



Summer Term
Term 3
Science
Year 11

Name: _____

Tutor: _____

Care to Learn

Learn to Care

Year 11 Homework Timetable

Monday	English Task 1	Option A Task 1	Option C Task 1
Tuesday	Sparx Science	Option B Task 1	Sparx Maths
Wednesday	Sparx Maths	Science Task 1	Option C Task 2
Thursday	Option A Task 2	Sparx Catch Up	Option B Task 2
Friday	Science Task 2	English Task 2	

Sparx Science

- Complete 100% of their assigned homework each week

Sparx Maths

- Complete 100% of their assigned homework each week

Option A
Geography
History
Spanish

Option B
Geography
Psychology
Health and Social Care

Option C
Childcare
Drama
Psychology
Sport

Half Term 5 (5 weeks) - Year 11

Week / Date	Homework task 1 Cornell Notes	Homework task 2 Exam Question
Week 1 21st April 2025	Complete 1 page of retrieval quizzing	Complete the exam question. Fill the remainder of the page with retrieval quizzing on your Red and Amber questions
Week 2 28th April 2025	Complete 1 page of retrieval quizzing	Complete the exam question. Fill the remainder of the page with retrieval quizzing on your Red and Amber questions
Week 3 5th May 2025	Complete 1 page of retrieval quizzing	Complete the exam question. Fill the remainder of the page with retrieval quizzing on your Red and Amber questions
Week 4 12th May 2025	Complete 1 page of retrieval quizzing	Complete the exam question. Fill the remainder of the page with retrieval quizzing on your Red and Amber questions
Week 5 19th May 2025	Complete 1 page of retrieval quizzing	Complete the exam question. Fill the remainder of the page with retrieval quizzing on your Red and Amber questions

WEEK 1 Questions (cover and quiz) - Magnetism 2

Question	Answer
In a field diagram, how are the magnetic field around a current-carrying wire shown?	As a series of circles
How can the magnetic field around a current-carrying wire be demonstrated?	Pass the wire through a piece of paper. Place plotting compasses at different positions on the paper at equal distances from the wire. Add dots to show where the arrow is pointing. Join the dots to show the magnetic field lines.
How can the magnetic field around a current-carrying wire be made stronger?	By winding the wire into more turns.
What is the motor effect?	When a force is exerted between a magnetic field and a current-carrying conductor placed in that field.
(Higher Tier) What rule is used to determine the force experienced due to the motor effect?	Fleming's Left Hand Rule
(Higher Tier) When using Fleming's left hand rule, what does the forefinger represent?	The forefinger points in the direction of the magnetic field.
(Higher Tier) When using Fleming's left hand rule what does the second finger represent?	The second finger points in the direction of current flow in the conductor.
(Higher Tier) What factors affect the size of the force on a current-carrying wire in a magnetic field?	The magnitude of the current flowing through the conductor. The strength of the magnetic field that the conductor is placed in.
(Higher Tier) If the direction of current in a current-carrying wire, placed in a uniform magnetic field is reversed, what happens to the force?	The direction of the force is reversed.
(Higher Tier) If the strength of the current in a current-carrying wire placed in a uniform field is increased, what happens to the force?	The strength of the force is increased
(Higher Tier) What criteria must be met for the equation linking force, magnetic flux density, current and length to hold?	The conductor must be at right-angles to the magnetic field it is placed in.
(Higher Tier) What is the correct name for magnetic field strength?	Magnetic flux density
(Higher Tier) What is the unit used for magnetic flux density?	Tesla, T
(Higher Tier) How does an electric motor work?	A coil of wire, carrying a current, is placed in a magnetic field. The forces on the two sides perpendicular to the field experience forces in opposite directions. This causes a rotational effect

[illegible]

A diagram illustrating a crane system. A person is operating a crane arm. The crane arm is pivoted on a base. At the end of the arm is an electromagnet. The electromagnet is shown lifting two rectangular blocks labeled "Blocks made from magnetic materials". The crane arm is connected to a base by a cable. A switch is shown on the base, connected to the electromagnet. The switch is labeled "Switch".

WEEK 2 Questions (cover and quiz) - Quantitative Chemistry

Question	Answer
What is the mass of MgO? (Mg = 24, O = 16)	40
What is the relative formula mass of: CO ₂ (C = 12, O = 16)	44
What is the relative formula mass of MgCl ₂ (Mg = 24, Cl = 35.5)	95
What is the mass of H ₂ SO ₄ ? (H = 1, S = 32, O = 16)	98
What is Avogadro's constant? (Higher only)	6.023×10^{23}
What does the term mole mean? (Higher only)	A mole contains 6.023×10^{23} particles of any substance.
Why might some reactions appear to show a change in mass?	A reactant or a product is a gas.
Why does magnesium increase in mass when it is heated in air?	Combines with oxygen
What is the name for CO ₂ ?	Carbon dioxide
How many atoms and elements are in the compound sodium aluminate, NaAl(OH) ₄ ?	Four elements and ten atoms.
Why can you have relative atomic masses which are not whole numbers e.g. chlorine is 35.5?	Relative atomic mass is an average mass of all the isotopes known to exist in the universe.
What is the law of conservation of mass?	Mass of reactants = mass products.
The formula of sulfuric acid is H ₂ SO ₄ . How many atoms of each element are in the formula?	H = 2, S = 1, O = 4
The formula of calcium nitrate is Ca(NO ₃) ₂ . How many calcium, nitrogen and oxygen atoms are in the formula?	Ca = 1, N = 2, O = 6
There are two numbers alongside chlorine in the periodic table, 17 and 35.5. What does the number 17 represent?	Atomic number
What does the number 35.5 represent?	Relative atomic mass
Sodium chloride has the formula NaCl. The relative atomic mass of sodium is 23 and that of chlorine is 35.5. What is the relative formula mass of NaCl?	58.5
A water molecule has the formula H ₂ O. The relative atomic mass of hydrogen is 1 and that of oxygen is 16. What is the relative formula mass of a molecule of water?	18
What is the symbol for relative atomic mass?	A _r
What is the symbol for relative formula mass?	M _r
What is the limiting reactant in a reaction?	The reactant that is completely used up.
What does it mean if a reactant is in excess?	Some of the reactant will be left over after the reaction has been completed.
What is the formula for concentration by mass of a solution?	Concentration (of solution) = mass (of solute) / volume (of solvent)
State a unit for concentration by mass.	g/dm ³

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Week 2 Task 2 - Complete the exam question then fill the remainder of the page with retrieval quizzing. Use full sentences for the exam question, but not the quiz.

Explain how the hormones insulin and glucagon keep the blood glucose concentration at the correct level in a healthy human body. (5)

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Improvement Work: Explain how the hormones insulin and glucagon keep the blood glucose concentration at the correct level in a healthy human body. (5)

WEEK 3 cover and quiz

Use your retrieval booklets for your retrieval practice this week.

Week 3 Task 1 - 1 Page of retrieval quizzing - do not use full sentences

[illegible]

Week 3 Task 2 - Complete the exam question then fill the remainder of the page with retrieval quizzing. Use full sentences for the exam question, but not the quiz.

Temperature also affects the rate of the reaction. Explain how increasing the temperature affects the rate of the reaction. You should refer to particles and collisions. (3)

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal black lines running across the width of the page, providing a guide for handwriting or typing. The background is a solid off-white color.

Improvement Work: Temperature also affects the rate of the reaction. Explain how increasing the temperature affects the rate of the reaction. You should refer to particles and collisions. (3)

WEEK 4 cover and quiz

Use your retrieval booklets for your retrieval practice this week.

Week 4 Task 1 - 1 Page of retrieval quizzing - do not use full sentences

[illegible]

Week 4 Task 2 - Complete the exam question then fill the remainder of the page with retrieval quizzing. Use full sentences for the exam question, but not the quiz.

Oxygen is formed at the positive carbon electrodes during the extraction of aluminium from bauxite by electrolysis. Explain why the positive carbon electrodes must be continually replaced. (3)

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Improvement Work: Explain why the positive carbon electrodes must be continually replaced.
(3)

WEEK 5 cover and quiz

Use your retrieval booklets for your retrieval practice this week.

Week 5 Task 1 - 1 Page of retrieval quizzing - do not use full sentences

[illegible]

Week 5 Task 2 - Complete the exam question then fill the remainder of the page with retrieval quizzing. Use full sentences for the exam question, but not the quiz.

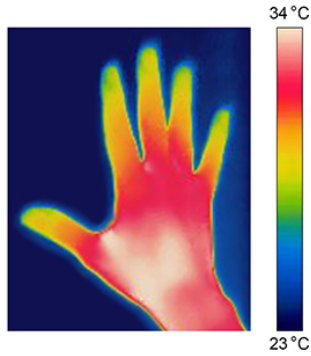
Describe the reasons why deforestation takes place and the effects deforestation has on the environment. (6)

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Improvement Work: Describe the reasons why deforestation takes place and the effects deforestation has on the environment. (6)

Additional Revision Questions

Different parts of the electromagnetic spectrum are used in medical imaging. Figure 1 shows a Figure of a person's hand taken with an infrared camera.



Explain why the infrared camera is able to show that parts of the hand are at different temperatures. (2)

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Improvement Work: Explain why the infrared camera is able to show that parts of the hand are at different temperatures. (2)

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[illegible]