Learning Plan 1	Subject/Pwnc: Science	Year/Blwyddyn: 9

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:
Understanding the vital role of technicians in STEM empowers learners to develop practical, collaborative, and problem-solving skills essential for real-world scientific and technological progress.

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 Environmental Chemistry: Water usage and the water cycle.	• Ways that water can be used. • Where our water comes from. • The importance of saving water. • The water cycle.	I can describe basic science concepts. I can recall basic science facts and figures from previous learning. I can generate ideas from different concepts.	Wk 1	Homework: Set: Due:
Week 2 Environmental Chemistry: Transportation of water	• The processes of water transportation through the water cycle. • Story board outlining the journey of a water droplet through the water cycle (Assessed writing).	I can provide responses using key terms in context. I can use creative writing appropriately. I can explain key concepts through different mediums.	Wk 2	Homework: Set: Due:

Week 3 Environmental Chemistry: Designing a water filter.	• Building a water filter project. • Using a budget and supplies provided to design and build a water filter. • Provide an explanation and conclusion for my project.	I can use digital resources to research new concepts. I can explain strategies I have used. I can use a budget and available resources in my design ideas. I can justify my design choices.	Wk 3	Homework: Set: Due:
Week 4 Environmental Chemistry: Global warming and the carbon cycle.	• How has the Earth's atmosphere changed over time. • The role pf photosynthesis in the increase of oxygen in the atmosphere. • How the carbon cycle works and factors that may affect it. • Human factors associated with increased global warming.	I can gather information from texts to form a timeline of events. I can use evidence to justify my arguments. I can describe scientific theories based on evidence. I can evaluate the impact of different things on the environment.	Wk 4	Homework: Set: Due:
Week 5 Biodiversity	• Define biodiversity and explain why it is important • Describe the types of ecosystems in Wales (e.g. woodlands, wetlands) • Describe what a food chain and food web is.	I can use information to form an opinion. I can evaluate the impact of different things on the environment. I can extract information from food chains and webs making predictions for population sizes.	Wk 5	Homework: Set: Due:
Week 6 Biodiversity	• Explain what pyramids of numbers are • Describe and explain what biomass is • Draw pyramids of biomass	I can recognise how human activity can impact biodiversity. I can make predictions based off scientific evidence. I can gather and interpret data. I can present data appropriately. I can draw pyramids of numbers and biomass to scale.	Wk 6	Homework: Set: Due:

Week 7 Biodiversity	• Use data collection methods such as quadrats to assess biodiversity levels • Reflect on my own habits and assess the impact on biodiversity • Explain the impact of my own actions • Explain the roles of conservation of protected areas and why this is needed.	I can collect data using appropriate methods, I can process results and use them to form conclusions. I can reflect on my own behaviours and the wider impact of my actions. I can justify why biodiversity is important.	Wk 7	Homework: Set: Due: