NORTHGATE PRIMARY SCHOOL
Weekly Planning

Year : six **Topic Title:** Long Ago and Far Away **Subject and Focus :**	
Prior Learning (this could be from the previous year group or from one previously) Year 5	Future Learning – not for this year
National Curriculum objectives covered previously:	National Curriculum objectives to be covered in the future:
Key knowledge/skills for this year group (take this from the progression of learning) Year 6 To recall past and present designers and their associated craft. * To know that events in history have influenced their design journey. * To know how to evaluate similar products: Whether products can be recycled or reused? * To independently develop a design specification. * To know how to identify the needs, wants, preferences and values of particular individuals and groups. * To recall how to use their design specification to inform their ideas. * To know how to explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways. * To know that they need to communicate their ideas through detailed labelled drawings. * To recall how to plan the order of their work, choosing appropriate materials, tools and techniques. * To know how to critically evaluate the quality of their design, manufacture and fitness for purpose of their products as they design and make (link to design specification)	Year 6 National Curriculum Objectives **Past & Present Design Technology** (Designers, Products, Evaluate). **Design Criteria** (Design Criteria, Purpose) **Design Process** (Design, Communicate, Make, Evaluate, Re-Make)

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		Technical Knowledge (Skill)			
Year Group: 6 Computer Controlled Programmes			Term: Autumn 2		
Session number And Learning Intentions What will the pupils know / understand / be able to do? **What subject skills are being covered? What NC objectives are being covered?**	**Organisation and Outcomes** How will the lesson be structured? Teaching input /Groupings/ Deployment of other adults What will the activities and outcomes be? How will you support children with EAL? How will lower attainers be supported/scaffolding? How will higher attainers be challenged?		**Assessment For Learning** What are the key questions you are going to ask? How will you know the children have a deep understanding? Where will you record pupils starting points and end points? **Retrieval opportunities** How will check their previous knowledge through a retrieval activity? Will this be knowledge from previous years or from current years? When will this be part of the lesson? What sort of activity will it be?	**Resources** Including website links	**Vocabulary (new vocabulary highlighted)**
	Lesson format/outcomes for most pupils:	Alterations for: Groups – EAL Lower attainers Higher attainers			
Session 1 WALT	Shared WALT discussion and introduction of unit learning. Mention that we will be looking into warning systems and alarms and in particular, sirens. As we go through the shared WALT, ask the chn which bits of vocab they already know from ICT.		Retrieval of key vocab from ICT lessons		Siren Air raid siren Designer Inventor

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	Focus of the lesson – past designers. Tell the chn we're going to read them some information about John Robison. Get chn to listen to a text twice (power of reading style). During second reading, make notes. Give out small images of John Robison and get chn to create a fact file page in their books with key facts about him.				
Session 2 WALT:	Show us what you know – teacher to ask questions. Tell chn we're going to get the crumble kits out and they are going to have a set amount of time to show us what they can do and what they already know. Chn to use crumble kits with the same partner they share a kit with in ICT unless teachers want to create new pairings. Emphasise the need to look after the kits and that they are responsible for their own kits. Teachers to move around the room and asking questions to both get a better understanding of how things work and to see how the chn are getting on and what they know.	Chn to work in mixed ability pairs from ICT Chn to have access to their ppts from ICT to support them	Whole lesson will be a retrieval opportunity of ICT learning so far. What is the name of this piece of equipment? How do you connect these components? Does it matter which way you connect components?	Crumble kits iPads	Siren Crumble Coding Programming Input Output Motor Buzzer Wire Crocodile clips Sparkles Light sensor Microcontroller
Session 3 WALT:	Evaluate different alarm systems: Shark siren, emergency vehicles and school fire alarm. Remind chn that we are going to be creating an air raid siren and tell them that we're going to be evaluating the effectiveness of existing sirens. In	Would everyone be able to notice this alarm? Are there any groups of people who might it might not be effective for? How could we improve this alarm to support those people?			

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	particular, how effective they are at warning ALL groups of people and how easy they are to notice. Show a video of a shark siren taking place at a beach. https://www.youtube.com/watch?v=EdOoUU4uGSY Ask chn how effective they think the alarm is? Try to prompt them towards understanding that a hearing-impaired person would struggle with it. Could then play the video again without sound to emphasise this. Discuss both the pros and cons of the siren - Can all groups notice it (no visual) - Is the noise loud enough? - Is it clear what the alarm is warning against? https://www.youtube.com/watch?v=lQc432kUOpM - ambulances throughout Europe. Show chn this video and get them to think about which siren they think is most effective and would be most likely to get attention. Prompt them to think about whether the sound is consistent or whether we get different sounds, whether pitch or volume changes, how often the sound repeats, the colours used, the pattern of colours, etc. Get the chn to think about which combinations of these they think are most effective. They will all have their own answers but will hopefully recognise that loud is good, maybe having two noises is better instead of one continuous, etc.				

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	Finally, get the chn to consider our own fire alarm in school. Think of our most recent alarm (Friday) and get kids to think about what works well with our fire alarm and what needs improving. Give chn pictures of each siren type (could do this at the end or do each one straight after discussing that alarm). Get them to stick it into their book and evaluate what works well with it and what needs improving.				
Session 4 . WALT:	As class, come up with design spec and criteria using our evaluation of what works with existing sirens and what needs improving with existing sirens. Through questioning, try to get chn to come up with: - Needing a visual element for hearing impaired people - The siren needing to repeat in case people didn't hear it first time - Needing to work with the resources they have available to them (write up for them exactly what this includes0) Also make note of any other good ideas they come up with that would be good for everyone's design and not specific to theirs e.g. must haves instead of extras. Chn could copy design criteria into their books so that can continually refer back to it but it should at	LA chn to work to only bit of design criteria being 'must have a visual aspect' Chn to have access to their ppts from ICT		Ppts from ICT	Siren Crumble Coding Programming Input Output Motor Buzzer Wire Crocodile clips Sparkles Light sensor Microcontroller

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	least definitely be written up on the flipchart for the chn to refer back to. Give chn time to begin planning their own idea individually. This may need another lesson given to it so they can finish. Explain to chn that it is up to them how they plan their product but it could include annotated diagrams, jottings, mind maps, etc.				
Session 5	Get chn to sit in their Crumble pairs. Explain that they will be building both designs and need to show their partner their ideas/planning. This will be a good opportunity to ask the chn if they've planned in enough detail that they can explain it their partner. Give chn some time to finish/improve their planning after discussing with their neighbour. This could be a short lesson or you could do a long session and allow them to begin building. If allowing them to build, follow next session's plan.	LA chn to work on one design spec only being 'must contain a visual element'. Chn to have access to their ppts from ICT		Crumble kits iPads Ppts from ICT	Siren Crumble Coding Programming Input Output Motor Buzzer Wire Crocodile clips Sparkles Light sensor Microcontroller Forever loop
Session 6	Give chn the Crumble its after reminding them of the importance of looking after the equipment.	LA chn to work on one design spec only being 'must contain a visual element'.		Crumble kits iPads Ppts from ICT	Siren Crumble Coding Programming Input Output Motor

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	Make sure the chn's plans are out and the design criteria is clearly displayed too. Chn to begin building one of the designs in their pairs. Once they finish, take them into the corridor to video them showing how the system works, explaining how it meets the design spec and how they coded it/created it to work. Could also ask them if they can think of a way they could improve it. Try to also take a picture of their completed design.	Chn to have access to their ppts from ICT			Buzzer Wire Crocodile clips Sparkles Light sensor Microcontroller Forever loop