

1. Year Group Years 1	2. Aspect of D&T Structures Focus Freestanding structures	4. What could children design, make and evaluate? Models of Stadiums	5. Intended users AFC Bournemouth. Photographs of models can be sent along with drawings and written outlines of proposals that can be sent to the football cub for their designs.	6. Purpose of products To suggest new stadium designs for the local football club	16. Possible resources photographs of various structures photographs of iconic stadiums construction kits that can be used to construct freestanding structures e.g. walls, towers, frameworks paper, card, plastic sheet, paper and plastic straws, pipe cleaners reclaimed materials including small containers, card boxes, cotton reels string, masking tape PVA glue, Plasticine, left/right handed scissors, hole punch, stapler finishing media and materials	17. Key vocabulary cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function
3. Key learning in design and technology Prior learning - Experience of using construction kits to build walls, towers and frameworks. - Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. - Experience of different methods of joining card and paper. Designing - Generate ideas based on simple design criteria and their own experiences, explaining what they could make. - Develop, model and communicate their ideas through talking, mock-ups and drawings. Making - Plan by suggesting what to do next. - Select and use tools, skills and techniques, explaining their choices. - Select new and reclaimed materials and construction kits to build their structures. - Use simple finishing techniques suitable for the structure they are creating. Evaluating - Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. - Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. Technical knowledge and understanding - Know how to make freestanding structures stronger, stiffer and more stable. - Know and use technical vocabulary relevant to the project.	10. Investigative and Evaluative Activities (IEAs) – Possible Stadium tour to AFCB - Go on a walk (and/or look at photographs) of the local area or around the school to explore structures such as playground equipment, street furniture, walls, towers and bridges e.g. <i>What are the structures called and what is their purpose? Who might use them? What materials have been used? Why have these been chosen? How have the parts been joined together? How have the structures been made strong enough? How have they been made stable?</i> - Where possible, ask the children to draw or photograph the structures they have been exploring and label with the correct technical vocabulary in relation to the structure, materials used and shapes e.g. wall, tower, framework, base, joint, metal, wood, plastic, brick, triangle, square, rectangle, cuboid, cube. * Look at photographs of iconic stadia around the world e.g. Beijing National Stadium - Herzog & de Meuron or Wembley Stadium - Foster & Partners. Investigate what the purpose and basic features of stadia are and ask same questions as for the structures identified locally. <i>Why are some of them so big? Explore ideas of population size in big cities and how a stinking stadium can be a source of pride for the people who live in those areas/countries. Why do many of them not have a roof?</i>	11. Related learning in other subjects Geography – use simple fieldwork and observational skills to study the geography of their school and its grounds and the key physical features of its surrounding environment. Spoken language – participate in discussion about various structures, taking turns and listening to what others say. Ask relevant questions to extend their knowledge and understanding. Build technical vocabulary.	18. Key competencies problem solving teamwork negotiation consumer awareness organisation motivation persuasion leadership perseverance other – specify			
	12. Focused Tasks (FTs) - Demonstrate measuring, marking out, cutting, shaping, joining and finishing techniques with a range of tools and new and reclaimed materials that children are likely to use to make their structures. Discuss the suitability of materials for their products according to their characteristics. - Ask the children to build and explore a variety of freestanding structures using construction kits, such as wooden blocks, interconnecting plastic bricks and those that make frameworks e.g. <i>How can you stop your structures from falling over? How they can be made stronger and stiffer in order to carry a load?</i> Children could make models of the structures they have seen in school and the local area. - Ask children to fold paper or card in different ways to make freestanding structures, using masking tape where necessary to make joins. Encourage them to think about how folding materials can make them stronger, stiffer, stand up and be more stable e.g. <i>Can they support an object on top of their structures without it falling over or breaking? Can they add a roof? How will it be supported?</i>	13. Related learning in other subjects Mathematics – use appropriate standard and non-standard measures. Recognise and name common 2-D and 3-D shapes. Science – think about the properties of materials that make them suitable or unsuitable for particular purposes. Spoken language – ask relevant questions to extend their knowledge and understanding. Build technical vocabulary.	19. Health and safety Pupils should be taught to work safely, using tools, equipment, materials, components and techniques appropriate to the task. Risk assessments should be carried out prior to undertaking this project.			
	14. Design, Make and Evaluate Assignment (DMEA) - Discuss with the children that they will be designing, making and evaluating a model for a proposed new stadium for AFC Bournemouth. Explain that now AFC Bournemouth are in the Premier League they need a bigger stadium as there are more people that want to watch than can fit into the ground currently. It also needs to be updated to reflect how well the club is doing. So ask the questions: <i>Who will the stadium be for? What is its purpose? What materials will you use? How will you make it strong and stable? How will you support the structure without blocking the views for the spectators?</i> - Generate some simple design criteria with the children e.g. the structure should stand up on its own, it should be strong enough to support some form of shelter around the edges, it should consider how it will allow people to watch the football from the stands. - Encourage the children to develop their ideas through talking, drawing and making mock-ups of their ideas with construction kits and other materials. - As a whole class, plan the order in which the structures will be made. Children could make their final stadiums from construction kits, new and reclaimed materials or any combination of these, according to their characteristics. - Ask children to evaluate their developing ideas and final products against original design criteria. Portfolios can be put together to send to AFC Bournemouth or coaches working in school can come into judge and assess the ideas generated by the children.	15. Related learning in other subjects Spoken language – ask relevant questions to extend their knowledge and understanding. Build technical vocabulary. Use spoken language to develop understanding through imagining and exploring ideas. Art and design – use colour, pattern, line, shape. Use and develop drawing skills. Science – think about the properties of materials that make them suitable or unsuitable for particular purposes.	20. Web Resources for teachers AFC Bournemouth – announce site for new stadium https://www.afcb.co.uk/news/club-news/new-stadium-site-identified/ Examples of stadia https://www.sportsmanagementdegreehub.com/the-30-most-architecturally-impressive-sports-stadiums-in-the-world/ https://www.shortlist.com/news/the-worlds-most-amazing-stadiums Possible Activities to explore https://www.stem.org.uk/resources/elibrary/resource/25329/bridges-and-structures https://www.tes.com/teaching-resource/strong-structures-6422486 https://webarchive.nationalarchives.gov.uk/20100512134244/http://www.standards.dfes.gov.uk/schemes2/designtech/det1b/?view=get			