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| **Ramadan Lantern** | | | |
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| Making a card lantern for Ramadan | | | |
| **Subject(s):** Design & Technology, Mathematics.  **Approx time:** 35 - 55 minutes |  | **Key words / Topics:**   * Ramadan * Fold * Net * Score * Scissors * Light * Lantern | |
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| **Suggested Learning Outcomes** |  |  | |
| * To know what is meant by a net * To know that 3D shapes can be constructed from nets using folds and tabs * To be able to make a simple 3D shape from a 2D net | | |
| **Introduction** |  |  |
| This is one of a set of resources designed to allow learners to use seasonal themes to support the delivery of key topics within design & technology, maths and science. This resource is based on the Islamic period of Ramadan, which is a holy month of fasting, reflection and prayer for Muslims.  This activity introduces the concept and making of nets, in the context of a lantern for Ramadan that can be used to decorate a room. Nets can be used to make three-dimensional shapes from two-dimensional images. This could be used at Key Stage 1 or 2 to introduce nets and develop practical skills. | | |
| **Purpose of this activity**  In this activity learners will use the theme of Ramadan to make a card lantern.  This activity could be used as a main lesson activity, to teach learners about nets and making 3D shapes from 2D forms, contributing to learning in maths and developing skills making graphic products in design & technology.  Additionally, this could be used to start a discussion on the designs and shapes used during Ramadan. | | |

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| **Activity** |  | **Teacher notes** |
| **Introduction (5 minutes)**  Teacher to introduce the activity, to make a card lantern for Ramadan that can be used to decorate a room. Teacher to explain that a 3D shape can be made from a flat piece of card called a ‘net’.  **Demonstration (10-15 minutes)**  Teacher to demonstrate the steps shown in the presentation to make the card lantern:   * Step 1 – Carefully cut out the card lantern template. * Step 2 – Fold the card lengthways and cut off the handle. * Step 3 – Cut out the strips, being careful not to cut too far. * Step 4 – Unfold and the glue the long edge. Join the edges together. * Step 5 – Glue the handle into position. * Step 6 – Insert a light with string and sticky tape. Use either a small torch or battery and a LED. * Step 7 – Hang up the lantern and use it!   **Performing the Activity (15-25 minutes)**  Learners to carry out the activity.  **Plenary (5-10 minutes)**  Learners could show their lanterns to their peers and ask what could be improved. |  | This activity could be done as individuals or in small groups.  Additional guidance for making:   * Accurate folds can be started by using a ruler along the fold line. * To make a ‘sharp’ or precise fold, the card should be fully folded over and pressed along the length of the fold. * If needed, the folds can be scored on to the card using scissors and a ruler. * To ensure the handles are safely secured the teacher could staple them to the lantern. * At step 6, use whatever light source is available. Note that the PP3 9V battery and LED option will be permanently on.   Learners may decorate the Ramadan lantern as time allows. |
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| **Differentiation** |  |  |
| **Basic** |  | **Extension** |
| * The net could be pre-cut to size. * An exemplar could be used to illustrate what the folded net should look like. |  | * Learners add their own designs to the lanterns or use coloured tissue paper to create different effects, for example acting as slot windows or in shapes cut around the rims at the ends. * Learners to use a computer to add designs to the template. |

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| **Resources** |  | | **Required files** icon-docicon-pdficon-ppt |
| * A4 thin card * Sticky tape * Glue sticks * Scissors * Small torch or PP3 9V battery and LED. * String * Optional: Coloured tissue paper (for extension) |  | | Teacher presentation – Ramadan Lanterns  icon-doc Ramadan Lantern handout |
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| **Additional websites** |  | |  |
| * **YouTube** – Ramadan Tradition: Lantern maker in Jerusalem; https://www.youtube.com/watch?v=l8vZpwwrHIY * **BBC Bitesize** – What is Ramadan; https://www.bbc.co.uk/bitesize/topics/zpdtsbk/articles/zjc2bdm * **BBC Bitesize** – What are nets? - https://www.bbc.co.uk/bitesize/topics/zt7xk2p/articles/z247tv4 * Index page on nets at technologystudent.com – useful to provide teachers with a thorough understanding of nets and also includes printable worksheets <http://www.technologystudent.com/despro_flsh/graphics_dev1.html> | | | |
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| **Related activities (to build a full lesson)** |  | |  |
| **Starters** (Options)   * Watch **Youtube video clip** – Ramadan tradition: Lantern maker in Jerusalem: https://www.youtube.com/watch?v=l8vZpwwrHIY. * Discuss Ramadan and introduce with **BBC Bitesize** – What is Ramadan; https://www.bbc.co.uk/bitesize/topics/zpdtsbk/articles/zjc2bdm * Product analysis – show a box used for packaging and ask how pupils think it is made. | | **Extension** (Options)   * Learners add their own designs to the lanterns or use coloured tissue paper to create different effects. * Learners to use a computer to add designs to the template.   **Plenary**   * Peer review of the completed lanterns. | |
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| **The Engineering Context** film | | |
| * Nets are used to make almost all forms of card packaging, ranging from simple cereal boxes to display boxes with clear polymer ‘windows’, to display stands. A large supermarket may contain hundreds of thousands of different nets! | | |
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| **Curriculum links** | |
| **England: National Curriculum**  Design & Technology Key Stage 1  Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]   Mathematics  KS2 Geometry   * recognise, describe, and build simple 3-D shapes, including making nets. | **Northern Ireland Curriculum**  The Arts / Art and Design Key Stage 1  use modelling and construction techniques to make three-dimensional work, for example, experiment with cutting, folding and joining methods to make a model building from thick paper or thin card.  KS2 – Mathematics and Numeracy  Shape and Space  build and make models with 3D shapes; create pictures and patterns with 2D shapes. |
| **Scotland: Curriculum for Excellence**  Craft, Design, Engineering and Graphics  Design and construct models/products   * TCH1-09a I can design and construct models and explain my solutions   Representing ideas, concepts and products through a variety of graphic media   * TCH 2-11a 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.   Application of Engineering   * TCH1-12a I explore and discover engineering disciplines and can create solutions.   Numeracy and Mathematics  Shape, position and movement  Properties of 2D shapes and 3D objects   * MTH 2-16 Through practical activities, I can show my understanding of the relationship between 3D objects and their nets. * MTH 2-16b Through practical activities, I can show my understanding of the relationship between 3D objects and their nets. | **Wales: National Curriculum**  Mathematics  KS2 – Using geometry skills   * construct solids from given nets.   Design and Technology Key Stage 2  Making   * 1. work to their specification/recipe to make products * 3. measure, mark out, cut, shape, join, weigh and mix a range of materials and ingredients, using appropriate tools/utensils, equipment and techniques   Range   * tasks in which they explore and investigate simple products in order to acquire technological knowledge and understanding that can be applied in their designing and making * tasks in which they develop and practise particular skills and techniques that can be applied in their designing and making |
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| **Assessment opportunities** |
| * Informal formative assessment of the making activity, summative review of the completed lanterns. |