

CURRICULUM SUMMARY – September to October 2010

SUBJECT: Science

YEAR GROUP: 7

TEACHER: Ardeshir Rana

Week	Learning objectives	Activities (in brief)
1	<p>Be able to use microscope safely</p> <p>Be able to describe cells as the basic unit of life</p> <p>Be able to differentiate between plant and animal cell</p> <p>Be able to describe the relationship between cells, tissues, organ and organ system.</p>	<p>Practical, “using a microscope and preparing slides”</p> <p>Power point presentation on microscope with work sheet</p> <p>Practical, “looking at onion cells under the microscope”</p> <p>Power point presentation on animal and plant cells with work sheet</p> <p>Work sheet on cells, tissues, organ and organ system</p>
2	<p>Be able to describe the multiplication and growth of cells</p> <p>Be able to relate the multiplication of cells with cancer</p> <p>Be able to identify some specialized cells</p> <p>Be able to draw and annotate parts of a typical flower</p> <p>Be able to explain the lifecycle of a flower</p>	<p>Power point on cell growth and multiplication with work sheet</p> <p>Practical, “growing yeast and observing the cells multiplying under the microscope”</p> <p>Power point on specialized cells, with questions to answer and diagrams to annotate</p> <p>Practical, “observing various flowers and identifying the various parts of the flowers”</p> <p>Drawing the diagram of a typical flower and annotating the diagram</p> <p>Power point on the life cycle of a flower with work sheet</p> <p>Practical, “germinating sunflower pollen in various concentration sugar solution”</p> <p>data collection and graph drawing</p>
3	<p>Assessment</p> <p>Be able to define the states of matter</p> <p>Be able to outline the properties of solid, liquid and gases</p> <p>Be able to draw and explain the particle arrangement in solids, liquids and gases</p> <p>Be able to demonstrate the particle model of matter</p>	<p>Revision lesson and end of module test.</p> <p>Practical, “states of matter with syringe filled with solid, liquid and gas” with work sheet</p> <p>Power point on the particle arrangement in solids, liquids and gases with work sheet</p> <p>Practical, “expansion of metals when heated, diffusion of colour in water, evaporation of ethanol” work sheet to note down the observations and explain the phenomenon.</p>
4	<p>Be able to define and explain diffusion</p> <p>Be able to outline the factors affecting rate of diffusion</p> <p>Be able to describe gas pressure in terms of particle model of materials</p>	<p>Power point on diffusion</p> <p>Practical, “diffusion of gases and liquids” work sheet to explain the practical</p> <p>Power point on the factors affecting the rate of diffusion with questions</p> <p>Power point on gas pressure, Practical, “filling balloons and cycle tubes” with work sheet</p> <p>Practical, “imploding cans”</p>
5	<p>Be able to carry out an extended investigation on diffusion</p> <p>Assessment</p>	<p>Investigating the mass of molecules and rate of diffusion; Practical, “lead nitrate and potassium iodide solution in distilled water”</p> <p>Revision lesson and end of module test.</p>
6	<p>Be able to make a simple electric circuit</p> <p>Be able to draw and identify the symbols of electrical</p>	<p>Practical, “making circuits” and work sheet of simple circuits with questions</p> <p>Power point with symbols of electrical component and questions on electrical</p>

	<p>components of a simple circuit</p> <p>Be able to distinguish between a series and a parallel circuit</p> <p>Be able to explain voltage as the amount of energy carried by each charge</p>	<p>components</p> <p>Power point on parallel and series circuit. Practical, “investigating parallel and series circuits”</p> <p>Role play of circuits to understand voltage and current.</p> <p>Work sheets with questions on current and voltage</p>
7	<p>Be able to describe current as the number of charges passing a point in one second</p> <p>Be able to draw some simple circuits</p> <p>Be able to predict the brightness of bulbs in a given circuit as bright or dim</p> <p>Be able to explain the use of fuse in circuits</p> <p>Be able to explain the use of earth in circuits</p>	<p>Questions on circuits, current and voltage, to be answered by carrying out experiments.</p> <p>Practice questions on circuits from past SATS papers</p> <p>Power point on electricity and safety with questions on fuse, the use of fuse, earth and the use of earth in the mains circuits</p>

SUBJECT: Science

YEAR GROUP: 8

TEACHER: Ardeshir Rana

Week	Learning objectives	Activities (in brief)
1	<p>Be able to explain the seven characteristics of living things</p> <p>Be able to classify living things into major kingdoms and groups</p> <p>Be able to name some organisms in major groups</p>	<p>Class discussion on the characteristics of living things and work sheet with questions and answers</p> <p>Video clip on the variety of life on this planet, class discussion on how to group living things</p> <p>Work sheet with diagrams of plants and animals to be classified and rearranged</p>
2	<p>Be able to carry out sampling of plants in the wild using quadrats and transect</p> <p>Be able to identify and use sampling equipment for animals</p> <p>Be able to draw and interpret food webs and food chains</p> <p>Be able to draw and interpret pyramids of biomass and numbers</p>	<p>Power point on quadrat and transects</p> <p>Practical, “using quadrat and transects in the field” sorting the data collected</p> <p>Observing the mammal traps, the pooter and pitfall traps, work sheet with questions on the equipment</p> <p>Power point with food chains and food webs and questions on the information given</p> <p>Example questions from the past paper</p> <p>Power point on pyramids of numbers and biomass and past paper questions</p>
3	<p>Assessment</p> <p>Be able to define elements, compounds and mixtures and give some common examples</p> <p>Be able to describe molecules and the difference between a molecule and a compound.</p>	<p>Revision lesson and end of module test</p> <p>Class discussion on elements compounds and mixtures</p> <p>Observation of some elements and compounds</p> <p>Observation of compound cards and complete the work sheets</p> <p>Discussion of molecules and power point on molecules and elements</p>
4	<p>Be able to identify groups and periods in</p>	<p>Power point on the periodic table, hand out of the periodic table to be colour coded</p>

	<p>periodic table, metals and non metals and transition metals</p> <p>Be able to carry out simple chemical reactions to form new compounds</p> <p>Be able to write the chemical reaction in the form of word equation and simple symbol equations</p> <p>Be able to name a compound using the 'ide' and 'ate' rule</p>	<p>Work sheet on the periodic table</p> <p>Quiz on periodic table</p> <p>Practical, "reacting iron with sulphur" with the work sheet to answer questions</p> <p>Practical, "reacting some metals with bench acids, burning Mg in air etc"</p> <p>Class discussion and group work in writing word equations</p> <p>Exercise in writing word equations</p> <p>Power point on how to name compounds</p> <p>Exercise in naming compounds</p>
5	<p>Be able to distinguish between a chemical and a physical change</p> <p>Assessment</p>	<p>Practical, "chemical vs physical change" with work sheet to note observations</p> <p>End of module test</p>
6	<p>Be able to distinguish between a light source and reflected light</p> <p>Be able to describe that light travels in straight lines</p> <p>Be able to define dull, shiny and see-through objects</p> <p>Be able to describe the reasons of colour of various object</p> <p>Be able to explain how laws of reflection and refraction</p> <p>Be able to complete ray diagrams for simple mirrors and for light passing from a less dense to a more dense medium</p>	<p>Class discussion on the meaning of light source with example of the sun vs the moon</p> <p>Practical, "the nature of light, to observe the path of a beam of light"</p> <p>Looking at materials and classifying them as dull, shiny and see-through.</p> <p>Discuss the colours we observe in an object. Power point on colours and reflection of light giving out different colours</p> <p>Practical, "on reflection from a plain mirror" and deducing the law of reflection</p> <p>Practical, "on refraction in water and through glass block" and deducing the law of refraction</p> <p>Drawing of ray diagrams using the ray box, plain mirror and glass block</p>
7	<p>Be able to explain that white light is composed of spectrum of colours</p> <p>Be able to deduce the colour projected on a white screen when passed through various coloured filters</p> <p>Be able to describe why a mirror will reflect an image while a white surface will not reflect an image even though it reflects all the light.</p>	<p>Practical, "using prism to split light" and work sheet related to light spectrum</p> <p>Practical, "passing light through filters"</p> <p>Class discussion on refraction and how it is related to the splitting of white light into coloured spectrum</p> <p>Power point on mirror vs plain white surface , with worksheet</p>

SUBJECT: Science

YEAR GROUP: Year 9

TEACHER: Stan Kwiecinski

Week	Learning objectives	Activities (in brief)
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1	Measurements, basic quantities and units,	Worksheets, simple measurements,
2	Motion, speed and acceleration	Student's book 9K1 pp130-131, analysis motion of a simple toys
3	Forces	Student's book 9K2 pp132-133, Newtons Laws in action
4	Terminal velocity, air resistance	Student's book 9K3 and 9K4 pp134-137 Design of a parachute
5	Revision on Motion and forces	Topic test #1
6	Pressure	Student's book 9L1 pp140-141, measuring own pressure exerted by a body
7	Pressure and gases	Student's book 9L1 pp142-143, simple demos with atmospheric pressure

SUBJECT: Biology

YEAR GROUP: 9

TEACHER: Mrs Asia Peplinska

Week	Learning objectives	Activities (in brief)
1	n/a	n/a
2 3	Introduction to Yr 9 Biology. Topic for this half term is Plants, Photosynthesis and Food Objectives 1. To be able to label and explain functions of different parts of the plant 2. To be able to explain what a plant needs to grow and thus formulate the equation for photosynthesis	PowerPoint presentations, worksheets, Investigation into factors required for growth Research into evidence for photosynthesis by Botanists of the past (van Helmont etc) Trip to Botanical Gardens to consolidate knowledge of plant structures, production of seed and fruit as well as look at plant adaptations to environment
4	3. To be able to discuss the role of the leaf in detail with respect to plant growth	Investigations into photosynthesis with pondweed, geranium leaves PowerPoint presentations, exam style questions
5	4. To look in detail what the plant uses glucose for 5. to be able to explain the role of the root 6. To be able to describe how a plant uses water	PowerPoint presentations, exam style questions Research using computers and books Preparing summary posters
6	7. To be able to explain which parts of a plant can be used for food and why	Experimental work on plants using food tests Power Point presentations, worksheets, quiz
7	8. To be able to discuss the use of fertilizers and the effect on plant growth	Research work on the effect of different minerals on plant growth Power Point presentation, group work, preparation and debate on this point
8	9. To be able to discuss the effect of pesticides and insecticides	Research work on the effect of different chemicals on plant growth Power Point presentation, group work summary posters of work done on topic Revision for test on topic after half term