

Revision Framework for Year 10 separate Science - Use along side your revision checklists

| Date<br>wb | Unit             | Section for revision  | Revisi<br>on<br>book<br>pages<br>CGP | Time<br>spent<br>revising | Evidence<br>in File | Issues identified | Action<br>taken |
|------------|------------------|---|--------------------------------------|---------------------------|---------------------|-------------------|-----------------|
|            | C1,<br>C2a,<br>b | States of matter, changes of states, particle diagrams, Mixtures, Pure substances, Heating Curves, Filtration, Crystallisation,   | 34-36                                |                           |                     |                   |                 |
|            | P1               | Vectors and scalars, distance/time graphs, acceleration, velocity/time graphs   | 12-15                                |                           |                     |                   |                 |
|            | B1a,b,<br>c,d    | Microscopes, Magnification calculation, SI prefixes - milli, micro, nano and pico. Plant and animal cells, specialised cells, bacteria.                                       | 12-15                                |                           |                     |                   |                 |
|            | C2 c,<br>d, e    | Chromatography, Calculate Rf values, Distillation, fractional distillation, drinking water, chemical analysis, purification of water, hazards and risks when purifying water. | 37-41                                |                           |                     |                   |                 |
|            | P2               | Newtons' first and second law, weight and circular motion, Core practical - investigating acceleration  | 16-18                                |                           |                     |                   |                 |
|            | B1e,f,<br>g,h    | Enzymes, Investigation into the effect of pH on enzyme activity. Different types of enzymes, Testing for biological molecules   | 16-19                                |                           |                     |                   |                 |
|            | C3a,<br>b, c     | Atomic structure, atomic mass, atomic number, Isotope, (H) Calculate the Ar of an element from the relative mases and abundances of its isotopes.                             | 15-17                                |                           |                     |                   |                 |

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|  | P2                   | Inertia, Newton's 3 <sup>rd</sup> Law, Momentum, stopping distances  | 19-23       |  |  |  |  |
|  | B2h                  | The Eye  | 30          |  |  |  |  |
|  | C4<br>a,b,c          | Mendeleev's periodic table, Atomic number, Mendeleev's problems when ordering the periodic table, periodic table arrangement, electronic configuration.  | 18-19       |  |  |  |  |
|  | P3                   | Energy stores and transfers, energy efficiency, reducing unwanted energy transfers, energy resources   | 24-29       |  |  |  |  |
|  | B1i                  | Transporting substances: diffusion, osmosis and active transport. Investigating osmosis and interpreting results, Energy in food   | 20-22       |  |  |  |  |
|  | C5<br>a,b,c          | Ions, Ionic Bonding, Ionic lattices, Properties of Ionic compounds.  | 20-22       |  |  |  |  |
|  | P4                   | Describing Waves, Manipulation of the wave speed calculation, describe how to complete a practical to measure velocity of waves (water and air)  | 32-33       |  |  |  |  |
|  | B2a,b<br>,c,d        | Mitosis, cell division and growth in animals and plants Stem Cells. Compare stem cells in plants and animals. Compare embryonic and adult stem cells in animals.   | 24-26       |  |  |  |  |
|  | C6/C<br>7a,b<br>C7cd | Covalent compounds, dot cross diagrams, Properties of simple molecular compounds, allotropes of carbon<br>Properties of metals, metal structure, explain why models are used to represent structure and bonding. | 23-24<br>25 |  |  |  |  |

|                 |   |       |  |  |  |  |
|-----------------|---|-------|--|--|--|--|
| P4              | Describe refraction, Explain the effects of the refraction of light,<br>Explain how the change in wave speed can cause a change in direction, Explain emitting and absorption of waves. | 34    |  |  |  |  |
| B2e,f,<br>g,i   | The nervous system, synapses and reflexes, Brain and spinal cord problems, neurotransmission speeds.  | 27-29 |  |  |  |  |
| C8a,b           | Acids, neutralisation, pH scale, relationship between hydrogen ion and concentration, strong and weak acids   | 43-45 |  |  |  |  |
| C8c,d,<br>e,f,g | Making salts, balancing equations, solubility, preparing a soluble salt, preparing an insoluble salt.   | 46-47 |  |  |  |  |
| P4              | Ears and hearing - list and describe the functions of the ear.<br>Describe how sound waves travel.<br>Ultrasound and infrasound   | 35-37 |  |  |  |  |
| B5              | Immune system- Physical and chemical barriers and how the immune system attacks pathogens. Memory lymphocytes, Immunisation, Antibiotics  | 58-59 |  |  |  |  |
| C9a             | Calculations involving masses, EMPIRICAL FORMULA, relative formula mass   | 26-27 |  |  |  |  |
| C9b,c           | Conservation of mass, concentration calculate reactant /product, (H)MOLES<br>Limiting reactant, balancing equations   | 28-32 |  |  |  |  |
| P5              | Law of reflection, ray diagrams to show how mirrors form images, Total internal reflection, Critical angle, Investigation refraction  | 38-39 |  |  |  |  |

|               |   |       |  |  |  |  |
|---------------|---|-------|--|--|--|--|
| B3a,b<br>,c   | Sexual AND asexual reproduction, Meiosis, DNA   | 32-34 |  |  |  |  |
| B5            | Monoclonal antibodies and antibiotics   | 60-64 |  |  |  |  |
| C10           | Electrolysis, electrolysis of copper sulphate core practical,   | 48-50 |  |  |  |  |
| P5            | Specular and diffuse reflection, white light, how filters make coloured light, Lenses and ray diagrams  | 40-42 |  |  |  |  |
| B3d,<br>e,f   | Protein synthesis, genetic variants and phenotypes, Mendel  | 35-37 |  |  |  |  |
| C11/          | Reactivity series, extraction of metals, Oxidation/Reduction, Recycling   | 52-58 |  |  |  |  |
| P5            | EM spectrum, Long and short waves, describe uses of EM waves, Describe how radio waves are produced and detected by electrical circuits, Dangers of EM waves, Radiation and temperature   | 43-47 |  |  |  |  |
| B3g,h<br>,I,j | Alleles, Genetic diagrams, phenotype, genotype, gene mutations  | 38-41 |  |  |  |  |
| C12           | <b>EQUILIBRIUM</b>  | 59-60 |  |  |  |  |
| P6            | Describe the structure of an atom, describe how and why the model of the atom has changed overtime, Rutherford alpha particle scattering, Isotopes, Ionisation, Electrons changing orbits, Background radiation and measuring background radiation. | 49-50 |  |  |  |  |
| B3k           | Variation, human genome project   | 42-43 |  |  |  |  |
| C13           | Transition metals, corrosion, Electroplating, alloying, uses of metals and their alloys   | 62-64 |  |  |  |  |

|                 |   |            |  |  |  |  |
|-----------------|---|------------|--|--|--|--|
| P6              | Types of radiation (the 5 types), penetrating abilities and ionising abilities.<br>Describe the process of Radioactive decay B+ and B-<br>Balance nuclear equations | 51-52      |  |  |  |  |
| B4a,b<br>,c     | Evidence for human evolution - bacteria and fossils<br>'Ardi' 'Lucy' AND Richard Leakey.<br>Darwins Theory  | 45-48      |  |  |  |  |
| C14             | Quantitative analysis- yields, atom economy,<br>concentrations, titrations  | 65-67      |  |  |  |  |
| P6              | Using radioactivity - smoke alarms, sterilising equipment,<br>irradiating food, cancer diagnosis , paper gauging.<br>Half Life - calculations                       | 53-56      |  |  |  |  |
| B4d             | Classification, genetic analysis Selective Breeding Tissue<br>Culture   | 49 -<br>51 |  |  |  |  |
| C15             | Fertilisers, The Haber process, Factors affecting<br>equilibrium  | 68-70      |  |  |  |  |
| P6              | Nuclear Energy , nuclear fission, nuclear fusion  | 57-58      |  |  |  |  |
| B4e,f,<br>g,h,i | Genetic Engineering., GM and agriculture, Fertilisers and<br>biological control   | 52-53      |  |  |  |  |
| C16             | Fuel Cells  | 71         |  |  |  |  |
| P7              | Life Cycle of stars, The solar system, Gravity and orbits,<br>Red shift, origin of the universe.  | 60-63      |  |  |  |  |
| B5ab            | Health and disease, differences between communicable<br>and non-communicable disease. STI's, plant diseases   | 55-57      |  |  |  |  |
| B5c             | Non communicable diseases, malnutrition, lifestyle<br>factors, Measuring obesity, cardiovascular disease,<br>Examples Of communicable diseases.                     | 65-67      |  |  |  |  |

This list is NOT EVERYTHING you need to know but it's a good start. Don't just use your revision guide; use your class notes also. The revision guide does not give enough information for grade 9!

### Suggested activities:

1. Produce mind maps for each section, highlighting key words and their meanings.
2. Construct flow charts for processes; potential 6 mark questions.
3. Re draw diagrams and see if you can label them correctly. Do you know what each part does and how it helps?
4. Complete worksheets in the revision books & assess progress.
5. Draw out genetic crosses to calculate the 'chance' of inheriting a disease.
6. Key word definition check lists
7. Make flash card notes from your class notes.
8. Write any questions/ queries on a post it note and stick it on the relevant revision book pages. Then take it to your revision class and ask the teacher!
9. Work through sections on GCSE bitesize: You are following the EDEXCEL combined science course.
10. Practice 6 mark questions; don't forget SPG!
11. Complete practice calculations including your working out; if you check the answer and it is wrong discuss with a friend/ teacher by showing them your working.
12. Evaluate treatments/ processes; What are the advantages/ disadvantages? Can you give reasons for/ against the use of some treatments?
13. READ questions carefully and make sure you know what the instruction means; the mark scheme indicates if you have understood the question being asked.
14. Remember these are MOCKS!!! Try out different revision techniques and see what works for you.
15. I would try and stick to 25 minute bursts of revision.
16. Remember these notes/questions/cards will be used again for your December mocks and for your final GCSE.
17. If you are struggling after you have revised - MOVE ON and come and see me for support.
18. This framework is to help you so you do not feel overwhelmed during the exam weeks.

# BELIEVE TO ACHIEVE