**Self-isolation work for year 9 (biology)**

Look in your exercise books for the title of the previous lesson to work out what lesson(s) you will be missing. For further accuracy, ask your classmates which lesson they are currently on in case of variations between classes.

Either complete the work from the textbook **or** complete the online lesson from Oak National Academy.

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| **Lesson number and title** | **Textbook pages**  (When using the textbook, make notes from the information and answer the questions)  **“D”** stands for double science textbook  **“T”** stands for triple science textbook | **Remote learning links**  (if using the lesson from Oak National Academy, watch the video while making notes and complete the questions/worksheet they set) |
| 1 Animal and plant cells | B1.2 pages 6-8 | <https://www.bbc.co.uk/bitesize/guides/z9hyvcw/revision/3> |
| 2 and 3 Microscopes: Inc. Required practical: Looking at cells. | Page 7 (purple box on page 7 explains required practical) | 1. Watch this video: <https://www.youtube.com/watch?v=jBVxo5T-ZQM> 2. Complete a virtual version of the practical using the below link.   <https://science-practical-simulator.web.app/>  Enter code: RM548  Click on ‘Biology’  Click on ‘Microscopy’: Follow the instructions to complete the virtual practical.   1. Write up an explanation of the required practical including equipment list and instructions. |
| 4 Light and electron microscopes | B 1.1 - Pages 4 - 5 | Make a timeline that shows the major advances in the development of microscopes. Answer in terms of improvements in the resolution and magnification of microscopes, and how this has helped scientists understand more about cells. You can use the internet to help you. |
| 5 Magnification calculations |  | <https://classroom.thenational.academy/lessons/order-of-magnitude-calculations-75k34d?activity=video&step=2&view=1>  <https://classroom.thenational.academy/lessons/using-the-microscope-and-magnification-equation-c5k66r> |
| 6 Eukaryotic and Prokaryotic cells | B1.3 – pages 8-9 | <https://classroom.thenational.academy/lessons/prokaryotic-and-eukaryotic-cells-6cr6ae> |
| 7 Specialisation in animals and plant cells | B1.4 & B1.5 – pages 10-13 | <https://classroom.thenational.academy/lessons/specialised-cells-74r66c> |
| 8 Diffusion | B1.6 - pages 14-15 | <https://classroom.thenational.academy/lessons/diffusion-61jker> |
| 9 Exchanging materials | B1.10 – pages 22-23 | <https://classroom.thenational.academy/lessons/exchange-surfaces-and-surface-area-to-volume-ratio-60tp4r> |
| 10 Osmosis | B1.7 & B1.8 – pages 16-19 | <https://classroom.thenational.academy/lessons/osmosis-6wu3jd> |
| 11 | Osmosis Required practical (The two links should take two lessons to complete). | <https://classroom.thenational.academy/lessons/osmosis-required-practical-part-1-70r6cr>  <https://classroom.thenational.academy/lessons/osmosis-required-practical-part-2-6gtk0d> |
| 12 | Osmosis Required practical |
| 13 Active transport | B1.9 – pages 20-21 | <https://classroom.thenational.academy/lessons/active-transport-6mtk2r> |
| 14 B1 assessment | Pages 24-25 | Complete the end of chapter questions on pages 24-25 for revision then contact your teachers for assessment instructions. |
| 15 Cell division | B2.1 – pages 26-27 | <https://classroom.thenational.academy/lessons/cell-cycle-and-mitosis-60r30t> |
| 16 Growth and Differentiation | B2.2 – pages 28-29 |  |
| 17 and 18 Stem cells and Ethics | B2.3 & 2.4 – pages 30-33 | <https://classroom.thenational.academy/lessons/stem-cells-and-the-use-of-stem-cells-69gkac> |
| 19 B2 assessment | Pages 34-35 | Complete the end of chapter questions on pages 34-25 for revision then contact your teachers for assessment instructions. |

**Self-isolation work for year 10 Science (Biology)**

Look in your exercise books for the title of the previous lesson to work out what lesson(s) you will be missing. For further accuracy, ask your classmates which lesson they are currently on in case of variations between classes.

Either complete the work from the textbook **or** complete the online lesson from Oak National Academy.

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| **Lesson number and title** | **Textbook pages**  (When using the textbook, make notes from the information and answer the questions) | **Remote learning links**  (if using the lesson from Oak National Academy, watch the video while making notes and complete the questions/worksheet they set) |
| 1 Aerobic Respiration | B9.1 - pages 134-135 | <https://classroom.thenational.academy/lessons/respiration-71jpce> |
| 2 The response to exercise | B9.2- pages 136-137 |  |
| 3 Anaerobic respiration | B9.3 - pages 138-139 | <https://classroom.thenational.academy/lessons/anaerobic-respiration-cdgk6d> |
| 4 Metabolism and the liver | B9.4 - pages 140-141 | <https://classroom.thenational.academy/lessons/metabolism-6rw3gc> |
| 5 and 6 Revision for B8 Photosynthesis and B9 Respiration | B8 pages 132-133  B9 pages 142-143 | Complete the end of chapter questions for both B8 and B9 for revision then contact your teachers for assessment instructions. |
| 7 Health and Disease | B5.1 – pages 74-75 |  |
| 8 Pathogens and Disease | B5.2 – pages 76-77 | <https://classroom.thenational.academy/lessons/infectious-disease-6wu3ce> |
| 9 and 10 Growing Bacteria in the lab and Preventing bacterial Growth (including required practical) | B5.3 and B5.4 – Pages 78 – 81 | 1. Watch this video: <https://www.youtube.com/watch?v=BkbLI2mAMP8> 2. Complete a virtual version of the practical using this link. <https://science-practical-simulator.web.app/>   Enter code: RM548  Click on ‘Biology’  Click on ‘Microbiology’: Follow the instructions to complete the virtual practical and record the diameter of inhibition zone for your three antiseptics.   1. Write up an explanation of the required practical including equipment list and instructions. |
| 11 Preventing Infections | B5.5 – pages 82-83 |  |
| 12 and 13 Researching Diseases | B5.6, 5.7, 5.8 | Using your text books and the internet research the below list of diseases using these questions:   1. What type of pathogen that causes the disease? 2. How does the pathogen spread? (transmission) 3. What are the symptoms of the disease? 4. What complications can be caused by the disease? 5. What treatments and/or prevention measures are there for the disease?   • Measles  • HIV  • Tobacco Mosaic Virus  • Salmonella food poisoning  • Gonorrhoea  • Rose black spot  • Malaria |
| 14 Human defence responses | B5.9 – pages 90 - 91 |  |
| 15 More about plant diseases | B5.10 - pages 92-93 | <https://classroom.thenational.academy/lessons/plant-diseases-and-deficiencies-part-2-cnjp6r> |
| 16 Plant defence responses | B5.11 - pages 94-95 | <https://classroom.thenational.academy/lessons/plant-diseases-and-deficiencies-part-1-61jpcd> |
| 17 Vaccinations | B6.1 - pages 98-99 | <https://classroom.thenational.academy/lessons/vaccines-70u6cc?from_query=vaccination+AND+is_sensitive%3Afalse> |
| 18 Antibiotics and Painkillers | B6.2 - pages 100-101 | <https://teachers.thenational.academy/lessons/antibiotics-6gv62c> |
| 19 Discovering drugs | B6.3 - pages 102-103 |  |
| 20 Developing drugs | B6.4 - pages 104-105 | <https://classroom.thenational.academy/lessons/testing-drugs-part-1-6wwker>  <https://classroom.thenational.academy/lessons/testing-drugs-part-2-60r32c> |
| 21 & 22 Making Monoclonal Antibodies and uses of monoclonal antibodies | B6.5 & B6.6 - pages 106-109 | <https://classroom.thenational.academy/lessons/monoclonal-antibodies-6djp2t?activity=intro_quiz&step=1> |
| 23 Non-communicable diseases | B7.1 - pages 112-113 | <https://classroom.thenational.academy/lessons/non-communicable-disease-75jk6r?from_query=non-commu++AND+is_sensitive%3Afalse> |
| 24 Cancer | B7.2 - pages 114-115 | <https://classroom.thenational.academy/lessons/cancer-c8rp8d?from_query=cancer+AND+is_sensitive%3Afalse> |
| 25 Risk factors and disease: Smoking | B7.3 - pages 116-117 |  |
| 26 Diet, exercise and disease | B7.4 - pages 118-119 |  |
| 27 Alcohol and other carcinogens | B7.5 - pages 120-121 |  |
| 28 Assessment | B5, B6 and B7 | Complete the end of chapter questions on pages 96-97 (B5), 110-111 (B6) and 122-123 (B7) for revision then contact your teachers for assessment instructions. |

**Self-isolation work for year 11 Double Science (Biology)**

Look in your exercise books for the title of the previous lesson to work out what lesson(s) you will be missing. For further accuracy, ask your classmates which lesson they are currently on in case of variations between classes.

Either complete the work from the textbook **or** complete the online lesson from Oak National Academy.

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| **Lesson number and title** | **Textbook pages**  (When using the textbook, make notes from the information and answer the questions) | **Remote learning links**  (if using the lesson from Oak National Academy, watch the video while making notes and complete the questions/worksheet they set) |
| 1 Principles of homeostasis | B10.1 - pages 135-135 |  |
| 2 The structure and function of the human nervous system | B10.2 - pages 136-137 | <https://classroom.thenational.academy/lessons/the-nervous-system-6rt64e> |
| 3 Investigating Reaction times | Required practical, purple box on page 137 | <https://classroom.thenational.academy/lessons/required-practical-reaction-time-part-1-74vkgd>  <https://classroom.thenational.academy/lessons/required-practical-reaction-time-part-2-71jkgt> |
| 4 Reflex actions | B10.3 pages 138-139 | <https://classroom.thenational.academy/lessons/reflex-arcs-6hhp4r> |
| 5 Principles of hormonal control and the control of blood glucose levels | B11.1 and B11.2 - pages 142-145 | <https://classroom.thenational.academy/lessons/hormonal-responses-cgr3ed>  <https://classroom.thenational.academy/lessons/controlling-blood-sugar-levels-higher-71k32c> |
| 6 Diabetes | B11.3 - pages 146-147 | <https://classroom.thenational.academy/lessons/diabetes-chj6ad> |
| 7 The role of negative feedback | B11.4 - pages 148-149 | <https://classroom.thenational.academy/lessons/negative-feedback-higher-6dh62r> |
| 8 Human reproduction and control of the menstrual cycle | B11.5 and B11.6 - pages 150-153 | <https://classroom.thenational.academy/lessons/hormones-in-reproduction-higher-cdhket> |
| 9 Artificial control of fertility and Infertility treatments | B11.7 and 11.8 - pages 154-157 | <https://classroom.thenational.academy/lessons/contraception-chh3ct>  <https://classroom.thenational.academy/lessons/artificial-control-of-fertility-higher-cgu6ac> |
| 10 Revision and assessment | B10 and B11 | Complete the end of chapter questions on pages 140-141 (B10) and 158- 159 (B11) for revision then contact your teachers for assessment instructions. |

**Self-isolation work for year 11 Triple science (Biology)**

Look in your exercise books for the title of the previous lesson to work out what lesson(s) you will be missing. For further accuracy, ask your classmates which lesson they are currently on in case of variations between classes.

Either complete the work from the textbook **or** complete the online lesson from Oak National Academy.

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| **Lesson number and title** | **Textbook pages**  (When using the textbook, make notes from the information and answer the questions) | **Remote learning links**  (if using the lesson from Oak National Academy, watch the video while making notes and complete the questions/worksheet they set) |
| 1 Variation | B14.1 - pages 218-219 | <https://classroom.thenational.academy/lessons/variation-and-natural-selection-part-1-ccv3at> |
| 2 Evolution by Natural Selection | B14.2 - pages 220-221 | <https://classroom.thenational.academy/lessons/variation-and-natural-selection-part-2-cmwk8d> |
| 3 Theories of Evolution | B15.2 - pages 236-237 |  |
| 4 Accepting Darwin’s ideas | B15.3 - pages 238-239 | <https://classroom.thenational.academy/lessons/darwin-and-wallace-chh62c> |
| 5 Evolution and Speciation | B15.4 - pages 240-241 | <https://classroom.thenational.academy/lessons/speciation-6rtkad> |
| 6 Evidence for evolution: fossils | B15.5, B15.6 and B15.7 - pages 242 - 247 | <https://classroom.thenational.academy/lessons/evidence-for-evolution-part-1-crw3cd> |
| 7 Evidence for evolution: antibiotic-resistant bacteria | B15.8 - pages 248 - 249 | <https://classroom.thenational.academy/lessons/evidence-for-evolution-part-2-6thk8d> |
| 8 Classification | B15.9 - pages 250- 251 | <https://classroom.thenational.academy/lessons/classification-ccup2c> |
| 9 New systems of classification | B15.10 - pages 252 - 253 | <https://www.bbc.co.uk/bitesize/guides/z9mcqhv/revision/2> |
| 10 Selective breeding | B14.3 - pages 222 - 223 | <https://classroom.thenational.academy/lessons/selective-breeding-71hk0e> |
| 11 Genetic engineering | B14.4 - pages 224 - 225 | <https://classroom.thenational.academy/lessons/genetic-engineering-part-1-64v3gt> |
| 12 Ethics of genetic engineering | B14.7 - pages 230 - 231 | <https://classroom.thenational.academy/lessons/genetic-engineering-part-2-cngkgd> |
| 13 and 14 Cloning and Adult Cell Cloning | B14.5 and B14.6 - 226 - 229 | <https://classroom.thenational.academy/lessons/cloning-crrked> |
| 15 Assessment | B13, B14 and B15 | Complete the end of chapter questions on pages 216-217 (B13), 232-233 (B14) and 254-255 (B15) for revision then contact your teachers for assessment instructions. |
| 16 Principles of homeostasis | B10.1 - pages 146-147 |  |
| 17 The structure and function of the human nervous system | B10.2 - pages 148-149 | <https://classroom.thenational.academy/lessons/the-nervous-system-6rt64e> |
| 18 Investigating Reaction times | Required practical, purple box on page 149 | <https://classroom.thenational.academy/lessons/required-practical-reaction-time-part-1-74vkgd>  <https://classroom.thenational.academy/lessons/required-practical-reaction-time-part-2-71jkgt> |
| 19 Reflex actions | B10.3 - pages 150-151 | <https://classroom.thenational.academy/lessons/reflex-arcs-6hhp4r> |
| 20 The Brain | B10.4 - pages 152-153 | <https://classroom.thenational.academy/lessons/the-brain-64rk4c> |
| 21 The Eye | B10.5 - pages 154-155 | <https://classroom.thenational.academy/lessons/the-eye-61h64e> |
| 22 Problems with the eye | B10.6 – pages 156 -157 | <https://classroom.thenational.academy/lessons/correcting-vision-68w3at> |
| 23 Principles of hormonal control and the control of blood glucose levels | B11.1 and B11.2 - pages 160-163 | <https://classroom.thenational.academy/lessons/hormonal-responses-cgr3ed>  <https://classroom.thenational.academy/lessons/controlling-blood-sugar-levels-higher-71k32c> |
| 24 Diabetes | B11.3 - pages 164-165 | <https://classroom.thenational.academy/lessons/diabetes-chj6ad> |
| 25 The role of negative feedback | B11.4 - pages 166-167 | <https://classroom.thenational.academy/lessons/negative-feedback-higher-6dh62r> |
| 26 Human reproduction and control of the menstrual cycle | B11.5 and B11.6 - pages 168-171 | <https://classroom.thenational.academy/lessons/hormones-in-reproduction-higher-cdhket> |
| 27 Artificial control of fertility and Infertility treatments | B11.7 and 11.8 - pages 172-175 | <https://classroom.thenational.academy/lessons/contraception-chh3ct>  <https://classroom.thenational.academy/lessons/artificial-control-of-fertility-higher-cgu6ac> |
| 28 Plant hormones and responses (**Required Practical 8**) | B11.9 – pages 176 - 177 | <https://classroom.thenational.academy/lessons/required-practical-plant-hormones-part-1-cgrkje>  <https://classroom.thenational.academy/lessons/required-practical-plant-hormones-part-2-6mu3ct> |
| 29 Using plant hormones | B11.10 – pages 178-179 | <https://classroom.thenational.academy/lessons/plant-hormones-ctj3ct> |
| 30 Controlling body temperature | B12.1 – pages 182-183 | <https://classroom.thenational.academy/lessons/regulating-body-temperature-68v38e> |
| 31 Removing waste products | B12.2 – pages 184 - 185 | <https://classroom.thenational.academy/lessons/water-balance-6cu3ec> |
| 32 The human kidney | B12.3 – pages 186-187 | <https://classroom.thenational.academy/lessons/the-kidney-6ww3ct> |
| 33 Dialysis and kidney transplants | B12.4 – pages 188-189 | <https://classroom.thenational.academy/lessons/kidney-failure-69gpct> |
| 34 Revision and assessment | B10, B11 and B12 | Complete the end of chapter questions on pages 158-159 (B10), 180-181 (B11) and 192-193 (B12) for revision then contact your teachers for assessment instructions. |