**Walton High School Hub Curriculum** 

**Year 10 Science Half term 1 (September 2025 – October 2025)**

How it works:

1. In the table, find the correct week by looking at the date in the first column.
2. Find today’s work – there are three links per double lesson so you won’t run out of work!
3. Choose a lesson – hold ctrl and click on the chosen link.

**If the link does not work, you do not recognise the work or the work is too difficult, try another lesson.**

1. Some lessons have links to PowerPoints and other resources beneath the video and/or Starter Quiz.
2. Complete any starter quizzes.
   1. Write your answer down
   2. Mark your answers and write down any corrections, using the videos.
3. Watch the videos and take notes.
4. Pause if/when instructed to do so to answer questions or respond.
5. When the lesson is complete, go onto the next one.

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| Week commencing | Day | Subject/Topic | Lesson 1 | Lesson 2 |
| 01/09/25 | Monday |  |  |  |
| Tuesday | **Biology** – Diffusion, Osmosis and Active Transport | [Diffusion and surface area to volume ratio |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/transport-and-exchange-surfaces-in-humans/lessons/diffusion-and-surface-area-to-volume-ratio/overview) | [The importance of exchange surfaces and transport systems in humans |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/transport-and-exchange-surfaces-in-humans/lessons/the-importance-of-exchange-surfaces-and-transport-systems-in-humans/overview) |
| Wednesday | [Moving into and out of the blood: diffusion, osmosis and active transport |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/transport-and-exchange-surfaces-in-humans/lessons/moving-into-and-out-of-the-blood-diffusion-osmosis-and-active-transport/overview) | [Diffusion and exchange surfaces |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-l/units/cells-biology-3p8njnj/lessons/diffusion-and-exchange-surfaces-47ckut/overview) |
| Thursday | [Osmosis |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-l/units/cells-biology-3p8njnj/lessons/osmosis-eymw2x/overview) | [Diffusion |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/diffusion-ocvf5s/overview) |
| Friday | [Microscopes |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/microscopes-lcj273/overview) | [Cell structures |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/cell-structures-fxjz0y/overview) |
| 08/09/25 | Monday | **Chemistry** – Atomic Structure and Ions | [Atomic structure (very small electron mass) |](https://www.thenational.academy/pupils/programmes/chemistry-secondary-year-10-higher-aqa/units/atomic-structure-and-the-periodic-table/lessons/atomic-structure-very-small-electron-mass/overview) | [Atomic number and mass number |](https://www.thenational.academy/pupils/programmes/chemistry-secondary-year-10-higher-aqa/units/atomic-structure-and-the-periodic-table/lessons/atomic-number-and-mass-number/overview) |
| Tuesday | [Atoms Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_1.01) | [Elements, Isotopes & Relative Atomic Mass Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_1.02) |
| Wednesday | [Compounds, Molecules & Mixtures Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_1.03) | [Balancing Chemical Equations Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_1.04) |
| Thursday | [Metals & Non-Metals Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_1.12) | [Formation of Ions Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.01) |
| Friday | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4510) | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4511) |
| 15/09/25 | Monday | **Physics** – Speed, Velocity and Distance - Time Graphs | [Different speeds (v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/different-speeds-vs-t/overview) | [Measuring instantaneous speed practical (v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/measuring-instantaneous-speed-practical-v-s-t/overview) |
| Tuesday | [Measuring instantaneous speed analysis (v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/measuring-instantaneous-speed-analysis-v-s-t/overview) | [Displacement and velocity as vectors: including movement around a circle |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/displacement-and-velocity-as-vectors-including-movement-around-a-circle/overview) |
| Wednesday | [Velocity on displacement-time graphs (v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/velocity-on-displacement-time-graphs-vs-t/overview) | [Calculating from displacement-time graphs: including tangents (v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/calculating-from-displacement-time-graphs-including-tangents-v-s-t/overview) |
| Thursday | [Speed/Velocity & Distance/Displacement Lesson |](https://cognitoedu.org/coursesubtopic/p2-gcse-aqa-h-t_3.01) | [Distance-Time Graphs Lesson |](https://cognitoedu.org/coursesubtopic/p2-gcse-aqa-h-t_3.04) |
| Friday | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=421&lesson=3342) | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=421&lesson=3358) |
| 22/09/25 | Monday | **Biology** – Diffusion, Osmosis and Active Transport | [Specialised animal cells |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/specialised-animal-cells-i2445v/overview) | [Specialised plant cells |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/specialised-plant-cells-9czebu/overview) |
| Tuesday | [Unicellular organisms |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/unicellular-organisms-m0vvmx/overview) | [Organisation |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/organisation-mbx95u/overview) |
| Wednesday | [Diffusion and surface area to volume ratio |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/transport-and-exchange-surfaces-in-humans/lessons/diffusion-and-surface-area-to-volume-ratio/overview) | [The importance of exchange surfaces and transport systems in humans |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/transport-and-exchange-surfaces-in-humans/lessons/the-importance-of-exchange-surfaces-and-transport-systems-in-humans/overview) |
| Thursday | [Moving into and out of the blood: diffusion, osmosis and active transport |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/transport-and-exchange-surfaces-in-humans/lessons/moving-into-and-out-of-the-blood-diffusion-osmosis-and-active-transport/overview) | [Diffusion and exchange surfaces |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-l/units/cells-biology-3p8njnj/lessons/diffusion-and-exchange-surfaces-47ckut/overview) |
| Friday | [Osmosis |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-l/units/cells-biology-3p8njnj/lessons/osmosis-eymw2x/overview) | [Diffusion |](https://www.thenational.academy/pupils/programmes/science-secondary-year-9-l/units/cells-u2b1h4c/lessons/diffusion-ocvf5s/overview) |
| 29/09/25 | Monday | **Chemistry** – Ionic and Covalent Bonding | [Metals & Non-Metals Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_1.12) | [Formation of Ions Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.01) |
| Tuesday | [Ionic Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.02) | [Ionic Compounds Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.03) |
| Wednesday | [Molecular & Empirical Formulas Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.12) | [Covalent Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.04) |
| Thursday | [Types of Covalent Structures Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.07) | [Metallic Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.1) |
| Friday | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4510) | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4511) |
| 06/10/25 | Monday | **Physics** – Acceleration and Velocity Time Graphs | [Calculating acceleration (a = Δv/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/calculating-acceleration-a-v-t/overview) | [Measuring acceleration practical (v=s/t, a = Δv/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/measuring-acceleration-practical-v-s-t-a-equals-v-t/overview) |
| Tuesday | [Measuring acceleration analysis (v=s/t, a = Δv/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/measuring-acceleration-analysis-v-s-t-a-equals-v-t/overview) | [Velocity-time graphs: acceleration and distance travelled (a = Δv/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/velocity-time-graphs-acceleration-and-distance-travelled-a-v-t/overview) |
| Wednesday | [Calculating from motion graphs: including displacement (a=Δv/t and v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/calculating-from-motion-graphs-including-displacement-a-v-t-and-v-s-t/overview) | [Motion calculations: including complex ones (a=Δv/t, v²−u²=2as & v=s/t) |](https://www.thenational.academy/pupils/programmes/physics-secondary-year-10-higher-aqa/units/measuring-and-calculating-motion/lessons/motion-calculations-including-complex-ones-a-v-t-v-u-2as-and-v-s-t/overview) |
| Thursday | [Speed/Velocity & Distance/Displacement Lesson |](https://cognitoedu.org/coursesubtopic/p2-gcse-aqa-h-t_3.01) | [Acceleration Lesson |](https://cognitoedu.org/coursesubtopic/p2-gcse-aqa-h-t_3.02) |
| Friday | [Velocity-Time Graphs Lesson |](https://cognitoedu.org/coursesubtopic/p2-gcse-aqa-h-t_3.05) | [Terminal Velocity Lesson |](https://cognitoedu.org/coursesubtopic/p2-gcse-aqa-h-t_3.06) |
| 13/10/25 | Monday | **Biology** – Food tests and the Digestive System | [The parts of the human digestive system |](https://www.thenational.academy/pupils/programmes/science-secondary-year-7/units/human-digestive-system/lessons/the-parts-of-the-human-digestive-system/overview) | [Digestion and enzymes |](https://www.thenational.academy/pupils/programmes/science-secondary-year-7/units/human-digestive-system/lessons/digestion-and-enzymes/overview) |
| Tuesday | [Food tests: practical |](https://www.thenational.academy/pupils/programmes/science-secondary-year-7/units/human-digestive-system/lessons/food-tests-practical/overview) | [Bacteria in the human digestive system |](https://www.thenational.academy/pupils/programmes/science-secondary-year-7/units/human-digestive-system/lessons/bacteria-in-the-human-digestive-system/overview) |
| Wednesday | [Absorption and transport of nutrients in humans |](https://www.thenational.academy/pupils/programmes/science-secondary-year-7/units/human-digestive-system/lessons/absorption-and-transport-of-nutrients-in-humans/overview) | [Enzymes: function, structure and specificity |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/biological-molecules-and-enzymes/lessons/enzymes-function-structure-and-specificity/overview) |
| Thursday | [Biological molecules |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/biological-molecules-and-enzymes/lessons/biological-molecules/overview) | [Tests for biological molecules |](https://www.thenational.academy/pupils/programmes/biology-secondary-year-10-higher-aqa/units/biological-molecules-and-enzymes/lessons/tests-for-biological-molecules/overview) |
| Friday |  |  |  |
| 20/10/25 | Monday | **Chemistry** – Metallic Bonding and Alloys | [Metallic Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.1) | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=487) |
| Tuesday | [Ionic Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.02) | [Ionic Compounds Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.03) |
| Wednesday | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4509) | [Covalent Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.04) |
| Thursday | [Types of Covalent Structures Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.07) | [Metallic Bonding Lesson |](https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.1) |
| Friday | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4510) | [Greenshaw Learning Trust - Remote Learning](https://www.greenshawlearningtrust.co.uk/virtual-curriculum?group=250&lesson=4511) |