Lesson Plan: Lesson 3, Careers in the Built Environment. Key Stage 3

Programme: Building Greater Exeter	
Lesson Title: Careers in the Built Environment	**Lesson Type: Classroom-based with additional resources and use of technology**
Time: Designed for a 40 minute lesson, with optional and adaptable activities, for longer lessons or homework, so that you can use these resources to suit your class needs.	

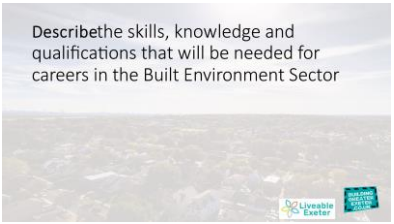
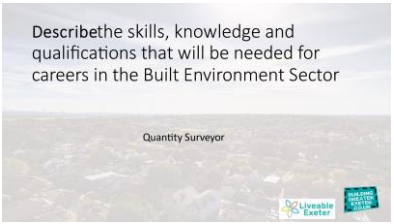
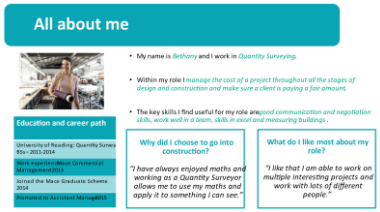
Overall aim of the session:	The aim of this lesson is to explore careers in the Built Environment Sector and issues facing it like climate change and sustainability.
Learning Outcomes: By the end of the session, delegates will be able to:	1. **Identify** what the Built Environment sector is and future job prospects within it 2. **Describe** the skills, knowledge and qualifications that will be needed for careers in the Built Environment Sector 3. **Analyse** current key issues include tackling climate change through better design, practices and use of materials building more homes in a way which helps communities
Resources:	Blank Career Sheet Passivhaus Design Sheet St Sidwells Point information sheet (optional)
How are Functional Skills (Literacy, Numeracy, ILT) embedded in this session?	Literacy will be used through reading career prAlongside this there are some texts to read and comprehend. Numeracy is used looking at salaries and ILT through videos.
How is equality & diversity embedded in this session?	All learners will be given equal chance to participate in the session and all session activities. The session will discuss equality and diversity throughout.

Objective	Activity	Teacher Notes/Consolidation	Resources
Project Outline and Context	n/a	**How can Exeter grow in such a way that it is resilient for the challenges of the future?** Liveable Exeter and Building Greater Exeter have developed an activity to help students understand how cities are developed to be resilient for the future climate. The activity can be broken down into different lengths depending on time available and provides students with the opportunity to learn about city development, come up with their own ideas and suggestions for Exeter in the future and discover more about the different career paths in this sector. Teacher training for these lessons can be arranged. Employees from Building Greater Exeter are available to deliver this activity, and with notice, planners, architects and construction companies, both local and nationwide.	 
Introduction	**Discussion activity** Ask Students: 'What is the Built Environment ? Create a discussion and consolidate with the following slide.	'All forms of buildings (residential, industrial, commercial, hospitals, schools), all economic infrastructure (above and below ground) and the urban space and landscape between and around buildings and infrastructure.	

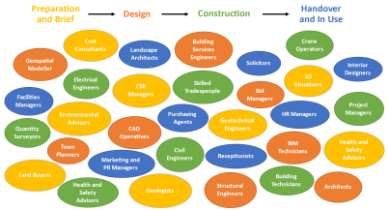
			
Learning Objectives	Share the Learning Objectives for the lesson with students: **Students will be able to:** 1. **Identify** what the Built Environment sector is and future job prospects within it 2. **Describe** the skills, knowledge and qualifications that will be needed for careers in the Built Environment Sector 3. **Analyse** current key issues include tackling climate change through better design, practices and use of materials building more homes in a way which helps communities	n/a	
Baseline Activity (Optional)	Identify student's prior knowledge. What jobs do you think are in the Built Environment Sector ? This will be revisited at the end of the lesson to show progress made.	Use a whiteboard to capture current knowledge and revisit this at the end of the lesson to identify lessons learnt.	

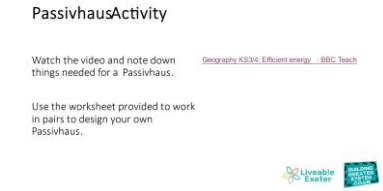
Identify what the Built Environment sector is and future job prospects within it	**Information** Read through the information on the slide There are a number of professionals involved within this sector, including engineers, architects, surveyors, urban designers and planners. There may also be project managers, lawyers and other admin staff involved to help the projects run more smoothly. **Career video** Use the clips to introduce some jobs in the Built Environment Sector . The videos are embedded in the slides but the links below are available: Careers in Construction - Darren Davies, Managing Director, J&D Bricklaying - YouTube Careers in Construction - Tom Taylor, Degree Apprentice, Kier Construction - YouTube	The Built Environment sector is about the design, construction and management of our human-made surroundings. Projects can range from building a single home to multimillion pound large-scale projects such as building a new infrastructure or eco-town. This industry is not only about materials, engineering and architecture, but also has a cultural element: you may be building new neighbourhoods or effecting existing communities. For this reason, work in the industry can become highly political and emotive.	 

	[(1) Careers in Construction - Emma Osmundsen, Managing Director, Exeter City Living - YouTube] As students are watching the video clips, ask them to identify what is required to be qualified in each of the jobs selected and also which of these job prospects inspires them the most. There are a number of additional job prospects on the following website if students would like to explore these further: [Building Greater Exeter - YouTube]		   [Careers in Construction - Darren Davies, Managing Director, J&D Bricklaying - YouTube] [Careers in Construction - Tom Taylor, Degree Apprentice, Kier Construction - YouTube] [(1) Careers in Construction - Emma Osmundsen,

			[Managing Director, Exeter City Living - YouTube]
Describe the skills, knowledge and qualifications that will be needed for careers in the Built Environment Sector	**Case study Activity** **Quantity Surveyor** Career profile: use the slide to explain the skills and education that a Quantity Surveyor needs.	During this section, we are going to explore some further careers within the Built Environment Sector. There is a website with a number of different resources to use as part of this exercise. If IT is unavailable then you can print some of the job profiles in advance to use as part of this activity • My name is *Bethany* and I work in *Quantity Surveying*. • Within my role I *manage the cost of a project throughout all the stages of design and construction and make sure a client is paying a fair amount.* • The key skills I find useful for my role are *good communication and negotiation skills, work well in a team, skills in excel and measuring buildings.* Education and career path	  

	Career Profile Activity Use the blank Career Profile sheet to create your own job profile for one of the Built Environment Careers identified on the Go Construct website. Ask students to explore a job role of interest or one that they have never even heard of before.	University of Reading: Quantity Surveying BSs – 2011-2014 Work experience Mace Commercial Management - 2013 Joined the Mace Graduate Scheme – 2014 Promoted to Assistant Manager – 2015	 CareerProfile Activity Use the blank Career Profile sheet to create your own job profile for one of the Built Environment Careers identified on the Go Construct website. Careers In Construction (Construction Jobs List) | Go Construct **Blank Career Profile sheet** **Careers In Construction (Construction Jobs List) | Go Construct**

	Walk Through of the process that a new build goes through and the jobs involved in the process. This slide builds as you explain the process to learners and it will again start to identify roles that they might not have previously heard of.	There are 4 different stages to creating a Built Environment and a number of different jobs and responsibilities are involved within this process. “The first stage is preparation. This is about making sure the project is possible and can be done. This is through planning out what you would like to build, where, why and how much you have to spend.” For example, the preparation for the project we just looked at – the Shard, was key. “The second stage is Design, many jobs came into play during these very early stages, including Designers, Engineers, Quantity Surveyors and Project Managers. The design of the shard was unique: What do you think a Project Manager does? Somebody who manages the whole team and makes sure everyone sticks to the plan for getting the project built. How about an Engineer?” “Stage three, Construction. During this time it is all about getting ready to start the construction work. So many things can be done, including demolition to flatten the land and preparing for construction to start.” This was a very challenging part of the Shard project because… “After all the stages of planning now we’re on to stage four, construction! This is where all the hard work and number of roles come together.”	

		"And lastly stage four, Handover and in use- this is where the finished project is given back to the client." Management of the facility.	
Analyse current key issues include tackling climate change through better design, practices and use of materials building more homes in a way which helps communities.	Current key issues include tackling climate change through better design, practices and use of materials **St Sidwells Point** Introduce St Sidwell's point. Show the video clip (3) Careers in Construction at 'St Sidwell's Point' Leisure Centre – YouTube Use the additional narrative in the notes if needed. **You can also share the additional information on St Sidwell.s point available in the teacher resource pack.** **Passivhaus Activity** Watch the video and note down things needed for a Passivhaus	St Sidwell's Point is the first leisure centre in the UK built to the super energy efficient Passivhaus standard. Due to a special filtration system the pools will have exceptional water quality with minimal chemical content, this will greatly improve the experience for swimmers compared to a standard pool. The heat from the use of the fitness suite will contribute to the heating of the swimming pools. This building has been modelled to withstand predicted changes in climate conditions up to 2080. We would like this project to help young people understand the Passivhaus method of building and how it helps to reduce the impact building has on their environment. **Passive homes have no central heating and generate bills approximately half that of the Stonehaven residents.** House building expert Thomas Froehlich, explains why the passive houses are so energy efficient.	 (3) Careers in Construction at 'St Sidwell's Point' Leisure Centre – YouTube  **St Sidwell's Point Education Pack** 

	Use your worksheet to design a Passivhaus	They are built to face the sun and use the solar energy for heating, and are super-insulated and draught-free. People and household appliances generate heat (thermal energy) and this does not escape from the house. There is no letter box or cat flap to allow the heat to escape in this airtight house. Solar panels on the roof heat the water, and a log burner heats the home or the water when there is no sun. A heat recovery system draws cool air from the outside in and heats it using energy from within the house. This house focuses on conserving energy and not creating additional energy, which results in much smaller energy bills and less wastage overall. This clip is from the series Save Your Energy.	Geography KS3/4: Efficient energy - BBC Teach **My Passivhous Design Workseet**
Revisit Baseline Activity (Optional)	Revisit baseline mind map and add something new learnt in a different colour		

Session evaluation and reflection:

STOP	
START	
CONTINUE	