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| **London Marathon Costume** |
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| Designing a charity costume to wear on the day  |
| **Subject(s):** Design and Technology**Approx time:** 60-100 minutes |  | **Key words / Topics:** * charity
* design ideas
* e-textiles
* fabric
* London marathon
* running
* smart textiles
* wicking
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| **Stay safe** Whether you are a scientist researching a new medicine or an engineer solving climate change, safety always comes first. An adult must always be around and supervising when doing this activity. You are responsible for: • ensuring that any equipment used for this activity is in good working condition• behaving sensibly and following any safety instructions so as not to hurt or injure yourself or others  Please note that in the absence of any negligence or other breach of duty by us, this activity is carried out at your own risk. It is important to take extra care at the stages marked with this symbol: ⚠ |
| **Suggested Learning Outcomes**  |  |  |
| * To be able to design a charity costume to be worn whilst running the London Marathon
* To apply understanding of smart and modern textiles in clothing designs
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| **Introduction** |  |  |
| This is one of a series of resources designed to allow learners to use the theme of the London Marathon to develop their knowledge and skills in Design & Technology and Engineering. This resource focusses on designing a charity costume that could be worn whilst running the London Marathon.The London Marathon takes place every year and is a great opportunity for charities to raise money to support their causes. Can you design an eye-catching costume that runners can wear whilst taking part? |
| **Purpose of this activity**In this activity, learners will use the theme of the London Marathon to design a costume for participants who are raising money for charity. They will consider how modern and smart fabrics could be used in their design, such as those that wick moisture. They will then use their knowledge to develop a suitable outcome to match the given design brief.This could be used as a one-off main lesson activity to develop designing skills in Design & Technology and understanding of fabric types in textiles. Alternatively, it could be used as a part of a wider scheme of work to develop designing and graphical skills in Design & Technology. |
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| **Activity** |  | **Teacher notes** |
| **Introduction and design brief (10-20 minutes)** Teacher to introduce the activity and discuss the theme of the London Marathon using presentation slides 2 and 3.Teacher to use slide 4 of the presentation to discuss the design brief with learners and the considerations they need to take into account when addressing it.**Design considerations and initial thoughts (10-20 minutes)**Learners to create a spider chart to capture design considerations and initial ideas for their costume. Learners to identify an appropriate charity and theme for their costume.**Designing the kits (40-60 minutes)**Learners to design their charity costume to meet the requirements of the design brief. Learners should annotate their ideas to show how these requirements have been met and what technologies have been used to help the runner.Examples of varying difficulty levels are provided on slides 13-15 to assist learners or help to provide inspiration for their own ideas. |  | **Spider chart (slides 6 and 7)**Questions to consider:* What clothing types can you think of?
* Why do you need to consider different types?
* What about subcategories? For example if learners choose tops, then go onto t-shirts, vests, shirts etc.?

**Selecting fibres and fabrics:**Presentation slides 8-12 can be used to help learners select appropriate fibres and fabrics for their designs e.g. natural, synthetic, smart and/or wicking fabrics. Ask learners if they could make their costume out of any of these and to give reasons why.The fibres that make a fabric will affect its properties, making them suitable for different uses, e.g. cotton is cool to wear and suitable for a summer T-shirt, whereas wool is warm so would make a warm winter jumper.Natural fibres come from plants, animals or insects. They are also renewable and biodegradable.Smart textiles provide an added benefit to the user beyond the usual use of the fabric. They respond and adapt to their environment, e.g. taking sweat away from a person’s skin.Learners could also consider the integration of electrical devices, such as heart monitors or GPS tracking systems. |
| **Differentiation** |  |  |
| **Basic** |  | **Extension** |
| * Use body-shaped templates for the costume design.
* Provide sentence starters and CLOSE sentences for design annotations.
* Give a list of pre-existing charities to choose from or select one as a class to focus on.
 |  | * Design a range of accessories to compliment the fancy dress outfit.
* Create a social media advertisement for the London Marathon and the charities being supported.
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| **Resources** |  | **Required files** icon-docicon-pdficon-ppt |
| * Paper
* Pens, pencils and coloured pencils/pens
 |  | icon-ppt Presentation – London marathon costumeicon-pdf Activity sheet – London marathon costume |
| **Additional websites** |  |  |
| * **London marathon homepage:** <https://www.tcslondonmarathon.com/>
* **How Stuff Works – cooling fabrics:** <https://science.howstuffworks.com/innovation/everyday-innovations/cooling-fabrics.htm>
* **Running clothes and fabrics to use:** <https://medium.com/running-for-your-life/your-clothes-matter-the-best-fabrics-for-a-good-run-7feabffd244c>
* **Textiles technologies:** <https://www.dailymail.co.uk/sciencetech/article-2364040>
* **Keeping cool in fancy dress:** [www.greatrun.org/training/keeping-cool-in-fancy-dress/](http://www.greatrun.org/training/keeping-cool-in-fancy-dress/)
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| **Related activities (to build a full lesson)** |  |  |
| **Starters** (Options) * Discuss the London Marathon theme and research its background.
* Produce a mood board of ideas for charity costumes.
 | **Plenary*** Produce a class display of the completed designs.
* Evaluate the designs and suggest improvements.
* Present the designs to the class.
* Self/peer assess the designs produced.
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| **The Engineering Context**  |
| * The London Marathon presents a wide range of opportunities for engineers to work within a real context, from designing the clothing to be worn to technologies that monitor the performance, health and fitness of the participants.
* Textile designers and engineers need to have knowledge and understanding of various types of fabrics, including smart textiles, and how to apply these in different contexts.
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| **Curriculum links**  |
| **England: National Curriculum**Design & Technology* KS2 1a, 1b
 | **Northern Ireland Curriculum**Personal development and mutual understanding* Mutual Understanding in the Local and Wider Community: being aware of their own cultural heritage, its traditions and celebrations; recognising and valuing the culture and traditions of one other group who shares their community.
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| **Scotland: Curriculum for Excellence**Technologies* TCH 2-04c, TCH 2-11a
* I can extend and explore problem solving strategies to meet increasingly difficult challenges with a food or textile focus
* I can use a range of graphic techniques, manually and digitally, to communicate ideas, concepts or products, experimenting with the use of shape, colour and texture to enhance my work.
 | **Wales: National Curriculum** **Primary – Science and Technology*** Design thinking and engineering offer technical and creative ways to meet society’s needs and wants.
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| **Assessment opportunities** |
| * Formal and informal teacher assessment of finished designs.
* Self/peer assessment of finished designs.
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