

**Pressure – Curriculum Links**  
By Doaa George

| <b>Year 7</b>   | <b>Year 8</b>  | <b>Year 9</b>   | <b>Year 10</b>  |
|---|--|---|---|
| Scientific knowledge changes as new evidence becomes available, and some scientific discoveries have significantly changed people's understanding of the world        | Scientific knowledge changes as new evidence becomes available, and some scientific discoveries have significantly changed people's understanding of the world | Formulate questions or hypotheses that can be investigated scientifically   | Formulate questions or hypotheses that can be investigated scientifically   |
| Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge  | Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge                                     | Plan, select and use appropriate investigation methods, including field work and laboratory experimentation, to collect reliable data; assess risk and address ethical issues associated with these methods | Plan, select and use appropriate investigation methods, including field work and laboratory experimentation, to collect reliable data; assess risk and address ethical issues associated with these methods |
| Science knowledge can develop through collaboration and connecting ideas across the disciplines of science  | Science knowledge can develop through collaboration and connecting ideas across the disciplines of science   | People can use scientific knowledge to evaluate whether they should accept claims, explanations or predictions  | People can use scientific knowledge to evaluate whether they should accept claims, explanations or predictions  |
| In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task  | The properties of the different states of matter can be explained in terms of the motion and arrangement of particles  | Select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data  | Select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data  |
| Science understanding influences the development of practices in areas of human activity such as industry, agriculture and marine and terrestrial resource management | In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task                                       | Advances in science and emerging sciences and technologies can significantly affect people's lives, including generating new career opportunities   | Advances in science and emerging sciences and technologies can significantly affect people's lives, including generating new career opportunities   |
| People use understanding and skills from across the   | People use understanding and skills from across the  | Analyse patterns and trends in data, including describing relationships between variables and identifying   | Analyse patterns and trends in data, including describing relationships between variables and identifying   |

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| disciplines of science in their occupations  | disciplines of science in their occupations  | inconsistencies   | inconsistencies   |
| Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions                 | Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions                 | Use knowledge of scientific concepts to draw conclusions that are consistent with evidence  | Use knowledge of scientific concepts to draw conclusions that are consistent with evidence  |
| Change to an object's motion is caused by unbalanced forces acting on the object   | Energy appears in different forms including movement (kinetic energy), heat and potential energy, and causes change within systems                                       | Evaluate conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the data                           | Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere                                       |
| Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method | Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method | Critically analyse the validity of information in secondary sources and evaluate the approaches used to solve problems  | Evaluate conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the data |
| Earth's gravity pulls objects towards the centre of the Earth  | Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate                            | Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations | The motion of objects can be described and predicted using the laws of physics  |
| Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate                            |  |   | Critically analyse the validity of information in secondary sources and evaluate the approaches used to solve problems  |
|  |  |   | Communicate scientific ideas and information for a particular purpose, including  |

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|  |  |  | constructing evidence-based arguments and using appropriate scientific language, conventions and representations |
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## Guidance

| Stage                           | Demonstrated inquiry | Prescribed inquiry                   | Structured inquiry                 | Guided inquiry                              | Open inquiry                               |
|---------------------------------|----------------------|--------------------------------------|------------------------------------|---|--|
| Formulate, question and predict | No question          | Provided question                    | Sharpened question                 | Learner selects                             | Learner poses questions                    |
| Plan                            | No planning          | Provided procedure                   | Discussion with teacher            | Guided during planning                      | Learner determines plans                   |
| Conduct                         | Teacher conducts     | Conducting and recording method told | Sharpened plan and conduct         | Guided during conducting and recording      | Learner conducts and records               |
| Process and analyse             | Teacher analyses     | Analysis method told                 | Discussed analysis                 | Guided analysis                             | Learner analyses data studying trends      |
| Reason, solve and link back     | No problem solving   | Teacher provides reasoning and links | Discussed reasoning and conclusion | Guided reasoning and formulating conclusion | Learner reasons to formulate conclusions   |
| Communicate and justify         | No conclusion        | Teacher writes conclusion            | Student writes                     | Guided justification and findings           | Learner justifies findings and conclusions |