Learning Plan 1	Subject/Pwnc: Science – Double Award (Chemistry)	Year/Blwyddyn: 10

The Four Purposes in Science and Technology:

Ambitious, capable learners, who:
set themselves high standards; seek and enjoy challenge; are increasingly knowledgeable and skilful; ask questions; enjoy solving problems; can explain ideas and concepts; can use number effectively in different contexts; interpret data and apply mathematical concepts; use digital technologies creatively to communicate, find and analyse information; research and evaluate critically what they find.

Enterprising, creative contributors, who:
take measured risks.

Ethical, informed citizens, who:
find, evaluate and use evidence in forming views; consider the impact of their actions when making choices and acting; are committed to sustainability.

Healthy, confident individuals, who:
are establishing their ethical beliefs; face and overcome challenge.

Knowledge focus/what matters:
Being curious and searching for answers is essential to understanding and predicting phenomena.
The world around us is full of living things which depend on each other for survival.
Forces and energy provide a foundation for understanding our universe.

Learning objective/key question	What will I know and be able to do? I can…	How will I develop my skills? (Success Criteria)	Homework/Gwaith cartref to support progress	
Week 1 2.1 – Nature of substance and chemical reactions.	• Identify elements, compounds and mixtures from space filler diagrams. • Use compound names and structures to write chemical formulas. • Use common ion table to accurately write chemical formulas.	I can answer questions using key words. I can use diagrams to identify substances. I can recall key scientific facts and figures. I can spell key scientific words correctly.	Wk 1	Homework: Exam question identifying atoms, elements and compounds. Set: Due:
Week 2 2.1 – Nature of substance and chemical reactions.	• Identifying chemical reactions based on observations. • Writing word and symbol equations for different chemical reactions. • Identify relative atomic mass of elements.	I can provide responses using key terms in context. I can observe and describe ways in which materials change when they are mixed together. I can reflect on my answers based on teacher feedback. I can calculate amount of substance from information provided.	Wk 2	Homework: Chemical formula questions. Set: Due:

	• Calculate relative molecular mass of molecules and compounds. • Calculate percentage composition of a compound.	I can calculate percentages of an amount using a calculator.		
Week 3 2.1 – Nature of substance and chemical reactions.	• Balancing equations using correct atom ratios. • Calculate percentage yield of products in reactions. • Identity and explain factors that may impact percentage yield in a reaction. • Calculating moles of a substance.	I can use multiplication and addition skills to complete equations. I can use a calculator to calculate percentages of an amount. I can rearrange equations to calculate the missing element. I can describe how to calculate 1 mole of a substance.	Wk 3	Homework: Quantitative chemistry questions. Set: Due:
Week 4 2.1 – Calculating moles of a substance.	• Calculate moles of a substance based on a given mass. • Rearrange the moles equation to calculate mass or atomic/molecular mass. • Use mole calculations to determine atomic ratios of a compound. •	I can recall scientific equations. I can input figures to an equation to answer questions. I can rearrange scientific equations to calculate unknown amounts.	Wk 4	Homework: Exam questions relating to chemical calculations. Set: Due:
Week 5 2.1 – Calculating empirical formula of a compound and predict masses in a reaction.	• Use atomic ratio to determine the mass of each atom in a compound. • Use balanced equations and mole calculations to calculate the maximum product made in a reaction.	I can use previous knowledge to inform my calculation decisions. I can make inferences based on previous learning. I can select the correct equations to use in my calculations. I can combine previous learning to inform my calculations.	Wk 5	Homework: Reacting masses exam questions with extended reading. Set: Due:

Week 6 2.2 – Atomic structure and the periodic table.	• The structure of the periodic table in terms of groups and periods. • Draw the atomic structure of the first 20 elements. • Describe the patters involved in the electronic structure of atoms in relation to groups and periods.	I can construct accurate scientific diagrams. I can describe structures of science structures. I can describe patterns of behaviour within science. I can explain the patters within the periodic table.	Wk 6	Homework: Drawing/identifying atomic structures. Set: Due:
Week 7 2.1 – Group 1 and group	• Describe and explain the properties of group 1 metals. • Describe and explain the properties of group 7 gasses. • Identify metal and halide ions through chemical tests. ***2.1 & 2.2 End of Topic Assessment***	I can use my knowledge and understanding to predict effects as part of my scientific exploration. I can explore and describe the properties of materials and justify their uses. I can observe and describe ways in which materials change when they are mixed together. I can identify substances based on chemical reactions.	Wk 7	Homework: 6 mark QER questions about group 1 and group 7 elements. Set: Due: