

West Moors Middle School - Curriculum Component Profile



| | |
|--|--|
| Subject: Science | Year: 7 |
| <p>Description of learning</p> <p>Enquiry based learning to establish that:</p> <ul style="list-style-type: none"> • Particles are the ‘building blocks’ of all things living and non-living; • States of matter reflect particle structure, behaviour and energy transfer; • Materials can be formed from pure, mixed or compound chemical elements; • Solutions and mixtures can be made and separated; • Chemical substances can be measured for their degree of acidity or alkalinity; • Acids and alkalis can be neutralised; • All living things are made of cells; • The structure and function of different cells, parts of a cell and plant and animal cells; • Cells can reproduce, have specialised functions (adaptations) and can group to form tissues; • Plants and animals reproduce; • Plants and animals have specialised reproductive systems and that these develop according to the age of the organism; • Fertilisation is the fusion of two cell nuclei; • The digestive system is composed of different organs and that different organs have different structures and functions within digestion; • Digestion is the process of breaking-down nutrients; • Enzymes are integral to the break-down of nutrients; • Humans (and other organisms) need a balanced diet; • Glucose is needed for respiration; • Anaerobic and aerobic respiration both produce energy; • Digestion, breathing, circulation and life-style impact on respiration; • There are different sources of energy, some of which are renewable and others are non-renewable; • Energy is transferred and can be ‘wasted’ in the process; • Electricity is produced through both renewable and non-renewable means; • Electricity can take different forms (static and current); • Electrical circuits are represented in circuit diagrams with universally recognised symbols. • Electricity can be dangerous; • Electrical current can be measured and controlled in both series and parallel circuits. | |
| <p>Important questions:</p> <p>Is change of state reversible? How does change of state relate to the particle model? How can salt be separated from rock salt? How does exercise affect respiration? Is my diet balanced? How do you measure electrical current? How do you change the level of acidity?</p> | <p>Bigger picture and linking:</p> <p>Healthy eating and lifestyles. Energy production, pollution and transport.</p> |
| <p>Overlearning required:</p> <p>Separating techniques. Series and parallel circuits. Acidity scale. Anaerobic and aerobic respiration.</p> | <p>WoW factor:</p> <p>Design and conduct own survey of energy use - present findings to local MP.</p> |
| <p>How will our learning values be developed?</p> <p>Working co-operatively on investigations. Resilience - when investigations don’t go to plan</p> | <p>How will our community values be developed?</p> <p>Involve local enterprises/individuals in finding out about energy usage/recycling???</p> |
| <p>How will pupils’ numeracy be developed?</p> <p>Measuring and recording data. Calculations. Estimates. Rounding. Units of measurement. Graphing data.</p> | <p>How will pupils’ literacy be developed?</p> <p>Written reports - practising non-chronological reports.</p> |