Learning Plan 4	Subject/Pwnc: Gwyddoniaeth	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; are questioning; enjoy solving problems; can communicate effectively; can explain the ideas and concepts; can use number effectively; understand how to interpret data and apply mathematical concepts

Enterprising, creative contributors who:
connect and apply their knowledge and skills to create ideas; think creatively to reframe and solve problems; identify and grasp opportunities; take measured risks

Ethical, informed citizens

Healthy, confident individuals who:
face and overcome challenge; have the skills and knowledge to manage everyday life

Knowledge focus/what matters:

Matter and the way it behaves. Particle theory applied to different materials and explaining how these work.

Learning intention/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	
Weeks 1 - 3: What makes up all matter?	Explain the arrangement and movement of particles in solids, liquids and gases. Describe and explain changes of state. Identifying heating and cooling curves. Calculate density of an object.	I can draw an accurate particle diagram model showing the arrangement of particles in solids, liquids and gases. I can explain what happens to particles (in terms of movement) when a change of state occurs.	Wk 1	Set: Due:

	Explain (using density) why objects float. Explain what diffusion is and the factors affecting it. Describe gas pressure and the effects of temperature and volume on this. Apply the ideas of pressure to real life situations (project). Explain the law of the conservation of mass in closed systems.	I can measure the density of materials. I can test how temperature affects diffusion. I can observe & explain the collapsing can experiment (pressure change). I can link real world example such as aerosols, car tires and deep-sea diving project to the theory of matter. I can explain the burning of magnesium in oxygen in terms of particle theory.	Wk 2	Set: Due:
Week 4 - 5: Separating techniques	Explain the difference between elements, compounds and mixtures using atom diagram models. Identify different types of mixtures and the methods used to separate them - filtration, distillation, chromatography and evaporation. Perform accurate chromatography practical and how this is used in real life. Define what solubility is and explain how temperature effects it. Accurately draw and interpret solubility curve graphs.	I can investigate a set task using chromatography. I can create a definition of solubility using the correct units of measurement. I can construct solubility curve graphs using data collected from an investigation. I can interpret data from the solubility curve graph. I can compare the uses of different groups of the periodic table.	Wk 3	Set: Due: