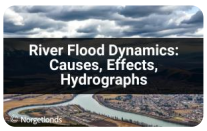
Reversible reactions are chemical reactions that can proceed in both the forward and reverse directions simultaneously. Unlike irreversible reactions, where reactants form products that cannot easily revert to their original state, reversible reactions establish a dynamic balance.

Right Triangle Trigonometry: Sides and Applications

Trigonometric ratios are powerful tools used to find unknown side lengths in right-angled triangles. To apply these ratios, you must know the length of at least one side and the measure of one of the acute angles. These ratios establish relationships between the angles and the sides of a right triangle.

River Dee Landscapes: Formation and Change

Create a course for GCSE students



River Flood Dynamics: Causes, Effects, Hydrographs

Create a course for GCSE students

River Flood Management and Engineering Techniques

Create a course for GCSE students

River Landscapes: Erosion, Transport, and Deposition

Create a course for GCSE students

River Landscapes: Upper Course Landforms and Erosion

Create a course for GCSE students

River Valley Changes: Upper to Lower Course

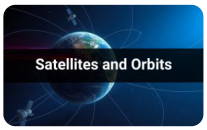
Create a course for GCSE students

Rocks and the Process of Weathering

This course provides a comprehensive study of rocks, covering their characteristics, formation, and economic importance. It explores the three main types of rocks: igneous, sedimentary, and metamorphic, detailing their properties and classification. The course also delves into the processes of weathering, explaining how physical, chemical, and biological factors break down rocks and shape the Earth's surface over time.

Rounding Numbers

This course provides a comprehensive guide to rounding numbers, covering essential techniques such as rounding to specific place values and significant figures. It delves into the practical implications of rounding, including the concept of rounding errors and their real-world applications. Learners will gain a solid foundation in numerical precision, crucial for various mathematical and scientific contexts.



Satellites and Orbits

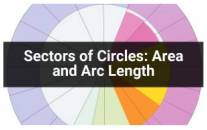
Welcome to this learning session on Satellites and Orbits In this course we shall address:Natural and Artificial SatellitesUnderstanding Circular OrbitsOrbital Mechanics: Gravity, Speed, RadiusGeostationary OrbitsSatellite ApplicationsThere will be a quiz at the end to test your knowledge.

Scale Drawings, Maps, and Bearings

Scale drawings are representations of real-world objects or areas, where all dimensions are proportionally reduced or enlarged by a specific ratio. These drawings are crucial in fields like architecture, engineering, and cartography, allowing complex structures or vast landscapes to be depicted on paper or screens.

Scatter Graphs: Correlation and Prediction Skills

A scatter graph is a powerful tool used to display the relationship between two different variables, often referred to as bivariate data. Each point on the graph represents a pair of observations, allowing for a visual assessment of how one variable might change in relation to another. This visual representation is crucial for identifying patterns and potential trends within data sets.



Sectors of Circles: Area and Arc Length

A sector of a circle is a region bounded by two radii and the arc connecting their endpoints. Imagine slicing a circular pizza; each slice represents a sector.

Sequences 1

This course introduces the fundamental concepts of number sequences, exploring how patterns are identified and rules are formulated. Learners will discover various types of sequences, including arithmetic and Fibonacci-type, and practice generating terms using algebraic expressions. The material is designed to build a strong foundation in sequence analysis for GCSE Mathematics.

Sequences 2

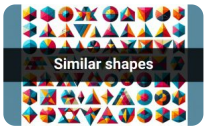
This course delves into arithmetic sequences, explaining how to identify them and derive their nth term formula. Learners will master a four-step process for finding the general rule of a sequence, enabling them to predict any term and determine if a specific number belongs to the sequence. This foundational knowledge is crucial for understanding patterns in mathematics and various real-world applications.

Set Notation and Venn Diagrams

Welcome to this learning session on Set Notation and Venn Diagrams In this course we shall address:Sets and Their ElementsUnion and Intersection OperationsUniversal Set and ComplementsVisualizing Sets with Venn DiagramsApplications and Problem SolvingThere will be a quiz at the end to test your knowledge.

Shaping UK Landscapes: Human Activity and Settlement

Create a course for GCSE students



Similar shapes

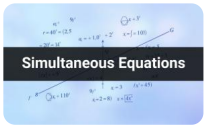
Similar shapes are figures that have the same shape but can differ in size. This means one shape is an enlargement or reduction of the other, maintaining all angles and proportions.

Similarity and congruence

Geometry is a branch of mathematics concerned with the properties and relations of points, lines, surfaces, solids, and higher dimensional analogs. In this course, we will focus on how shapes relate to each other through various transformations. Understanding these relationships is crucial for many areas of mathematics and real-world applications.

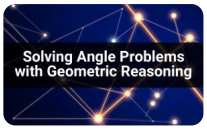
Simplifying Expressions

This course provides a foundational understanding of simplifying algebraic expressions involving multiplication and division. Learners will master the rules for combining numerical coefficients and variables, including the use of indices, to transform complex expressions into their simplest forms. This skill is crucial for further algebraic manipulation and problem-solving in mathematics.



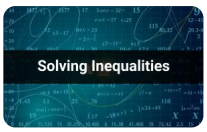
Simultaneous Equations

This course provides a comprehensive guide to solving simultaneous equations, a fundamental concept in algebra. Learners will explore both algebraic and graphical methods, understand key strategies for efficient problem-solving, and apply these techniques to various examples. The material is designed to build a strong foundation for GCSE Maths Edexcel Board students.



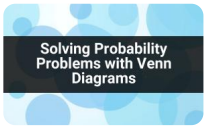
Solving Angle Problems with Geometric Reasoning

Solving angle problems requires a systematic approach, where each step of your calculation must be supported by a valid geometric reason. This foundational understanding ensures accuracy and helps in constructing logical proofs.



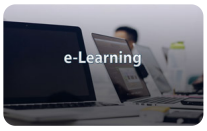
Solving Inequalities

This course provides a comprehensive guide to solving inequalities, a fundamental concept in algebra. Learners will understand the core principles, learn to manipulate inequality signs, and apply these techniques to various problem types, including compound inequalities and finding integer solutions. The material is designed to build a strong foundation for further algebraic studies.



Solving Probability Problems with Venn Diagrams

Welcome to this learning session on Solving Probability Problems with Venn Diagrams In this course we shall address:Introduction to Venn Diagrams for ProbabilityKey Venn Diagram Operations: Intersection, Union, ComplementBuilding Venn Diagrams from DataDeriving Probabilities from Visual DataReal-World Problem Solving with Venn DiagramsThere will be a quiz at the end to test your knowledge.



Sound Waves and the Ear

Sound is a form of energy that travels through a medium as waves. These waves are generated by vibrations, which cause particles in the medium to oscillate back and forth.

Speed: Distance, Time, and Calculations

This course provides a comprehensive understanding of speed, distance, and time calculations, essential for GCSE Mathematics. Learners will explore the fundamental formulas, learn about various units of measurement, and master time conversions. Through worked examples and practice questions, the course aims to build confidence in solving real-world problems involving motion.

Squares, Cubes and Roots

This course provides a foundational understanding of square numbers, cube numbers, and their respective roots. Learners will explore how these concepts are represented using index notation and their geometric interpretations as areas and volumes. The material is designed to build a strong base for further mathematical studies, aligning with GCSE Maths Edexcel Board Foundation curriculum.

Standard form 1

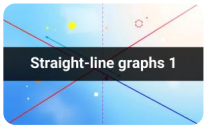
This course introduces standard form, a crucial mathematical notation for representing very large or very small numbers concisely. Learners will understand its structure, how to convert between ordinary and standard form, and how to perform basic calculations using this powerful tool. It is designed to build foundational skills for GCSE Maths.

Standard form 2

This course provides a comprehensive guide to performing calculations with numbers in standard form, also known as scientific notation. It covers non-calculator methods for multiplication, division, addition, and subtraction, equipping learners with essential skills for handling very large and very small numbers in various contexts.

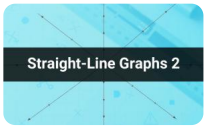
Stem-and-Leaf Diagrams: Data Representation and Averages

Stem-and-leaf diagrams offer a unique way to display quantitative data, arranging it in order of size while preserving the individual data values. This method is particularly useful for smaller datasets, typically between 15 and 150 data points, where it allows for quick visual inspection of data distribution.



Straight-line graphs 1

This course introduces the fundamental concepts of straight-line graphs, focusing on the equation y = mx + c. Learners will understand how to interpret gradient and y-intercept, draw graphs using tables of values, and derive equations from given graphs. This foundational knowledge is crucial for further algebraic studies.



Straight-Line Graphs 2

This course builds upon foundational knowledge of straight-line graphs, focusing on algebraic methods to determine the equation of a line. Learners will master techniques for finding equations when given a point and the gradient, or two distinct points. Additionally, the course explores the properties of parallel lines and applies these concepts to solve practical problems, enhancing understanding for GCSE Maths Edexcel Board examinations.

Stress Prevention and Management

Master practical techniques to identify and manage stress within the Ghanaian Senior High School environment. Learn to balance academic pressure with a healthy lifestyle, effective time management, and positive social support systems.

Stress: Understanding Causes and Types

Discover the science of stress and how it affects your body and mind. This module explores the difference between positive and negative stress while identifying the internal and external factors that trigger your survival instincts.

Structure and Composition of the Atmosphere

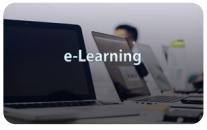
This course provides a comprehensive understanding of Earth's atmosphere, including its structure, composition, and importance. It differentiates between weather and climate, exploring their influencing factors and the instruments used for measurement. Learners will also gain skills in calculating annual rainfall and temperature data.

Substitution

This course provides a foundational understanding of algebraic substitution, a core concept in mathematics. Learners will discover how to replace variables with numerical values, apply the correct order of operations using BIDMAS, and navigate common pitfalls such as substituting negative numbers and working with powers. The material is designed to build confidence and accuracy in evaluating algebraic expressions.

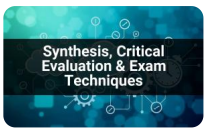
Surface area

Compound shapes are three-dimensional objects made by combining two or more simpler geometric shapes. Calculating their surface area requires a systematic approach.



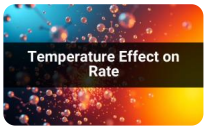
Sustainable Deciduous Woodland Management: New Forest

Create a course for GCSE students



Synthesis, Critical Evaluation & Exam Techniques

Synthesis involves combining information and ideas from multiple sources to form a new, coherent understanding or argument. It goes beyond merely summarizing individual texts by identifying connections, patterns, and insights across them. This process is crucial for developing a nuanced perspective on complex topics.



Temperature Effect on Rate

Temperature is a fundamental factor that significantly influences the speed at which chemical reactions occur. Generally, increasing the temperature of a reaction mixture leads to a faster reaction rate. Conversely, lowering the temperature typically slows down the reaction.

Tests for Anions

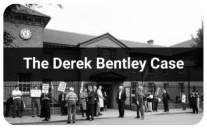
Anions are negatively charged ions formed when an atom gains one or more electrons. Identifying specific anions in an unknown sample is a fundamental skill in chemistry, crucial for qualitative analysis. These tests rely on characteristic reactions that produce observable changes, such as gas evolution or precipitate formation.

Tests for Cations

Cations are positively charged ions, typically formed when metal atoms lose electrons. Identifying these specific metal ions in an unknown sample is a fundamental skill in chemistry, crucial for qualitative analysis. These identification tests rely on characteristic reactions that produce observable changes, such as distinct flame colors or colored precipitates.

Tests for Gases

Identifying unknown gases is a fundamental skill in chemistry, crucial for understanding reaction products and ensuring safety. Simple chemical tests allow chemists to distinguish between different gases based on their unique properties and reactions.



The Derek Bentley Case

This course explores the Derek Bentley case, a pivotal moment in the history of capital punishment in the UK. It examines the trial, public reaction, and its impact on legal reforms.

The Haber Process

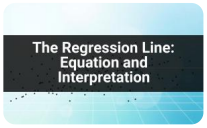
The Haber process is a crucial industrial method for synthesizing ammonia from nitrogen and hydrogen. Developed by Fritz Haber and commercialized by Carl Bosch in the early 20th century, it revolutionized agriculture by enabling the mass production of artificial fertilizers. This process is responsible for sustaining a significant portion of the world's population by enhancing crop yields.

The Haber Process

The Haber Process is a vital industrial method used to synthesize ammonia (NH_3) from nitrogen and hydrogen gases. This process is globally significant because ammonia is a key component in the production of agricultural fertilizers.

The Motor Effect

The motor effect describes the force experienced by a current-carrying conductor when it is placed in a magnetic field. This fundamental principle is what allows electric motors to convert electrical energy into mechanical energy, producing motion.



The Regression Line: Equation and Interpretation

The line of best fit, often referred to as the regression line, is a fundamental tool in statistics used to model the relationship between two variables. It provides a visual representation of the trend in a scatter diagram, allowing us to understand how one variable changes in response to another.

The Solar System

Our solar system is a gravitationally bound system comprising the Sun and the objects that orbit it, either directly or indirectly. It formed approximately 4.6 billion years ago from the gravitational collapse of a giant interstellar molecular cloud. The vast majority of the system's mass is contained within the Sun, with Jupiter accounting for most of the remaining mass.

The Solar System: Our Cosmic Neighborhood

Explore the wonders of our solar system, from the central Sun to the eight diverse planets that orbit it. This course delves into the unique characteristics of each celestial body and highlights the vital importance of the Sun and the solar system for life on Earth. Discover the vastness of space and our place within it.

The UK's Varied Ecosystems: Importance and Threats

Create a course for GCSE students

Threats of Climate Change and Mitigation Measures

Understanding the threats of climate change and its mitigation measures is crucial in agricultural science. This knowledge is essential for making informed decisions about crop selection and implementing measures to ensure high yields and productivity.

Traditional Games: Origins and Significance

Explore the cultural roots and social impact of Ghana's traditional games. Learn how these pastimes build skills, foster unity, and evolve in the modern world.

Transformers

Transformers are essential electrical devices that play a critical role in modern power systems. Their primary function is to change the voltage of an alternating current (AC) supply, either increasing or decreasing it.

Translations

Geometric transformations are operations that move or change a geometric figure in some way to produce a new figure. This new figure is called the image of the original figure. Transformations are fundamental in geometry, allowing us to analyze shapes and their relationships in space.

Trigonometry: Finding Angles in Right Triangles

Trigonometry is a branch of mathematics that studies relationships between side lengths and angles of triangles. It is particularly useful for solving problems involving right-angled triangles, allowing us to find unknown angles or side lengths when some information is given.

Tropical Cyclone Haiyan: Impacts and Responses

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Tropical Cyclone Hazards and Saffir-Simpson Scale

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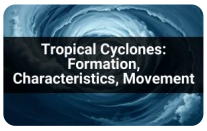

Tropical Cyclones: Formation, Characteristics, Movement

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Tropical Cyclones: Impacts and Responses

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Tropical Rainforest Biodiversity and Adaptations

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Tropical Rainforest Ecology: Components, Cycles, and Climate

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Tropical Rainforests: Goods, Services, and Climate Threats

Create a course for GCSE students

Types of Land Tenure Systems and their Effects on Food Production

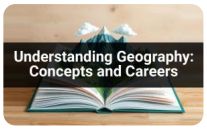
Land tenure refers to the system of rights and obligations governing the acquisition, holding, and disposal of lands, whether by law or convention. Understanding these systems is crucial for anyone involved in agriculture, as they dictate who can use land, for how long, and under what conditions.

UK Climate's Impact on Coastal Erosion

Create a course for GCSE students

Understanding and Creating Pictograms

A pictogram is a visual representation of data where pictures or symbols are used to denote quantities. This method is particularly effective for presenting data from tally charts or frequency tables in an easily digestible format.



Understanding Geography: Concepts and Careers

This course introduces the fundamental concepts of geography, exploring its meaning, main branches, and diverse applications. Learners will discover the importance of studying geography and the wide array of career opportunities it offers. It aims to equip students with a foundational understanding of Earth's physical and human landscapes.

Understanding Percentages

This course provides a comprehensive guide to understanding and calculating percentages. Learners will explore the fundamental definition of percentages, learn various methods for calculating percentages of amounts, and discover how to express one quantity as a percentage of another. Practical examples and real-world applications will enhance comprehension and build essential mathematical skills.

Understanding Reversible Reactions

Reversible reactions are chemical reactions where the products can react together to reform the original reactants. Unlike irreversible reactions that proceed in one direction until reactants are consumed, reversible reactions establish a balance between the forward and reverse processes.

Understanding Vectors: Concepts and Operations

A vector is a mathematical object possessing both magnitude (size) and direction. Unlike scalars, which only have magnitude, vectors are crucial for representing physical quantities like force, velocity, and displacement.

Upland and Lowland UK Landscapes: Geology and Tectonics

Create a course for GCSE students

Uses of Waves

Waves are fundamental to many natural phenomena and technological advancements, transferring energy without transferring matter. While sound and light waves are commonly understood, many other types of waves have diverse and critical applications across various fields.

Using Algebra: GCSE Foundation

This course provides a foundational understanding of using algebra, specifically tailored for the GCSE Maths Edexcel Board, Mathematics Foundation tier. Learners will explore how to translate word problems into algebraic equations, solve for unknown quantities, and use counter-examples to disprove mathematical statements. The material aims to build confidence in applying algebraic principles to various problem-solving scenarios.

Using Quadratic Graphs

This course provides a foundational understanding of quadratic graphs, essential for GCSE Maths. Learners will master creating tables of values, plotting parabolic curves, and using graphs to find solutions (roots) to quadratic equations. It covers both identifying x-intercepts and solving equations by drawing horizontal lines, ensuring accuracy in graphical interpretation.

Visible Light

Visible light is the segment of the electromagnetic spectrum that the human eye can detect. It is responsible for our sense of sight and allows us to perceive the world in all its colourful detail. Although it appears instantaneous, light travels at an incredibly high speed, approximately 300,000 kilometers per second in a vacuum.

Volleyball Underarm Serve and Digging

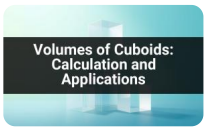
Master the fundamentals of starting a rally and defending your court with precision. This module focuses on the mechanics of the underarm serve and the essential digging technique for Ghanaian Senior High students.

Volleyball Zones and Rotational Order

Master the layout of the volleyball court and the strategic movement of players. Learn how to navigate the six zones, execute proper rotations, and avoid common fouls to lead your team to victory.

Volumes of 3-D shapes

Understanding the volume of three-dimensional shapes is a fundamental concept in geometry with wide-ranging practical applications. These calculations are crucial in fields such as engineering, architecture, and even everyday tasks like packaging design. For many examinations, the necessary formulae for these shapes will be provided, allowing you to focus on their correct application.



Volumes of Cuboids: Calculation and Applications

Volume is a fundamental concept in geometry, representing the amount of three-dimensional space an object occupies. It helps us quantify how much capacity a container has or how much material a solid object contains. Understanding volume is crucial in many practical fields, from engineering to everyday tasks like packing.

Water Treatment

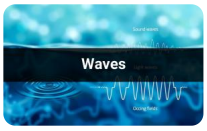
Welcome to this learning session on Water Treatment In this course we shall address:Potable Water & SourcesConventional Water PurificationDesalination MethodsWastewater Treatment StagesEnvironmental Impact of TreatmentThere will be a quiz at the end to test your knowledge.

Water Treatment and Potability

Welcome to this learning session on Water Treatment and Potability In this course we shall address:Understanding Potable Water and SourcesInitial Water Treatment and PurificationSterilization for Safe Drinking WaterDesalination Methods: Thermal and ROWastewater Treatment StagesThere will be a quiz at the end to test your knowledge.

Wave Equation

Waves are phenomena that transfer energy from one point to another without transferring matter. They are fundamental to many areas of physics, from sound and light to seismic activity.



Waves

Waves are disturbances that transfer energy from one place to another without transferring matter. Imagine a ripple in a pond; the water itself doesn't travel across the pond, but the energy of the disturbance does.

Waves and Boundaries

Welcome to this learning session on Waves and Boundaries In this course we shall address:Wave Behavior at InterfacesReflection and RefractionTransmission and AbsorptionThe Angle of IncidenceSummary of Wave InteractionsThere will be a quiz at the end to test your knowledge.

Waves in Fluids Practical

This module focuses on the 'Waves in Fluids Practical', an essential investigation for AQA GCSE Physics. It provides a practical understanding of wave phenomena, particularly in water. You will learn how to conduct an experiment to determine the relationship between wave speed, frequency, and wavelength.

Weather and Climate Challenges: River Impacts

Create a course for GCSE students

Work and Energy

Welcome to this learning session on Work and Energy In this course we shall address:Define work done and energy transfer.Calculate work done (W=Fd).Understand Gravitational Potential Energy (GPE).Calculate Gravitational Potential Energy.Friction: dissipation and work impact.There will be a quiz at the end to test your knowledge.

Writing Formulae

This course provides a foundational understanding of how to write and interpret mathematical formulae. Learners will explore the process of translating real-world scenarios into algebraic expressions, ensuring correct variable assignment and unit consistency. It covers essential concepts for the GCSE Maths Edexcel Board, focusing on the Algebra unit's 'Writing formulae' topic.

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