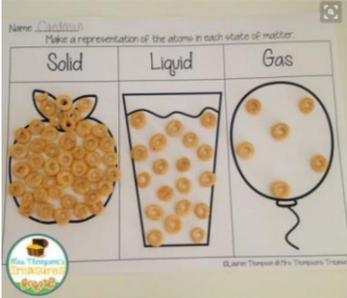




	Week 1	Week 2	Week 3	Week 4	Week 5
Science	<p>Objective: To learn about the properties of different states of matter (solid, liquids and gases)</p> <p>Success Criteria:</p> <p>Support: Sort materials according to a single criterion when the contrast is obvious, e.g. dry or wet (S6)</p> <p>Core: Group a variety of everyday materials based on simple physical properties. (S10)</p> <p>Extension: Describe the properties of the different states of matter in terms of the particle model, including gas pressure. (S15)</p> <p>LOtC: Students search for pictures of solids, liquids and gases to classify back in class.</p> <p>SMSC: Developing deep thinking and questioning</p> <p>Using IT: http://www.bbc.co.uk/bitesize/ks3/science/chemical_material_behaviour/particle_model/revision/5/ https://www.purplemash.com/#app/pup/solliqas https://www.purplemash.com/#app/pup/solidsliquidsgases</p> <p>Suggested Activities:</p> <ul style="list-style-type: none"> • Pictures of solids, liquids, gases for discussion (intro). Deal with ideas/ misconceptions here. • Definition of how to classify object as solid, liquid or gas. • Activity involving solids, liquids gases. Set up around classroom. Students label which they think is which (and why) • Demonstrate air can be compressed using a syringe (model difference with solid and liquid) • Sensory ideas: foam, play dough, hair gel, flour, sand, glitter water, in addition to objects found in tac pac box for solids. • Blow bubbles to look at how particles are arranged in gas. 	<p>Objective: To use a particle model to recognise / demonstrate a solid, liquid, gas state.</p> <p>Success Criteria:</p> <p>Support: Sort materials according to a single criterion when the contrast is obvious, e.g. dry or wet (S6)</p> <p>Core: Group a variety of everyday materials based on simple physical properties. (S10)</p> <p>Extension:</p> <p>LOtC: Students become 'particles'. Draw three squares in chalk labelled: 'solid, liquid, gas'. Students to 'arrange' themselves as a solid, liquid or gas in each square.</p> <p>SMSC: Developing deep thinking and questioning</p> <p>Using IT: http://www.bbc.co.uk/bitesize/ks3/science/chemical_material_behaviour/particle_model/revision/5/</p> <p>Suggested Activities:</p> <ul style="list-style-type: none"> • https://www.exploratorium.edu/snacks/gas-model • Small jars with lids. Peas / beads, (something to act as a particle). Few peas = gas, layer of peas = liquid, full jar = solid) • Marbles on plates (same ideas as above) • Cheerio activity representing the different states (sensory: use pom poms, playdough) 	<p>Objective: To learn about the changes of state in terms of the particle model</p> <p>Success Criteria:</p> <p>Support: Sort materials according to a single criterion when the contrast is obvious, e.g. dry or wet (S6)</p> <p>Core: Group a variety of everyday materials based on simple physical properties. (S10)</p> <p>Extension: Describe the properties of the different states of matter in terms of the particle model, including gas pressure. (S15)</p> <p>LOtC: Students search for pictures</p> <p>LOtC: Items tipped onto tuff tray to explore. Particle Drawings made in chalk outside.</p> <p>SMSC: Developing deep thinking and questioning</p> <p>Using IT: http://www.bbc.co.uk/bitesize/ks3/science/chemical_material_behaviour/particle_model/revision/5/ http://www.sciencekids.co.nz/gamesactivities/gases.html http://www.crickweb.co.uk/ks2science.html http://www.crickweb.co.uk/ks2science.html</p> <p>Suggested Activities:</p> <ul style="list-style-type: none"> • Remind about how to draw particle model. • Tip out frozen items from previous lesson / week onto tray. Discuss: Did they all freeze? Which has frozen best? which melts quickest? textures. How could we make them melt faster? 	<p>Objective: To learn what makes up an atom</p> <p>Success Criteria:</p> <p>Support: Explore and experiment with objects made from familiar materials. (S7)</p> <p>Core: Confidently state the material that an object is made from. (S10)</p> <p>Extension: Aware of a simple (Dalton) atomic model.(S17)</p> <p>LOtC: Draw atom with protons, neutrons and electron shell on playground. Search for 'protons', 'neutrons' and 'electrons' around School. Arrange in different ways to make different elements.</p> <p>SMSC: Developing deep thinking and questioning</p> <p>Using IT: http://www.rsc.org/learn-chemistry/resource/res00001433/build-an-atom-simulation</p> <p>http://www.bbc.co.uk/schools/gcsebitesize/science/add_aqa_pre_2011/chemcalc/chemcalc_bothrev1.shtm</p> <p>Choose to research and build a fact file on one of the following: John Dalton, Schrodinger, Thomson, Bohr, Rutherford</p> <p>Suggested Activities:</p> <ul style="list-style-type: none"> • Make an atomic model using sweets (link to pdf of atom sheet also saved in resources for this unit) https://drive.google.com/file/d/0BzKjWRqK5zLsNzEtX1ota1NOV0U/view • Use marshmallows pink and white for proton and neutrons and choc chips for electrons. • Use playdough in 3 different colours to represent protons, neutrons and electrons. • Use pom poms and pipe cleaners to make a 3d model. 	<p>Objective: To learn about the difference between an atom, element and a compound</p> <p>Success Criteria:</p> <p>Support: Explore and experiment with objects made from familiar materials. (S7)</p> <p>Core: Confidently state the material that an object is made from. (S11)</p> <p>Extension: Know the difference between atoms, elements and compounds. (S16)</p> <p>SMSC: Developing deep thinking and questioning</p> <p>Using IT: Research an element, compound of your choice on the internet. http://www.bbc.co.uk/bitesize/ks3/science/chemical_material_behaviour/compounds_mixtures/activity/</p> <p>Suggested Activities:</p> <ul style="list-style-type: none"> • Use lego/ duplo of different colours to represent, element, compound • Sensory ideas: • Use different coloured playdough to represent elements. Combine together to make a compound. • Elements, compound and mixtures match and draw (see resource folder) • (powerpoint available in resource folder for teachers – and students if extension ability)
			 <p>Set up this activity for next week / lesson: (students choose a variety of items to freeze: oil, marshmallows, chocolate,oats etc)</p>		



HSW: You could put an investigation slant on it: 'Which will melt the fastest? Will they all freeze?'

Week 6	Week 7	Week 8	Week 9	Week 10
<p>Objective: To learn about chemical symbols and formula</p> <p>Success Criteria: Support: Based on their properties, recognise solids, liquids, and gases. (S12) Core: Begin to recognise some chemical symbols and formulae for elements and compounds. (S15) Extension: Understand chemical reactions as the rearrangement of atoms. (S17) LOtC: Treasure hunt around school for formulae, chemical names (see below) SMSC: Developing deep thinking and questioning Using IT: http://www.chemicalformula.org/chemistry-games/chemical-millionaire Suggested Activities:</p> <ul style="list-style-type: none"> One person writes chemical formula (eg Fe) in sensory material (eg foam) other person writes the name of the formula. Eg Iron Treasure hunt around School for chemical formula and names. Match/pair up together when back in class. Or use together with following activity: Set up objects (eg, Tin (Sn), Sodium Chloride (salt NaCl), empty jar (oxygen (O₂), Silicone, Si), Chalk, (Calcium oxide – CaO) and water (H₂O), Iron (Fe). Students can match the name first to the object they think it is. Ex can have a go at chemical formula. Sensory can feel the different textures. 	<p>Objective: To learn about the conservation of mass</p> <p>Success Criteria: Support: Explore and experiment with a wide range of materials. (S8) Core: Recognise that some materials change state when they are heated or cooled. (S13) Extension: Recognise conservation of mass in changes of state and chemical reactions. (S19) LOtC: SMSC: Developing deep thinking and questioning Using IT: Suggested Activities:</p> <ul style="list-style-type: none"> https://www.youtube.com/watch?v=esZAZ2dEFk https://www.youtube.com/watch?v=FZwHH7Sm4hl (nice clips explaining it – for teachers) See resource folder for simple experiments from twinkl Bicarbonate of soda and vinegar experiment or Water and effervescent tablet experiment: http://kulasclassroom.weebly.com/uploads/2/2/5/1/22516730/law_of_conservation_of_mass_lab.pdf 	<p>Objective: I am learning about how the periodic table is set out (Mendeleev)</p> <p>Success Criteria: Support: Based on their properties, recognise solids, liquids, and gases. (S12) Core: Begin to recognise some chemical symbols and formulae for elements and compounds. (S15) Extension: Understand chemical reactions as the rearrangement of atoms. (S17) LOtC: SMSC: Developing deep thinking and questioning Using IT: Research Mendeleev. Suggested Activities:</p> <ul style="list-style-type: none"> https://www.youtube.com/watch?v=zGM-wSKFBpo (elements song) http://bpes.bp.com/secondary-resources/science/ages-12-to-14/the-periodic-table/ http://www.periodictable.com/theelements/pages.html (a Good book to use has lovely pictures or print off from this link....) Can be used as cards to play: Top trumps, snap, put in alphabetical order, lowest to highest Make the chemical formula and atomic number out of playdough. http://sciencenotes.org/periodic-table-element-cells/ Make a massive version of it and use as a large 'floor' puzzle. Discuss / label groups / names how it is arranged. 	<p>Objective: I am learning about the properties of metals and non- metals in the periodic table)</p> <p>Success Criteria: Support: Identify objects made of wood, plastic, glass and metal. (S8) Core: Give reasons why materials are used for a specific purpose independently. (S12) Extension: Know the order of metals and carbon in the reactivity series and know that carbon can be used in obtaining metals from metal oxides. (S18) LOtC: SMSC: Developing deep thinking and questioning Using IT: Suggested Activities:</p> <ul style="list-style-type: none"> Investigation into properties of metals and non metals: Variety of metal and non metals to test and sort. Predict which are metals / non metals. What properties do they all have in common? Relate to periodic table. Use cards to sort into metals and non metals http://www.periodictable.com/theelements/pages.html <p><i>*prepare / gather materials this week if going to do agar plates in next couple of weeks. Should be nutrient agar in Science cupboard to make up and petri dishes</i></p>	<p>Objective: I am learning about patterns of reaction in the Periodic table.</p> <p>Success Criteria: Support: Identify objects made of wood, plastic, glass and metal. (S8) Core: Give reasons why materials are used for a specific purpose independently. (S12) Extension: Know the order of metals and carbon in the reactivity series and know that carbon can be used in obtaining metals from metal oxides. (S18) LotC: SMSC: Developing deep thinking and questioning Using IT: Suggested Activities:</p> <ul style="list-style-type: none"> http://www.rsc.org/learn-chemistry/resource/res00002232/teachers-tv-ks3-4-science-periodic-table?cmpid=CMP00007666 (shows reactions you won't be able to do that are explosive) Yellow, green, orange, purple tissue paper. Place inside glass jar to represent Halogens: gas colours. Students to put them in 'order' in the group with labels Chlorine, Fluorine, Bromine, Iodine. Practical on Reactivity series. https://image.slidesharecdn.com/reactivity-series-1234706669293035-1/95/metals-reactivity-series-27-728.jpg?cb%5C%5d1234685152 (this involves different acids and metals and risk assessment) Reaction of calcium with acid: https://www.youtube.com/watch?v=q72nsOFSj-0 Reaction of Potassium with acid: https://www.youtube.com/watch?v=53T5WZHQ_Ck Reaction of Sodium with acid: https://www.youtube.com/watch?v=CXDhdVMKKF4



Mid Term Plan – Key Stage - - Past, Present and Future

	<p>glitter on them. Refer to glitter as 'microbes' to demonstrate how easily microbes can be spread.</p> <ul style="list-style-type: none">Investigation into 'where can we find the most microbes?' http://kitchenpantryscientist.com/microbial-zoos-homemade-petri-plates/ (set up some homemade agar plates) 'test' four areas. Swab plates. OR could do investigation into how effective are the handwashes that 'claim' to reduce bacteria by 99.9%. Swab results on Half a petri dish before wash hands and half after wash hands. Compare results next week.Look at how disease spreads. (direct contact, indirect contact, airborne, water borne) Refer to Cholera outbreaks in Victorian times.	<p>stimulant, performance enhancer</p> <ul style="list-style-type: none">Effect on the body (see resources folder)Produce a poster to present to class for peer assessment. There could be sensory aspects to this.In terms of antibiotics look at how penicillin had a major impact on prolonging life. Discuss what illnesses would they like a cure for in the future?			
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