**Science audit**

It is necessary for you to assess your knowledge and understanding of Science within the topics covered at KS 3 / PS4.

These topics should be understood at the level of GCSE or higher. You are often asked to teach out of your subject specialism at KS4, which can be a valuable asset on your C.V. It is your responsibility to ensure that you have sufficient understanding.

**Before the course starts:** Complete this audit in order to identify your own areas for development, which is based on the 2008 National Curriculum.

If you are unsure of what any topic contains, use BBC Bitesize to get more detail:

[KS3 Science - BBC Bitesize](https://www.bbc.co.uk/bitesize/subjects/zng4d2p)

Draw up an action plan showing how you propose to address these areas.

You have been asked to complete a GCSE higher tier past paper for each of the 3 science subjects. Reflect on your outcomes from these papers by comparing your answers against the published mark scheme. Use the specifications on the WJEC website if you are unsure of details.

**Once the course starts:** Ensure a copy of your audit is uploaded in the ‘subject knowledge and understanding’ on the Professional Learning Portfolio (PebblePad).

**Throughout your PGCE year:** Compile a portfolio of evidence showing that you have successfully addressed these areas for development.

**Extension/ Good idea:** Compile a portfolio of resources/ideas/good practice material for your own use.

**Interdependence of organisms**

RAG rate (Red, Amber, Green) your own confidence level against the statements. Support this with comments.

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| Topic: | RAG rating? | What level is your own knowledge? | Action plan? |
| 1. The basic structure and function of some cells, tissues, organs and organ systems and how they support vital life processes. |  |  |  |
| **2.** How food is used by the body as fuel during respiration and why the components of a balanced diet are needed for good health. |  |  |  |
| **3.** The beneficial and detrimental effects of some drugs on the organs of the human body and other consequences of their use, *e.g. insulin, steroids,* *paracetamol, caffeine*. |  |  |  |
| **4.** The interdependence of organisms and their representation as food webs, pyramids of numbers and simple energy-flow diagrams. |  |  |  |
| **5.** How and why food webs are affected by environmental factors, *e.g. light intensity, water availability, temperature,* and their fluctuations. |  |  |  |
| **6.** How human activity affects the global environment, *e.g. acid rain,* *greenhouse effect,* and the measures taken to minimise any negative effects and monitor them, *e.g. by Earth observation* *satellites.* |  |  |  |
| **7.** Applications of science, medicine and technology that are used to improve health and the quality of life, including those in countries with different levels of economic development. |  |  |  |

**The sustainable Earth**

RAG rate (Red, Amber, Green) your own confidence level against the statements. Support this with comments.

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| Topic: | RAG rating? | What level is your own knowledge? | Action plan? |
| **1.** The properties of solids, liquids and gases and how the particle model can be used to explain these properties. |  |  |  |
| **2.**  The physical and chemical properties of  some elements, compounds and mixtures and how mixtures can be separated by simple techniques. |  |  |  |
| **3.** The differences between physical and  chemical changes using some common  examples. |  |  |  |
| **4.**  Investigations into the patterns of behaviour of elements and compounds and their use to describe and predict their behaviour in chemical reactions. |  |  |  |
| **5.** The properties of sustainable materials  and how these are related to their uses in everyday life, *e.g. in the* *construction and manufacturing industries,* and the importance of sustainability. |  |  |  |

**How things work**

RAG rate (Red, Amber, Green) your own confidence level against the statements. Support this with comments.

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| Topic: | RAG rating? | What level is your own knowledge? | Action plan? |
| **1.** The behaviour of current in electrical circuits. |  |  |  |
| **2.** The conservation of energy and ways in  which energy can be stored. |  |  |  |
| **3.** How familiar devices/machines work by  using electricity, light, sound and other  energy transfers. |  |  |  |
| **4.** The forces in devices and their  relationship to work done and power. |  |  |  |
| **5.** How renewable and non-renewable  energy resources are used to generate  electricity and the implications of  decisions made about their use. |  |  |  |
| **6.** Technologies under development,  which may lead to more efficient use  of energy resources or using them in new ways, *e.g. hydrogen-powered cars,* *using cooking oil/gasohol, as replacements* *for diesel/petrol.* |  |  |  |

**Specific GCSE topics**

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| Topic: | RAG rating? | What level is your own knowledge? | Action plan? |
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