**IGCSE Practical work and student investigations**

A list of the practical work and investigations that are included in the specification is given below, together with a small sample of other practicals.

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|  | **Experiment title** | **Occurs in:** | **Page references** |
| **1** | Tests for glucose and starch | Chapter 4: Food and digestion | Page 43 |
| **2** | Controlled experiments to illustrate how enzyme activity can be affected by changes in temperature | Chapter 1: Life processes | Page 2 |
| **3** | Simple experiments on diffusion and osmosis using living and non-living systems | Chapter 1: Life processes  Chapter 11: Transport in plants | Page 10  Page 125/6 |
| **4** | Controlled experiments to investigate photosynthesis, showing the evolution of oxygen from a water plant, the production of starch and the requirements of light, carbon dioxide and chlorophyll | Chapter 10: Plants and food | Page 109/110  Page 115  Page 116 |
| **5** | **A simple experiment to determine the energy content of a food sample** | Chapter 4: Food and digestion | Page 45 |
| 6 | **Controlled experiments to demonstrate the evolution of carbon dioxide and heat from respiring seeds or other suitable living organisms** | Chapter 1: Life processes | Page 8 |
| **7** | **Simple controlled experiments to investigate the effect of light on net gas exchange from a leaf, using hydrogen-carbonate indicator** | Chapter 10: Plants and food | Page 115 |
| **8** | A simple experiment to investigate the effect of exercise on breathing in humans | Chapter 3: Breathing and gas exchange | See own notes |
| **9** | Experiments to investigate the role of environmental factors in determining the rate of transpiration from a leafy shoot | Chapter 11: Transport in plants | Page 130/131 |
| **10** | A simple experiment to investigate the effect of exercise on heart rate in humans | Chapter 5: Blood and circulation | See own notes |
| **11** | A simple experiment to show how the sensitivity of the skin differs on finger tips, back of hand, wrist and forearm | Chapter 6: Coordination | See own notes |
| **12** | A practical exercise comparing floral structure in insect-pollinated and wind-pollinated flowers | Chapter 13: Reproduction in plants | See own notes |
| **13** | Controlled experiments to demonstrate phototropic and geotropic plant growth responses | Chapter 12: Chemical coordination in plants | Page 139 |
| **14** | The use of quadrats to estimate the population size of an organism in two different areas | Chapter 14: Ecosystems | Page 154 |
| **15** | A simple experiment to investigate carbon dioxide production by yeast in different conditions. | Chapter 21: Using microorganisms | Page 232 |

**PUPILS SHOULD ALSO REFER TO APPENDIX A AT THE BACK OF THEIR TEXTBOOKS PAGES 247 – 254 FOR FURTHER GUIDANCE!**