# Edexcel GCSE Combined Science - Paper 2: Higher Tier

Advance Information of Assessed Content 2022

Link to specification:
https://qualifications.pearson.com/content/dam/pdf/GCSE/Science/2016/Specification/GCSE_CombinedScience_Spec.pdf

Link to advance information document:
https://qualifications.pearson.com/content/dam/pdf/GCSE/Science/2016/teaching-and-learning-materials/W73065_GCSE_Combined_Science_1SC0_AN_Accessible_version.pdf

Link to revised Physics equation sheet:
https://qualifications.pearson.com/content/dam/pdf/GCSE/Science/2016/Specification/GCSE_CombinedScience_Spec.pdf

# Useful websites/ videos:

Free science lessons:
https://www.youtube.com/c/freesciencelessons

Primrose Kitten:
https://www.youtube.com/watch?v=L6ODraBBZRg

Mr Barnes Chemistry videos:

https://www.youtube.com/c/MrBarnesTC

Oak National Academy:

https://classroom.thenational.academy/subjects-by-key-stage/key-stage-4/subjects/combined-science/tiers/higher

Seneca Learning:

https://senecalearning.com/en-GB/

GCSE Pod:

https://members.gcsepod.com/login

# Biology Paper 2 - H

These specification points will be the **major focus** of this paper.

**Exam date: 15th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic7- Animal coordination, control and homeostasis | 7.1 Describe where hormones are produced and how they are transported from endocrine glands to their target organs, including the pituitary gland, thyroid gland, pancreas, adrenal glands, ovaries and testes | 59-62 | https://www.bbc.co.uk/bitesize/guides/zctgpbk/revision/1 | https://www.youtube.com/watch?v=c6olhi88KZs |
| | 7.2 Explain that adrenalin is produced by the adrenal glands to prepare the body for fight or flight, including: a increased heart rate b increased blood pressure c increased blood flow to the muscles d raised blood sugar levels by stimulating the liver to change glycogen into glucose | | | https://www.youtube.com/watch?v=_Mts354VC7A |
| | 7.3 Explain how thyroxine controls metabolic rate as an example of negative feedback, including: a low levels of thyroxine stimulates production of TRH in hypothalamus b this causes release of TSH from the pituitary gland c TSH acts on the thyroid to produce thyroxine d when thyroxine levels are normal thyroxine inhibits the release of TRH and the production of TSH | | | |
| | 7.4 Describe the stages of the menstrual cycle, including the roles of the hormones oestrogen and progesterone, in the control of the menstrual cycle | | https://www.bbc.co.uk/bitesize/guides/zt9x8mn/revision/1 | https://www.youtube.com/watch?v=iXswGsfeHJg |
| | 7.5 Explain the interactions of oestrogen, progesterone, FSH and LH in the control of the menstrual cycle, including the repair and maintenance of the uterus wall, ovulation and menstruation | | | |
| | 7.6 Explain how hormonal contraception influences the menstrual cycle and prevents pregnancy | | | |
| | 7.7 Evaluate hormonal and barrier methods of contraception | | | |
| | 7.8 Explain the use of hormones in Assisted Reproductive Technology (ART) including IVF and clomifene therapy | | | https://www.youtube.com/watch?v=4CxNeiAICmc |

# Biology Paper 2 - H

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**Exam date: 15th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 8- Exchange and transport in animals | 8.9 Describe cellular respiration as an exothermic reaction which occurs continuously in living cells to release energy for metabolic processes, including aerobic and anaerobic respiration | 70-74 | https://www.bbc.co.uk/bitesize/guides/zw9x8mn/revision/1 | https://www.youtube.com/watch?v=ZKAaDbTP6Dc<br><br>Biology GCSE Required Practicals - Focus eLearning by Focus Educational Software ltd. |
| | *8.10 Compare the process of aerobic respiration with the process of anaerobic respiration* | | | |
| | *8.11 Core Practical: Investigate the rate of respiration in living organisms* | | | |
| | 8.12 Calculate heart rate, stroke volume and cardiac output, using the equation cardiac output = stroke volume × heart rate | | | |

# Biology Paper 2 - H

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**Exam date: 15th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic – 9 Ecosystems and material cycles | 9.4 Describe how the survival of some organisms is dependent on other species, including parasitism and mutualism. | 78-86 | https://www.bbc.co.uk/bitesize/guides/z84mk2p/revision/8 | https://www.youtube.com/watch?v=ePsjdKoSA9g<br>https://www.youtube.com/watch?v=2MW6nwf80XM |
| | *9.5 Core Practical: Investigate the relationship between organisms and their environment using field-work techniques, including quadrats and belt transects* | | | |
| | 9.10 Explain the benefits of maintaining local and global biodiversity, including the conservation of animal species and the impact of reforestation | | https://www.bbc.co.uk/bitesize/guides/zggqcj6/revision/1 | https://www.youtube.com/watch?v=yLHz2Ea10Mg<br>https://www.youtube.com/watch?v=I5UR9uMeWuQ |
| | 9.12 Describe how different materials cycle through the abiotic and biotic components of an ecosystem | | | |
| | 9.13 Explain the importance of the carbon cycle, including the processes involved and the role of microorganisms as decomposers | | https://www.bbc.co.uk/bitesize/guides/zsfkv9q/revision/1 | https://www.youtube.com/watch?v=d3m73r64N2I<br>https://www.youtube.com/watch?v=cWj3u8voDSg |
| | 9.14 Explain the importance of the water cycle, including the processes involved and the production of potable water in areas of drought including desalination | | | |
| | 9.15 Explain how nitrates are made available for plant uptake, including the use of fertilisers, crop rotation and the role of bacteria in the nitrogen cycle | | | https://www.youtube.com/watch?v=cWb1YLedDMc<br>https://www.youtube.com/watch?v=vWZWPlFmua4 |

# Biology Paper 2 - H

**Exam date: 15th June**

These specification points will **not be assessed** on this paper.

| Spec point | Edexcel Revision Guide |
|---|---|
| • Topic 1 Key concepts in biology – enzymes (1.7–1.12)<br><br>• Topic 1 Key concepts in biology – transport into and out of cells (1.15–1.17)<br><br>• Topic 6 Plant structures and their functions – limiting factors on photosynthesis (6.3–6.6)<br><br>• Topic 9 Ecosystems and material cycles – communities (9.1–9.3) | |

# Chemistry Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 20th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 1 Key concepts in chemistry – Calculations involving masses | 1.43 Calculate:<br>a relative formula mass given relative atomic masses<br>a percentage by mass of an element in a compound given relative atomic masses | 105 | https://www.bbc.co.uk/bitesize/guides/ztdsmsg | https://www.youtube.com/watch?v=q49NwIrjaFw<br><br>https://www.youtube.com/watch?v=02lgP9u_bcE&t=3s |
| | 1.44 Calculate the formulae of simple compounds from reacting masses or percentage composition and understand that these are empirical formulae | 106 | | |
| | 1.45 Deduce:<br>a the empirical formula of a compound from the formula of its molecule<br>b the molecular formula of a compound from its empirical formula and its relative molecular mass | 106 | | https://www.youtube.com/watch?v=k_GTEtK01Wg<br><br>https://www.youtube.com/watch?v=VgIotPASd9U |
| | 1.46 Describe an experiment to determine the empirical formula of a simple compound such as magnesium oxide | 106 | | |
| | 1.47 Explain the law of conservation of mass applied to:<br>a a closed system including a precipitation reaction in a closed flask<br>b a non-enclosed system including a reaction in an open flask that takes in or gives out a gas | 108 | | https://www.youtube.com/watch?v=K4pw_-U6Xpc |
| | 1.48 Calculate masses of reactants and products from balanced equations, given the mass of one substance | 108 | | https://www.youtube.com/watch?v=5zOpoeN0dV0&t=182s<br><br>https://www.youtube.com/watch?v=5zOpoeN0dV0 |
| | 1.49 Calculate the concentration of solutions in g $dm^{-3}$ | 109 | | https://www.youtube.com/watch?v=3G3KQIyoZDI |
| | 1.50 **Recall that one mole of particles of a substance is defined as:**<br>**a the Avogadro constant number of particles (6.02 × 1023 atoms, molecules, formulae or ions) of that substance**<br>**b a mass of 'relative particle mass' g** | 110 | https://www.bbc.co.uk/bitesize/guides/zymgng8 | https://www.youtube.com/watch?v=-_-fNVmDwJk<br><br>https://www.youtube.com/watch?v=Md4BQL91U6w |
| | 1.51 **Calculate the number of:**<br>**a moles of particles of a substance in a given mass of that substance and vice versa**<br>**b particles of a substance in a given number of moles of that substance and vice versa**<br>**c particles of a substance in a given mass of that substance and vice versa** | | | https://www.youtube.com/watch?v=3y8YDlNeuRk<br><br>https://www.youtube.com/watch?v=l_1vf1z8_OM |
| | 1.52 **Explain why, in a reaction, the mass of product formed is controlled by the mass of the reactant which is not in Excess** | 108 | | https://www.youtube.com/watch?v=MuzOmFhiE8o |
| | 1.53 **Deduce the stoichiometry of a reaction from the masses of the reactants and products** | 108 | | https://www.youtube.com/watch?v=4wTSLBBBMo0 |

# Chemistry Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 20th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic6 Group 7 & Group ) | 6.6 Recall the colours and physical states of chlorine, bromine and iodine at room temperature | | https://www.bbc.co.uk/bitesize/guides/ztjy6yc/revision/1 | https://www.youtube.com/watch?v=kNPthLiM8T4<br><br>https://www.youtube.com/watch?v=fyA7qtPq7QY<br><br>https://www.youtube.com/watch?v=WB9X1-oTbGU |
| | 6.7 Describe the pattern in the physical properties of the halogens, chlorine, bromine and iodine, and use this pattern to predict the physical properties of other halogens | | | |
| | 6.8 Describe the chemical test for chlorine | | | |
| | 6.9 Describe the reactions of the halogens, chlorine, bromine and iodine, with metals to form metal halides, and use this pattern to predict the reactions of other halogens | | | |
| | 6.10 Recall that the halogens, chlorine, bromine and iodine, form hydrogen halides which dissolve in water to form acidic solutions, and use this pattern to predict the reactions of other halogens | | | |
| | 6.11 Describe the relative reactivity of the halogens chlorine, bromine and iodine, as shown by their displacement reactions with halide ions in aqueous solution, and use this pattern to predict the reactions of astatine | | | |
| | 6.12 Explain why these displacement reactions are redox reactions in terms of gain and loss of electrons, identifying which of the substances are oxidised and which are reduced | | | |
| | 6.13 Explain the relative reactivity of the halogens in terms of electronic configurations | | | |
| | 6.14 Explain why the noble gases are chemically inert, compared with the other elements, in terms of their electronic configurations | | https://www.bbc.co.uk/bitesize/guides/zy6cfcw/revision/1 | https://www.youtube.com/watch?v=VhiieTJWYHs |
| | 6.15 Explain how the uses of noble gases depend on their inertness, low density and/or non-flammability | | | |
| | 6.16 Describe the pattern in the physical properties of some noble gases and use this pattern to predict the physical properties of other noble gases | | | |

# Chemistry Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 20th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 7- Rates of Reaction and Energy Changes | *7.1 Core Practical: Investigate the effects of changing the conditions of a reaction on the rates of chemical reactions by: a measuring the production of a gas (in the reaction between hydrochloric acid and marble chips) b observing a colour change (in the reaction between sodium thiosulfate and hydrochloric acid)* | 150 | https://www.bbc.co.uk/bitesize/guides/zcyjcj6/revision/1 | Playlist for all rates videos:<br><br>GCSE Science Revision Chemistry "Mean Rate of Reaction" - YouTube |
| | 7.2 Suggest practical methods for determining the rate of a given reaction | | | |
| | 7.3 Explain how reactions occur when particles collide and that rates of reaction are increased when the frequency and/or energy of collisions is increased | 149 | | |
| | 7.4 Explain the effects on rates of reaction of changes in temperature, concentration, surface area to volume ratio of a solid and pressure (on reactions involving gases) in terms of frequency and/or energy of collisions between particles | 149-151 | | |
| | 7.5 Interpret graphs of mass, volume or concentration of reactant or product against time | | | |
| | 7.6 Describe a catalyst as a substance that speeds up the rate of a reaction without altering the products of the reaction, being itself unchanged chemically and in mass at the end of the reaction | | | |
| | 7.7 Explain how the addition of a catalyst increases the rate of a reaction in terms of activation energy | | | |
| | 7.8 Recall that enzymes are biological catalysts and that enzymes are used in the production of alcoholic drinks | | | |

# Chemistry Paper 2 - H

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**Exam date: 20th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic6 Group 7 & Group ) | 7.9 Recall that changes in heat energy accompany the following changes:<br>a salts dissolving in water<br>b neutralisation reactions<br>c displacement reactions<br>d precipitation reactions<br>and that, when these reactions take place in solution, temperature changes can be measured to reflect the heat changes | 152-154 | https://www.bbc.co.uk/bitesize/guides/zg84y4j/revision/1 | GCSE Science Revision Chemistry "Exothermic and Endothermic Reactions" – YouTube – PLAYLIST FOR ENERGY CHANGES |
| | 7.10 Describe an exothermic change or reaction as one in which heat energy is given out | | | |
| | 7.11 Describe an endothermic change or reaction as one in which heat energy is taken in | | | |
| | 7.12 Recall that the breaking of bonds is endothermic and the making of bonds is exothermic | | | |
| | 7.13 Recall that the overall heat energy change for a reaction is: a exothermic if more heat energy is released in forming bonds in the products than is required in breaking bonds in the reactants b endothermic if less heat energy is released in forming bonds in the products than is required in breaking bonds in the reactants | | | |
| | 7.14 Calculate the energy change in a reaction given the energies of bonds (in kJ mol–1) | | | |
| | 7.15 Explain the term activation energy | | | |
| | 7.16 Draw and label reaction profiles for endothermic and exothermic reactions, identifying activation energy | | | |

# Chemistry Paper 2 - H

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**Exam date: 20th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 8- Fuels and Earth Science | 8.1 Recall that hydrocarbons are compounds that contain carbon and hydrogen only | 155-158 | https://www.bbc.co.uk/bitesize/guides/zxshqhv/revision/1 | PLAYLIST – IGNORE LAST VIDEO ON **ALKENES**<br><br>GCSE Science Revision Chemistry "Crude oil and Hydrocarbons" – YouTube |
| | 8.2 Describe crude oil as:<br>a a complex mixture of hydrocarbons<br>b containing molecules in which carbon atoms are in chains or rings (names, formulae and structures of specific ring molecules not required)<br>c an important source of useful substances (fuels and feedstock for the petrochemical industry)<br>d a finite resource | | | |
| | 8.3 Describe and explain the separation of crude oil into simpler, more useful mixtures by the process of fractional distillation | | | |
| | 8.4 Recall the names and uses of the following fractions:<br>a gases, used in domestic heating and cooking<br>b petrol, used as fuel for cars<br>c kerosene, used as fuel for aircraft<br>d diesel oil, used as fuel for some cars and trains<br>e fuel oil, used as fuel for large ships and in some power stations<br>f bitumen, used to surface roads and roofs | | | |
| | 8.5 Explain how hydrocarbons in different fractions differ from each other in:<br>a the number of carbon and hydrogen atoms their molecules contain<br>b boiling points<br>c ease of ignition<br>d viscosity and are mostly members of the alkane homologous series | | | |
| | 8.6 Explain an homologous series as a series of compounds which: a have the same general formula b differ by $CH_2$ in molecular formulae from neighbouring compounds c show a gradual variation in physical properties, as exemplified by their boiling points d have similar chemical properties | | | |
| | 8.7 Describe the complete combustion of hydrocarbon fuels as a reaction in which:<br>a carbon dioxide and water are produced<br>b energy is given out | | | |
| | 8.8 Explain why the incomplete combustion of hydrocarbons can produce carbon and carbon monoxide | | | |
| | 8.9 Explain how carbon monoxide behaves as a toxic gas | | | |
| | 8.10 Describe the problems caused by incomplete combustion producing carbon monoxide and soot in appliances that use carbon compounds as fuels | | | |
| | 8.11 Explain how impurities in some hydrocarbon fuels result in the production of sulfur dioxide | | | |

# Chemistry Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 20th June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 8- Fuels and Earth Science | 8.12 Explain some problems associated with acid rain caused when sulfur dioxide dissolves in rain water | 159-162 | https://www.bbc.co.uk/bitesize/guides/zxshqhv/revision/6 | https://www.youtube.com/watch?v=yLp6LOgPHmI |
| | 8.13 Explain why, when fuels are burned in engines, oxygen and nitrogen can react together at high temperatures to produce oxides of nitrogen, which are pollutants | | | |
| | 8.14 Evaluate the advantages and disadvantages of using hydrogen, rather than petrol, as a fuel in cars | | | |
| | 8.15 Recall that petrol, kerosene and diesel oil are non-renewable fossil fuels obtained from crude oil and methane is a non-renewable fossil fuel found in natural gas | | | |
| | 8.16 Explain why cracking involves the breaking down of larger, saturated hydrocarbon molecules (alkanes) into smaller, more useful ones, some of which are unsaturated (alkenes) | | | |
| | 8.17 Explain why cracking is necessary | | | https://www.youtube.com/watch?v=7AWwjKbRa_o |

# Chemistry Paper 2 - H

**Exam date: 20th June**

These specification points will **not be assessed** on this paper.

| Spec point | Edexcel Revision Guide |
|---|---|
| • Topic 1 Key concepts in chemistry – Atomic structure (1.1–1.12)<br><br>• Topic 1 Key concepts in chemistry – Ionic bonding (1.21–1.27)<br><br>• Topic 1 Key concepts in chemistry – Covalent bonding (1.28–1.31)<br><br>• Topic 1 Key concepts in chemistry – Types of substance (1.32–1.42) | |

# Physics Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 23rd June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 8- Energy- Forces doing work | 8.1 Describe the changes involved in the way energy is stored when systems change | 182<br>169<br>213<br>214 | https://www.bbc.co.uk/bitesize/guides/zpgtjty/revision/1 | https://www.youtube.com/watch?v=-zy9eWzmGe4&list=PL9IouNCPbCxWNjJvmqwZ4vKy4VfcAhsCj<br><br>https://www.youtube.com/watch?v=-zy9eWzmGe4<br><br>https://www.youtube.com/watch?v=63OTIdNb-TE<br><br>https://www.youtube.com/watch?v=PY80j_iNT9Y<br><br>https://www.youtube.com/watch?v=WLaUmNr4lho<br><br>https://www.youtube.com/watch?v=NI5jaeBrIgQ |
| | 8.2 Draw and interpret diagrams to represent energy transfers | | | |
| | 8.3 Explain that where there are energy transfers in a closed system there is no net change to the total energy in that system | | | |
| | 8.4 Identify the different ways that the energy of a system can be changed<br>a through work done by forces<br>b in electrical equipment<br>c in heating | | | |
| | 8.5 Describe how to measure the work done by a force and understand that energy transferred (joule, J) is equal to work done (joule, J) | | | |
| | 8.6 Recall and use the equation:<br>work done (joule, J) = force (newton, N) × distance moved in the direction of the force (metre, m)<br>E = F × d | | | |
| | 8.7 Describe and calculate the changes in energy involved when a system is changed by work done by forces | | | |
| | 8.8 Recall and use the equation to calculate the change in gravitational PE when an object is raised above the ground:<br>change in gravitational potential energy (joule, J) = mass (kilogram, kg) × gravitational field strength (newton per kilogram, N/kg) × change in vertical height (metre, m)<br>ΔGPE = m× g ×Δh | | | |
| | 8.9 Recall and use the equation to calculate the amounts of energy associated with a moving object:<br>kinetic energy (joule, J) = 2 1 × mass (kilogram, kg) × (speed)2 ((metre/second)2, (m/s)2)<br>KE = ½ x m × $v^2$ | | | |
| | 8.10 Explain, using examples, how in all system changes energy is dissipated so that it is stored in less useful ways | | | |
| | 8.11 Explain that mechanical processes become wasteful when they cause a rise in temperature so dissipating energy in heating the surroundings | | | |
| | 8.12 Define power as the rate at which energy is transferred and use examples to explain this definition | | | |
| | 8.13 Recall and use the equation:<br>power (watt, W) = work done (joule, J) ÷ time taken (second, s)<br><br>*P = E/t* | | | |
| | 8.14 Recall that one watt is equal to one joule per second, J/s | | | |
| | 8.15 Recall and use the equation<br><br>Efficiency = (useful energy transferred by the device) / (total energy supplied to the device) | | | |

# Physics Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 23rd June**

| Topic | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 10- Electricity and circuits | 10.1 Describe the structure of the atom, limited to the position, mass and charge of protons, neutrons and electrons | 219-229 | https://www.bbc.co.uk/bitesize/guides/zwpwrwx/revision/1 | https://youtube.com/playlist?list=PLHvKSlP1soBafV1fNXkXtPulf-shZZEUL |
| | 10.2 Draw and use electric circuit diagrams representing them with the conventions of positive and negative terminals, and the symbols that represent cells, including batteries, switches, voltmeters, ammeters, resistors, variable resistors, lamps, motors, diodes, thermistors, LDRs and LEDs | | | |
| | 10.3 Describe the differences between series and parallel circuits | | | |
| | 10.4 Recall that a voltmeter is connected in parallel with a component to measure the potential difference (voltage), in volt, across it | | | |
| | 10.5 Explain that potential difference (voltage) is the energy transferred per unit charge passed and hence that the volt is a joule per coulomb | | | |
| | 10.6 Recall and use the equation: energy transferred (joule, J) = charge moved (coulomb, C) × potential difference (volt, V)<br>$E = Q \times V$ | | | |
| | 10.7 Recall that an ammeter is connected in series with a component to measure the current, in amp, in the component | | | |
| | 10.8 Explain that an electric current as the rate of flow of charge and the current in metals is a flow of electrons | | | |
| | 10.9 Recall and use the equation: charge (coulomb, C) = current (ampere, A) × time (second, s)<br>$Q = I \times t$ | | | |
| | 10.10 Describe that when a closed circuit includes a source of potential difference there will be a current in the circuit | | | |
| | 10.11 Recall that current is conserved at a junction in a circuit | | | |
| | 10.12 Explain how changing the resistance in a circuit changes the current and how this can be achieved using a variable resistor | | | |
| | 10.13 Recall and use the equation: potential difference (volt, V) = current (ampere, A) × resistance (ohm, Ω)<br>$V = I \times R$ | | | |
| | 10.14 Explain why, if two resistors are in series, the net resistance is increased, whereas with two in parallel the net resistance is decreased | | | |
| | 10.15 Calculate the currents, potential differences and resistances in series circuits | | | |
| | 10.16 Explain the design and construction of series circuits for testing and measuring | | | |
| | *10.17 Core Practical: Construct electrical circuits to: a investigate the relationship between potential difference, current and resistance for a resistor and a filament lamp b test series and parallel circuits using resistors and filament lamps* | | | |

# Physics Paper 2 - H

These specification points and core practical will be the **major focus** of this paper

**Exam date: 23rd June**

| Topic2 44 | Concepts | Edexcel Revision Guide | Bitesize | YouTube |
|---|---|---|---|---|
| Topic 12 – Magnetism and motor effect | 12.1 Recall that unlike magnetic poles attract and like magnetic poles repel | 233-235 | https://www.bbc.co.uk/bitesize/guides/zqvm8mn/revision/1 | https://www.youtube.com/watch?v=FodEDHaEY68<br><br>https://www.youtube.com/watch?v=sRyy7-jEu3Q |
| | 12.2 Describe the uses of permanent and temporary magnetic materials including cobalt, steel, iron and nickel | | | |
| | 12.3 Explain the difference between permanent and induced magnets | | | |
| | 12.4 Describe the shape and direction of the magnetic field around bar magnets and for a uniform field, and relate the strength of the field to the concentration of lines | | | |
| | 12.5 Describe the use of plotting compasses to show the shape and direction of the field of a magnet and the Earth's magnetic field | | | |
| | 12.6 Explain how the behaviour of a magnetic compass is related to evidence that the core of the Earth must be magnetic | | | |
| Topic 14- Particle model | 14.1 Use a simple kinetic theory model to explain the different states of matter (solids, liquids and gases) in terms of the movement and arrangement of particles | 240-244 | https://www.bbc.co.uk/bitesize/guides/ztdcgdm/revision/1 | DO NOT WATCH THE 'Heating and cooling graphs' and the 'Specific latent heat' videos - GCSE Science Revision Physics "Density" - YouTube |
| | 14.2 Recall and use the equation:<br>density (kilogram per cubic metre, kg/m3) = mass (kilogram, kg) ÷ volume (cubic metre, m3)<br>ρ = m/V | | | |
| | *14.3 Core Practical: Investigate the densities of solid and liquids* | | | |
| | 14.4 Explain the differences in density between the different states of matter in terms of the arrangements of the atoms or molecules | | | |
| | 14.5 Describe that when substances melt, freeze, evaporate, boil, condense or sublimate mass is conserved and that these physical changes differ from some chemical changes because the material recovers its original properties if the change is reversed | | | |
| | *14.11 Core Practical: Investigate the properties of water by determining the specific heat capacity of water and obtaining a temperature-time graph for melting ice* | 244 | | |

# Physics Paper 2 - H

These specification points will **not be assessed** on this paper.

**Exam date: 23rd June**

| Spec point | Edexcel Revision Guide |
|---|---|
| • Topic 9 Forces and their effects – Describing and representing forces (9.1–9.5)<br><br>• Topic 10 Electricity and circuits – a.c. and d.c. used in practice (10.32–10.42)<br><br>• Topic 13 Electromagnetic induction – Transformers (13.8–13.10)<br><br>• Topic 15 Forces and matter – Elasticity (15.1–15.6) | |