

TOPICS OF SCIENCE 2º ESO

BRITISH COUNCIL

GEOLOGY

Restless earth. Energy inside the Earth

- Tectonic plates.
- Earthquakes and volcanoes

Energy and geological changes outside the earth

- Solar energy and relation with external geological agents
- Weathering
- Transport and sedimentation

PHYSICS AND CHEMISTRY

Energy.

- Forms of energy. Energy sources. Energy transformations

Light

- Properties of light. Reflection and Refraction. Colour. The eye

Sound

- Properties of sound. Human hearing, the ear and frequency.

Heat and temperature

- Temperature. Heat and temperature. Heat energy. Conduction of heat. Particle model of thermal conduction. Insulation. Convection of heat. Radiation of heat waves

Forces and their effects

- Forces: change shape, speed and direction. Different types of forces. Balanced and unbalanced forces. Friction, resistance, upthrust, driving force
- Gravity mass and Weight. Units and instruments of measurement.
- Concept of speed, time and distance. Distance/ time graphs.

Chemical changes ; chemical reactions.

- The periodic table Atomic number, atomic mass. Metals and non-metals. Uses and properties.
- Chemical reactions, chemical formula. Acids and alkali . Simple chemical reactions. Reactions of metals and non metals. Oxidation reactions. Combustion.
- Chemistry laws(Conservation of mass. Law of constant proportions). Balancing equations.

BIOLOGY

Biology (Energy and living beings: Vital functions and the use of energy)

- Autotrophic nutrition and heterotrophic nutrition. Characteristics of biomolecules: glucids, lipids, proteins. Photosynthesis. Cellular nutrition and respiration.
- Living beings use energy: maintenance of species- Animal reproduction and plant reproduction.
- Other uses of energy: heat, movement, growing. Coordination, sensitivity and adaptation.

Ecosystems and Energy

- The Biosphere and Biomes.
- Biomass as an energy source. Food chains and food webs
- Ecosystems and energy. Energy flow through ecosystems, pyramids of energy.

