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| **Design a rangoli/kolam** | | | |
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| Exploring designs, patterns and materials | | | |
| **Subject(s):** Design and Technology, Art and Design, Religious Education  **Approx time:** 50-90 minutes |  | | **Key words / Topics:**   * colour * Diwali * material selection * patterns * prints * rangoli * kolam * sand |
| **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 understand the characteristics of rangoli/kolam patterns. * To be able to make a rangoli/kolam pattern using sand and other materials. * To be able to add detail and colour to their design. | | | |
| **Introduction** |  | |  |
| This is one of a series of resources designed to allow learners to use the theme of Diwali to develop their knowledge and skills in Design & Technology and Art. This resource focusses on understanding the characteristics of, and making, rangoli/kolam patterns using sand and other materials.  Rangoli/kolam patterns are bright and colourful designs used by Hindus throughout Diwali, which is known as the festival of light. The pattern is placed to welcome the Hindu Goddess Lakshmi (the goddess of wealth) into a house and is thought to bring good luck. Can you make a rangoli/kolam pattern for use during the festival celebrations? | | | |
| **Purpose of this activity**  In this activity, learners will make a rangoli/kolam pattern for use in the Diwali celebrations. They will first consider the purpose and characteristics of these patterns. They will then create their own pattern using sand, adding colour and detail.  This could be used as a one-off main lesson activity to develop understanding and skills when working with patterns and colour. Alternatively, it could be used as a part of a wider scheme of work to develop designing and making skills in Design & Technology and Art, or to build links with Religious Education. | | | |
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| **Activity** |  | | **Teacher notes** |
| **Introduction and what is a rangoli/kolam pattern? (10-20 minutes)**  Teacher to introduce the activity and resources required. Teacher to explain what is meant by a rangoli/kolam pattern, how it links to the Diwali theme and their main characteristics.  Teacher to explain that learners are going to make their own rangoli/kolam pattern for use during the Diwali celebrations.  **Making the rangoli/kolam pattern (30-50 minutes)**  Teacher to demonstrate steps shown below and on the presentation. Learners to then follow these steps to produce their own pattern.   * Creating a rangoli/kolam pattern from sand - print out the chosen design. Using coloured sand, create a small pile on the central feature (circle). Use the end of a paint brush to move the sand into a circle. Using a small spoon, add small piles of sand to the surrounding petal shapes. * Building up the detail - add further sand in contrasting colours. Shape the piles of sand to form interesting shapes by dragging it using the end of a paint brush. Work from the centre outwards on the pattern. * Adding more detail - add sand in contrasting colours in lines, by very carefully pinching then dropping a few grains at a time. Add sand and use the end of a paint brush to make circles. As a finishing touch, add a contrasting colour to the centre circle.   **Alternative materials (10-20 minutes)**  Discuss alternative materials that could be used to make rangoli/kolam patterns e.g., tissue paper. The extension activities shown in the presentation explores ways of using these to make alternative pattern designs. |  | | **Introduction**  The teacher may wish to introduce or discuss the wider theme of Diwali prior to learners completing this activity.  Examples of rangoli/kolam patterns can be downloaded and printed from several internet sites, such as <https://www.activityvillage.co.uk/rangoli> (listed in the additional websites).  **Making the pattern**  The instructions for making are based on the example pattern shown on slide 4 of the presentation.  Encourage learners to be creative when adding detail and colour to their pattern. Ensure they have sand in different contrasting colours to use.  If using the extension activity to take a print of the sand pattern, an alternative to the very light coating of PVA is the use of spray adhesive (spray mount). This should only be used under appropriate supervision and in accordance with the schools COSHH assessment. |
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| **Differentiation** |  | |  |
| **Basic** |  | | **Extension** |
| * Provide templates to aid with the design of the patterns. * Provide examples of existing pattern designs to copy and improve upon. |  | | * Take a print of the sand pattern. * Explore rangoli/kolam designs using alternative materials, such as tissue paper. * Use coloured pens and stickers to further embellish the design. * Design a fractal pattern and research more complex fractal designs. |
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| **Resources** |  | | **Required files** icon-docicon-pdficon-ppt |
| * Pattern templates on paper. * Sand in different contrasting colours. * Paint brush. * Different coloured tissue paper. * Glue. * Coloured pens and stickers for added embellishments. |  | | Presentation – rangoli/kolam |
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| **Additional websites** | | | |
| * **Wikipedia – Diwali:** Information about the Diwali festival and its history. <https://en.wikipedia.org/wiki/Diwali> * **Activity village – Rangoli/kolam:** rangoli/kolam craft resources, including colouring pages and patterns that can be used with learners. <https://www.activityvillage.co.uk/rangoli> * **Twinkl – Rangoli/kolam patterns:** <https://www.twinkl.co.uk/teaching-wiki/rangoli-pattern> | | | |
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| **Related activities (to build a full lesson)** |  | |  |
| **Starters** (Options)   * Research and discuss the history and traditions associated with Diwali. * Analyse existing examples of rangoli/kolam patterns and evaluate their characteristics. | | **Plenary**   * Learners share their completed patterns with the class. Discuss what went well and how they could improve their designs. * Self/peer assess the patterns produced. | |
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| **The Engineering Context** | | | |
| * Engineers need to understand the importance of aesthetics and colour when designing and producing products. This allows them to produce solutions that are visually appealing to users. | | | |

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| **Curriculum links** | | |
| **England: National Curriculum**  Design & Technology   * 1a, 1d, 2b, 3d   Art and Design   * KS3 to use a range of techniques and media, including painting to increase their proficiency in the handling of different materials.   **Religious Education**  Although RE is compulsory in state-maintained schools, there are no set national curriculum requirements. This activity could however be used to support its teaching. E.g., when looking at different religious festivals.  **Scotland: Curriculum for Excellence**  Technologies   * TCH 3-09a, 3-11a.   Expressive Arts   * EXA 3-02a, 3-03a. | **Northern Ireland Curriculum**  Technology & Design   * KS3 skills – Designing 2, 3.   Art & Design   * KS3 knowledge, understanding and skills - developing creative thinking skills and personal creative outcomes through investigating, realising, designing and making. * KS3 developing pupils as contributors to society - Explore the diversity of various cultures that are expressed through Art & Design.   **Wales: National Curriculum**  Design and Technology   * KS3 skills – Designing 2, 3.   Art and Design   * KS3 skills – Understanding 2. * KS3 skills – Making 1, 2, 3. | |
| **Assessment opportunities** | |
| * Formal teacher summative assessment of completed rangoli/kolam patterns. * Informal assessment by teacher of practical skills used. * Self/peer assessment of patterns produced. | |