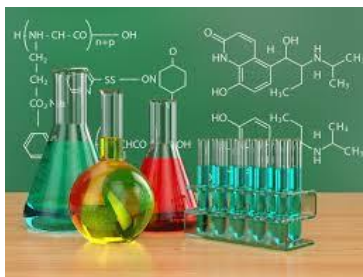


# Science

Al Risalah

2016-2017



Science Overviews KS3 & KS4 - Updated September 2016

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# Year 7 Science

Updated June 2016

<u>Number of Lessons per two weeks:</u>  7	<u>Homework</u>  Up to 2 hours per fortnight.
<u>Assessment</u>  Formative assessments (Q/A, self & peer assessment) & summative assessments (end of topic tests or end of term exams).	<u>Trips</u>  Science Museum
<u>Course Outline</u> <ul style="list-style-type: none"><li>• Cells, tissues, organs and systems</li><li>• Sexual Reproduction in animals</li><li>• Muscles and Bones</li><li>• Ecosystems</li><li>• Mixtures &amp; separation</li><li>• Acids &amp; alkalis</li><li>• The particle model</li><li>• Atoms, elements &amp; molecules</li><li>• Energy</li><li>• Current electricity</li><li>• Forces</li><li>• Sound</li></ul>	
<u>Cross Curricular Focus:</u> <ul style="list-style-type: none"><li>• Literacy: Scientific key words and explanation of scientific phenomenon, planning, concluding and evaluating their scientific knowledge.</li><li>• ICT: Use of excel, word and PowerPoint to make their presentation, graph etc.</li><li>• Numeracy: calculation, measuring, drawing tables, working out averages, plotting line and bar graphs.</li></ul>	
<u>How You Can Help</u> <ul style="list-style-type: none"><li>• Encourage your child to focus in the Science lessons.</li><li>• Make sure they do their homework in due time and with the best of their ability.</li><li>• Make sure that your child maintains a good standard in homework tasks both in content and presentation.</li><li>• Help them memorise scientific keywords and definitions.</li></ul>	
<u>Teacher</u>  Contact: Si <b>Priyani</b> (HOD – Girls) & Br <b>Abdul Qayyum</b> (Boys)	

# Year 8 Science

Updated June 2016

<u>Number of Lessons per two weeks:</u>  7	<u>Homework</u>  Up to 2 hours per fortnight.
<u>Assessment</u>  Formative assessments (Q/A, self & peer assessment) & summative assessments (end of topic tests or end of term exams).	<u>Trips</u>  To be confirmed.
<u>Course Outline</u> <ul style="list-style-type: none"><li>• Food &amp; nutrition</li><li>• Plants &amp; their reproduction</li><li>• Breathing &amp; respiration</li><li>• Unicellular organisms</li><li>• Combustion</li><li>• The periodic table</li><li>• Metals &amp; their uses</li><li>• Rocks</li><li>• Fluids</li><li>• Light</li><li>• Energy transfers</li><li>• Earth &amp; space</li></ul>	
<u>Cross Curricular Focus:</u> <ul style="list-style-type: none"><li>• Literacy: Scientific key words and explanation of scientific phenomenon, planning, concluding and evaluating their scientific knowledge.</li><li>• ICT: Use of excel, word and PowerPoint to make their presentation, graph etc.</li><li>• Numeracy: calculation, measuring, drawing tables, working out averages, plotting line and bar graphs.</li></ul>	
<u>How You Can Help</u> <ul style="list-style-type: none"><li>• Encourage your child to focus in the Science lessons.</li><li>• Make sure they do their homework in due time and with the best of their ability.</li><li>• Make sure that your child maintains a good standard in homework tasks both in content and presentation.</li><li>• Help them memorise scientific keywords and definitions.</li></ul>	
<u>Teacher</u>  Contact: Si <b>Priyani</b> (HOD – Girls) & Br <b>Abdul Qayyum</b> (Boys)	

# Year 9 Science

Updated June 2016

<u>Number of Lessons per two weeks:</u>  7	<u>Homework</u>  Up to 2 hours per fortnight.
<u>Assessment</u>  Formative assessments (Q/A, self & peer assessment) & summative assessments (end of topic tests or end of term exams).	<u>Trips</u>  To be confirmed.
<u>Course Outline</u> <ul style="list-style-type: none"><li>• Genetics and evolution</li><li>• Plant growth</li><li>• Biology revision and projects</li><li>• Biology transition to GCSE</li><li>• Making materials</li><li>• Reactivity</li><li>• Chemistry revision and projects</li><li>• Chemistry transition to GCSE</li><li>• Forces and motion</li><li>• Force fields and electromagnets</li><li>• Physics revision and projects</li><li>• Physics transition to GCSE</li></ul>	
<u>Cross Curricular Focus:</u> <ul style="list-style-type: none"><li>• Literacy: Scientific key words and explanation of scientific phenomenon, planning, concluding and evaluating their scientific knowledge.</li><li>• ICT: Use of excel, word and PowerPoint to make their presentation, graph etc.</li><li>• Numeracy: calculation, measuring, drawing tables, working out averages, plotting line and bar graphs.</li></ul>	
<u>How You Can Help</u> <ul style="list-style-type: none"><li>• Encourage your child to focus in the Science lessons.</li><li>• Make sure they do their homework in due time and with the best of their ability.</li><li>• Make sure that your child maintains a good standard in homework tasks both in content and presentation.</li><li>• Help them memorise scientific keywords and definitions.</li></ul>	
<u>Teacher</u>  Contact: Si <b>Priyani</b> (HOD – Girls) & Br <b>Abdul Qayyum</b> (Boys)	

# Year 10 Combined Science

Updated June 2016

<u>Number of Lessons per two weeks:</u> 8	<u>Homework</u> Up to 3 hours per fortnight.
<u>Assessment</u> Formative assessments (Q/A, self & peer assessment) & summative assessments (end of topic tests or end of term exams).	<u>Trips</u> To be confirmed.
<u>Course Outline</u> <ul style="list-style-type: none"><li>• Key concepts in Biology</li><li>• Cells and Control</li><li>• Genetics</li><li>• Natural selection and Genetic Modification</li><li>• Health, Disease and the Development of Medicines</li><li>• Plant structures and their functions</li><li>• Animal Coordination, Control and Homeostasis</li><li>• Exchange and Transport in animals</li><li>• Ecosystems and Material cycles</li><li>• States of Matter</li><li>• Methods of Separating and Purifying substances</li><li>• Atomic Structure</li><li>• The Periodic table</li><li>• Ionic bonding, Covalent bonding, Types of substances</li><li>• Acids and Alkalis</li><li>• Calculations involving masses</li><li>• Electrolytic processes, Obtaining and using metals, Reversible reactions and equilibria</li><li>• Groups in the periodic table</li><li>• Rates of Reactions</li><li>• Heat energy changes in chemical reactions</li><li>• Fuel, Earth and atmospheric science</li><li>• Motion</li><li>• Forces and motion</li><li>• Conservation of energy</li><li>• Waves</li><li>• Light and electromagnetic spectrum</li><li>• Radioactivity</li><li>• Energy- force Doing work Forces and their Effects</li><li>• Electricity and circuits</li><li>• Magnetism and motor effects</li><li>• Electromagnetic Induction</li><li>• Particle model</li><li>• Forces and Matter</li></ul>	

### Cross Curricular Focus:

- Literacy: Scientific key words and explanation of scientific phenomenon, planning, concluding and evaluating their scientific knowledge.
- ICT: Use of excel, word and PowerPoint to make their presentation, graph etc.
- Numeracy: calculation, measuring, drawing tables, working out averages, plotting line and bar graphs.
- There will no longer be a single GCSE Science qualification.
- There will be a new **9–1** grading system, replacing A\*–G:
  - **Foundation tier** will cover grades 1–5
  - **Higher tier** will cover grades 4-9.
- There are **no controlled assessments** in the new qualifications. Ofqual will announce how practical skills will be assessed soon.
- Questions assessing students' use of **mathematical skills** will make up 15% of the assessments. There will also be some recall of equations required in physics.

**Assessments:** Exam Board: **Edexcel – First assessment: 2018** (*Please note that the School will be taking part in the pilot assessment in June 2017*)

The Pearson Edexcel Level 1/Level 2 GCSE (9–1) in Combined Science consists of six externally examined papers. These are available at foundation tier and higher tier: 2 biology papers 2 chemistry papers 2 physics papers Each paper 60 marks 1 hour 10 mins

Pearson Edexcel Level 1/Level 2 GCSE (9–1) in Combined Science **1SC0**

Biology 1 & Biology 2 1SC0 Tiered paper: <b>1BF or 1BH &amp; 1BH or 2BH</b>	Written exam: 1 hour and 10 minutes	60 marks
Chemistry 1 & Chemistry 2 1SC0 Tiered paper: <b>1CF or 1CH &amp; 1CH or 2CH</b>	Written exam: 1 hour and 10 minutes	60 marks
Physics 1 & Physics 2 1SC0 Tiered paper: <b>1PF or 1PH &amp; 1PH or 2PH</b>	Written exam: 1 hour and 10 minutes	60 marks

### How You Can Help

- Encourage your child to focus in the Science lessons.
- Make sure they do their homework in due time and with the best of their ability.
- Make sure that your child maintains a good standard in homework tasks both in content and presentation.
- Help them memorise scientific keywords and definitions.

### Teacher

Contact: Si **Priyani** (HOD – Girls) & Br **Abdul Qayyum** (Boys)

# Year 11 Additional Science

Updated June 2016

<u>Number of Lessons per two weeks:</u> 8	<u>Homework</u> Up to 3 hours per fortnight.
<u>Assessment</u> Formative assessments (Q/A, self & peer assessment) & summative assessments (end of topic tests or end of term exams).	<u>Trips</u> To be confirmed.
<u>Course Outline – Additional Science 2SA01 (Old Syllabus)</u> <ul style="list-style-type: none"><li>• The components of life</li><li>• Organisms and energy</li><li>• Common systems</li><li>• Atomic structure and the periodic table</li><li>• Ionic compounds and Analysis</li><li>• Covalent compounds and separation techniques</li><li>• Groups in the periodic table</li><li>• Chemical reactions</li><li>• Quantitative chemistry</li><li>• Static and current electricity</li><li>• Controlling and using electric current</li><li>• Motions and forces</li><li>• Momentum, energy, work and power</li><li>• Nuclear fission and nuclear fusion</li><li>• Benefits and drawbacks of using radioactive materials</li></ul>	
<u>Cross Curricular Focus:</u> <ul style="list-style-type: none"><li>• Literacy: Scientific key words and explanation of scientific phenomenon, planning, concluding and evaluating their scientific knowledge.</li><li>• ICT: Use of excel, word and PowerPoint to make their presentation, graph etc.</li><li>• Numeracy: calculation, measuring, drawing tables, working out averages, plotting line and bar graphs.</li></ul>	
<u>How You Can Help</u> <ul style="list-style-type: none"><li>• Encourage your child to focus in the Science lessons.</li><li>• Make sure they do their homework in due time and with the best of their ability.</li><li>• Make sure that your child maintains a good standard in homework tasks both in content and presentation.</li><li>• Help them memorise scientific keywords and definitions.</li></ul>	
<u>Teacher</u> Contact: Si <b>Priyani</b> (HOD – Girls) & Br <b>Abdul Qayyum</b> (Boys)	





# Year 11 Further Additional Science (*optional*)

Updated June 2016

<u>Number of Lessons per two weeks:</u>  8	<u>Homework</u>  Up to 3 hours per fortnight.
<u>Assessment</u>  Formative assessments (Q/A, self & peer assessment) & summative assessments (end of topic tests or end of term exams).	<u>Trips</u>  To be confirmed.
<u>Course Outline – Further Additional Science 2FS01 (Old Syllabus)</u>  <b>Biology</b> Control systems Behaviour Biotechnology  <b>Chemistry</b> Qualitative analysis Quantitative analysis Electrolytic processes Gases, equilibrium & ammonia Organic chemistry  <b>Physics</b> Radiation in treatment & medicine X-rays and ECGs Production, uses & risks of missing radiation from radioactive sources Motion of particles Kinetic theory & gases	
<u>How You Can Help</u> <ul style="list-style-type: none"><li>• Encourage your child to focus in the Science lessons.</li><li>• Make sure they do their homework in due time and with the best of their ability.</li><li>• Make sure that your child maintains a good standard in homework tasks both in content and presentation.</li><li>• Help them memorise scientific keywords and definitions.</li></ul>	
<u>Teacher</u>  Contact: Si <b>Priyani</b> (HOD – Girls) & Br <b>Abdul Qayyum</b> (Boys)	