7B MIXTURES AND SEPARATIONS

Year 7 Science

This unit addresses the following Australian Curriculum content descriptions: ACSSU113, ACSHE120, ACSHE121, ACSIS124, ACSIS125, ACSIS126, ACSIS131, ACSIS132, ACSIS133 + OI.5

LEARNING INTENTIONS AND SUCCESS CRITERIA		DATE COMPLETED
LI 1	**Students will define matter and describe the nature and some properties of matter in simple terms**	
SC1	I can define matter as anything that has volume and mass	
SC2	I can describe matter as particles	
SC3	I can describe some basic properties of matter that can be used to separate substances	
LI 2	**Students will explain the difference between pure substances and mixtures and identify some everyday mixtures**	
SC4	I can distinguish between elements, compounds and mixtures	
SC5	I can name some common pure substances and mixtures	
SC6	I can list some everyday mixtures and the substances they are made from	
LI 3	**Students will learn about solutions and compare soluble and insoluble substances**	
SC7	I can explain what happens when one substance dissolves in another substance	
SC8	I can define the terms soluble, insoluble, solution, solute and solvent	
SC9	I can explain the difference between dilute, concentrated and saturated solutions	
LI 4	**Students will identify and classify different mixtures of insoluble substances that they encounter in everyday life**	
SC10	I can identify mixed insoluble substances in the form of suspensions and sediments	
SC11	I can describe the difference between a suspension and a colloid/emulsion	
SC12	I can explain the process of homogenisation	
LI 5	**Students will compare different methods, such as filtering, decanting, centrifuging and separating funnels, used to separate insoluble substances from suspensions**	
SC13	I can decant immiscible liquids and explain how a separating funnel works	
SC14	I can fold filter paper and filter solids from a mixture	
SC15	I can describe the use of a centrifuge and discern when to use it	
LI 6	**Students will appreciate how a variety of separation methods are used to process blood donations**	
SC16	I can use a bucket centrifuge to separate a suspension	
SC17	I can recognise the different blood types and the four major components of blood	
SC18	I can explain why blood is separated by centrifuging and filtration	
LI 7	**Students will explain processes such as distillation, evaporation, crystallisation and chromatography to separate the solutes from the solvent in a solution**	
SC19	I can explain the process of distillation/evaporation and give examples where they are used in industry and everyday life	
SC20	I can describe desalination and crystallisation	
SC21	I can describe the process of chromatography	
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LI 8	**Students will apply knowledge of separation techniques to explain how sewage is treated**	
SC22	I can draw a flow chart on the techniques used to separate sewage	
SC23	I can explain the processes in sewage separation	
SC24	I can describe substances that should not be flushed into the sewerage system	
LI 9	**Students will examine how water supplies are treated before reaching a population**	
SC25	I can list some of the harmful substances that may need to be removed from water to make it safe for drinking and washing	
SC26	I can name the processes and chemicals added to a town water supply to make it potable	
SC27	I can explain the difference between greywater and blackwater	
LI 10	**Students will describe various separation techniques used in practical situations**	
SC28	I can recall various separation techniques used by Aboriginal and Torres Strait Islander peoples	
SC29	I can describe dialysis as a medical separation technique	
SC30	I can recall a variety of industrial and environmental separation processes	

WORD BANK

substances mixtures recycling separation solution solute solvent dissolve insoluble dilute concentrated saturated suspension sediment colloid emulsion homogenise decant filtration sieve centrifuge distillation evaporation desalination crystallisation chromatography sewerage sewage acidity chlorination flocculant greywater blackwater biodegradable industrial medicine