Symmetrical poppy designs challenge

poppyscotland
Learning
Sowing the Poppy seed

Teacher's notes

The big question
What is the significance of the Poppy?

Level
Second

Experiences and outcomes
When I engage with others, I can respond in ways appropriate to my role, show that I value others' contributions and use these to build on thinking. **LIT 2-02a**

I can illustrate the lines of symmetry for a range of 2D shapes and apply my understanding to create and complete symmetrical pictures and patterns. **MTH 2-19a**

I can explain how different methods can be used to find the perimeter and area of a simple 2D shape or volume of a simple 3D object. **MNU 2-11c**

Having investigated where, why and how scale is used and expressed, I can apply my understanding to interpret simple models, maps and plans. **MTH 2-17d**

Additional resources
Poppy seeds symmetrical poppy design resource – below

'Preparing the planting area & charting your poppy seeds growth' lesson plan – this is available on our Poppyscotland Learning website via this link: http://learning.poppyscotland.org.uk/resources-category/education and could be completed with pupils after this lesson.

Introduction
Having worked through first level numeracy outcomes your children will have met symmetry before. However, using simpler 2D shapes check their understanding of symmetry and ask them to draw some simple symmetrical shapes using square paper.

Ask the children to draw a symmetrical representation of a poppy flower. The children can then calculate the area of their individual design by counting the whole and half squares. You can then challenge them to make poppies with greater and/or smaller areas.

'Poppy symmetrical poppy design resource' is an example of how a symmetrical poppy may look. As the children are getting to choose the size of poppies they create these can be coloured in, cut out and then arranged to create a display of symmetrical poppy flowers.

Having calculated the area of the poppy shapes the children can then begin to explore scale in order to create a poppy shape planting space within the school garden for either their own class or for the whole school to use to plant their poppy seeds.

It could be designed so that each class has a petal in which to plant their individual poppies. The children should explore scale and a simple scale could be 1cm = 1 metre. However, the scale will depend upon the garden space available. The children will, therefore, have to be involved in making measurements within the garden in order to choose the correct scale.

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Poppy seeds symmetrical poppy design resource

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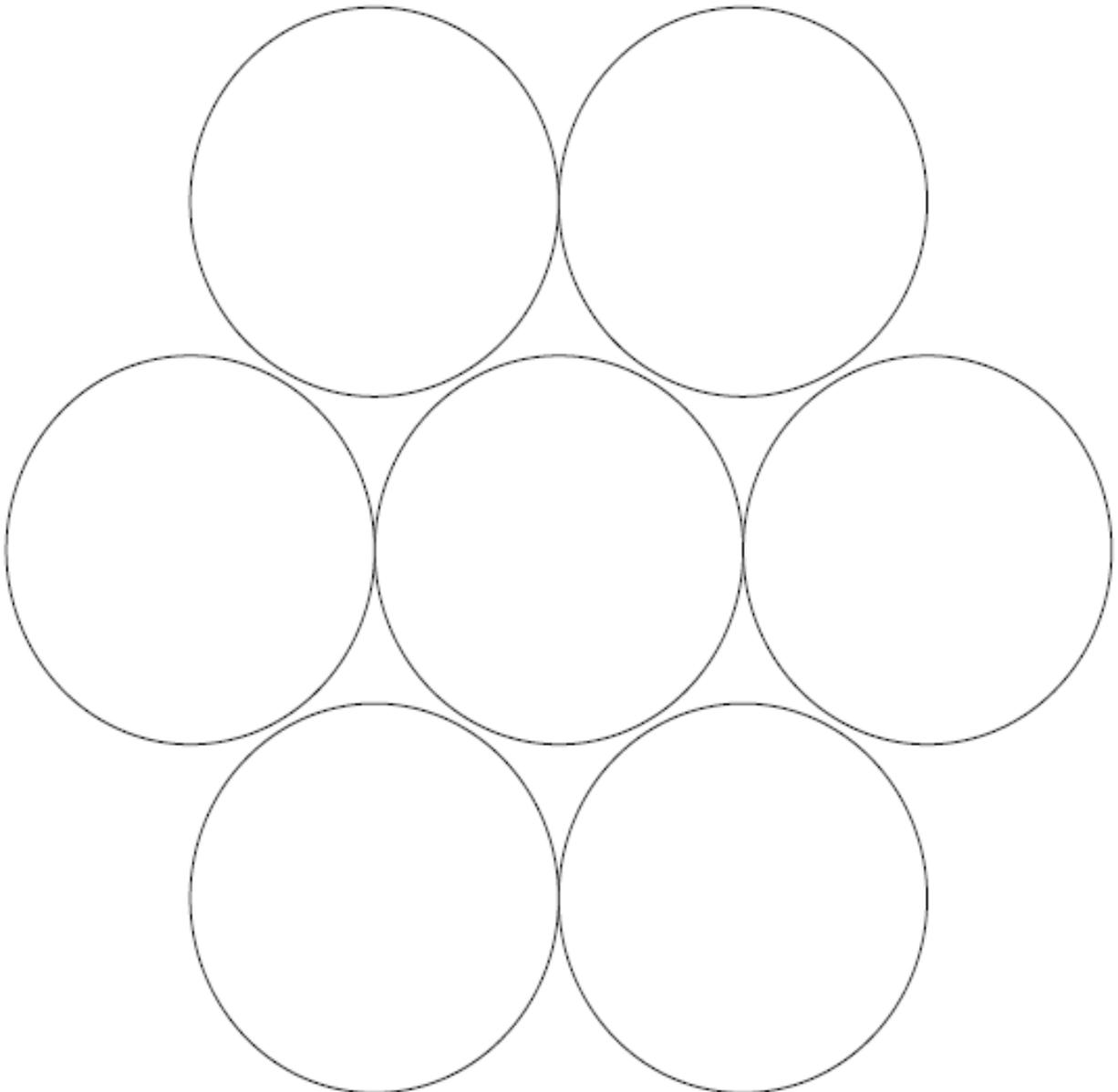
Your challenge

The poppy flower is the symbol associated with Remembrance Day or Armistice Day and represents remembrance and new life growing where destruction has taken place. Your task is to combine your mathematical skills to create three 2D symmetrical representations of this symbol, each with a different area.

Learning intention

- I am learning to draw a symmetrical representation of a poppy flower and calculate the area of that design.

Success criteria

- Use 1cm square paper.
- Each petal of the poppy must have the same area.
- Your design should include a stem.
- Use a ruler and compass when necessary.

Follow up task

With your class share your design then vote on the best design which meets the success criteria.

The chosen design is then going to be made into a planting section within the school garden to sow poppy seeds.

To do this, work in pairs using a photocopy of the chosen design and set a scale, for example 1 cm square = 50 cm/0.5metres. Once you have decided upon your scale, mark it out in the garden area – your teacher will demonstrate how to do this first. Each pair will do this with a different scale and the most appropriate scale will be chosen.

Success criteria

- Work collaboratively with your partner.
- Decide upon a scale from centimetres to metres.
- Mark out the design to your chosen scale using appropriate measuring tools.

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Peer marking exercise / self-assessment

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Experiences and outcomes

☐ I can mark out a design using a scale. **MTH 2-17d**

☐ I used my scale drawings to help me design a planting area. **MTH 2-17d**

☐ I applied my understanding of symmetry by drawing symmetrical poppy flowers. **MTH 2-19a**

☐ I took accurate measurements of my designs. **MNU 2-11a**

☐ I calculated the area of my designs. **MNU 2-11a**

What I did best:

I am still working on: