More artistic triangles Four serigraphs

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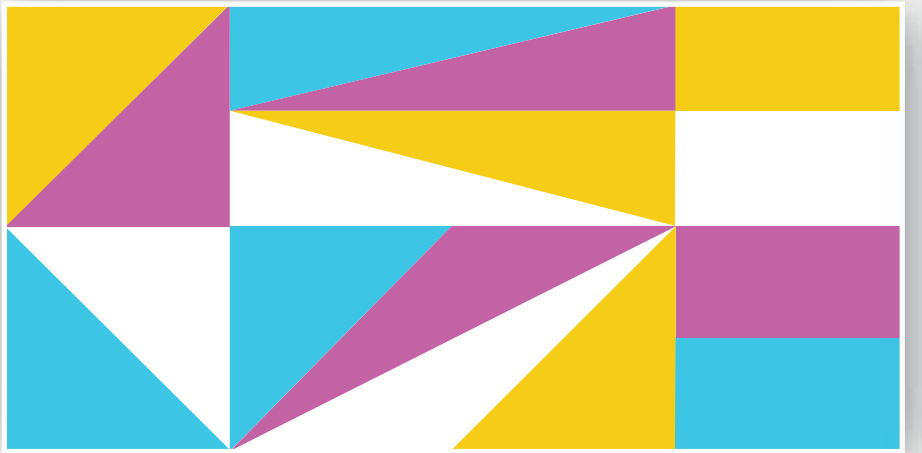

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Each of these serigraphs uses four colours.

Use what you know about the **area of a triangle** to **prove** that each colour is of **equal area**.

Make a design of your own using **four colours** and equal areas.

More artistic triangles Four serigraphs (A)

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More artistic triangles Four serigraphs (B)

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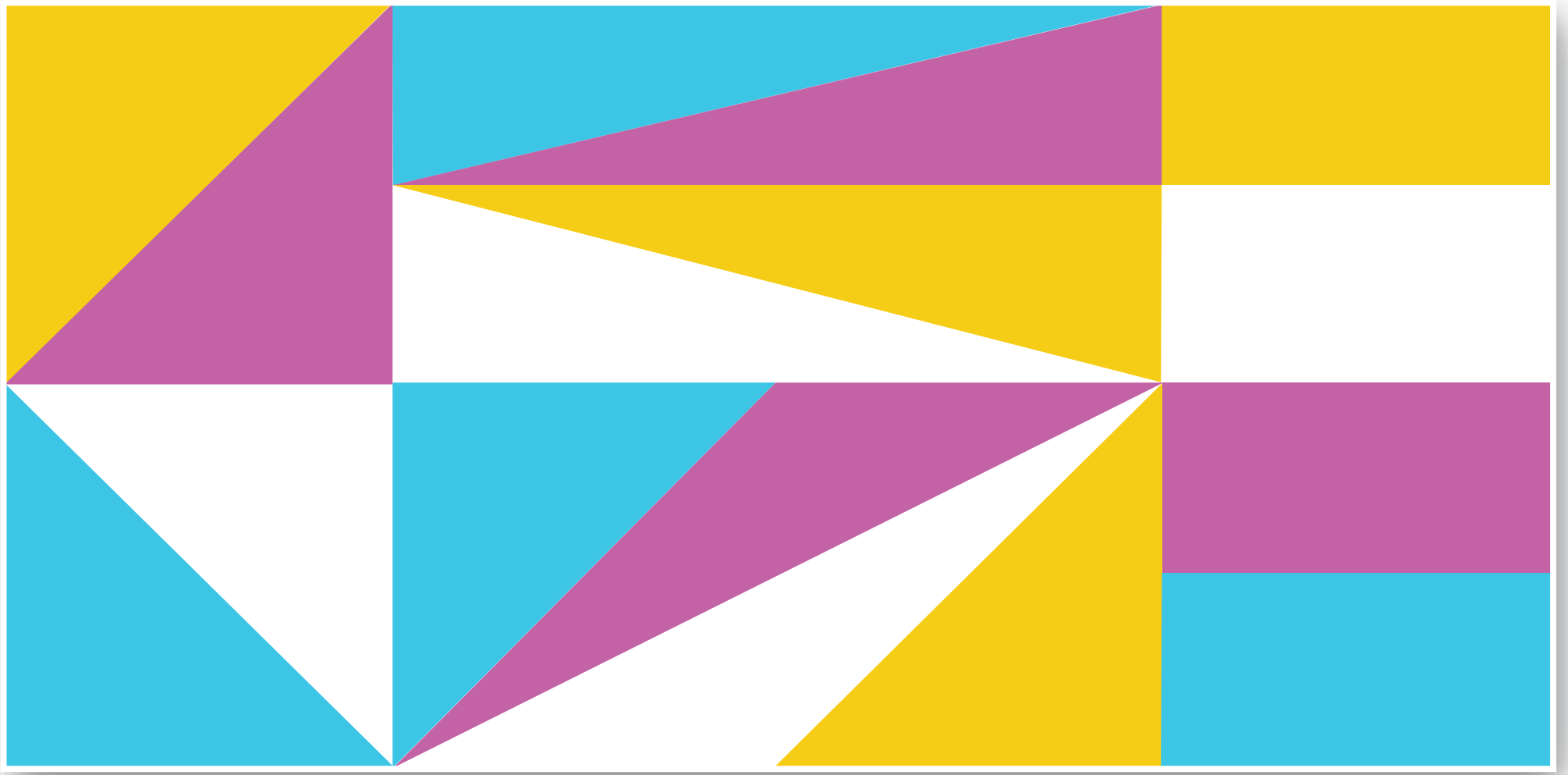
More artistic triangles Four serigraphs (C)



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More artistic triangles Four serigraphs (D)

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More artistic triangles

Mathematical activities

Four serigraphs.

Topic

This topic follows on from **Artistic triangles** and provides an opportunity for consolidating and deepening the work on triangles and, according to the knowledge and strengths of the pupils, other polygons as well.
The topic includes both geometric and algebraic thinking.

Careers link-up

You can use the video clips detailed below at the beginning of this extended project or between the two topics or at the end.

Planning for teaching – some suggestions

Artistic triangles will have provided rich opportunities for pupils to work with triangles of equal areas including revisiting the formula for the area of a triangle. Four serigraphs builds on this. Provide each small group of pupils with a laminated copy of **Four serigraphs (A), (B), (C) and (D)**, preferably photocopied onto A3 for ease of working and sharing their ideas. Ask them to find a variety of arguments to prove that the coloured areas are all equal. Ask each group to share their conclusions with the rest of the class.

This prepares the way for the second part of the topic: creating their own design. Before beginning their own designs discuss with the pupils the role of symmetry and asymmetry in **Four serigraphs (A), (B), (C) and (D)** – which designs do they find most pleasing and why? How do the four different designs work differently in term of mood? What role does the balance of colour play in their appreciation of the serigraphs?

If the topic is taught as cross curricular this part of the topic may take place in specialist art space. But it is perfectly possible to carry out the work within a mathematics classroom setting. Provide a variety of materials to work with and encourage the pupils to experiment and to make choices. Providing scissors and equally sized rectangles of brightly coloured paper works well as does using squared paper and felt tip pens – encourage the drafting and reviewing stages and allow time for this. Pupils can choose a final design to be executed with more care for display.

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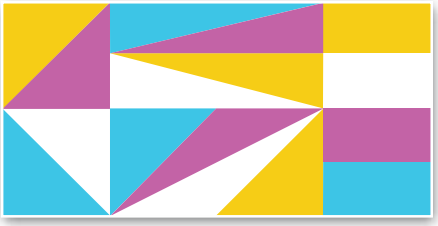

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Careers link-up

If you look up Max Bill on Wikipedia – you can see he was an architect, painter, artist and designer – and he started with an apprenticeship as a silversmith and went on to work alongside many famous artists.

Creative Choices is the sector skills site for Creative and Cultural skills careers **http://www.creative-choices.co.uk/index.php**

Watch these two short film clips and ask the question: what business and professional skills are important to designers and artists taking up this career now?

http://www.creative-choices.co.uk/knowledge/inside-story/five-things-design-student-should-know

http://www.creative-choices.co.uk/knowledge/inside-story/visual-arts/video-surviving-as-an-artist

Want to know more?

Contact STEM Subject Choice and Careers

info@careersinstem.co.uk

The Centre for Science Education
Sheffield Hallam University
City Campus, Howard Street
Sheffield S1 1WB

Tel: 0114 225 4870

A Department for Education initiative to promote subject choice and careers in Science, Technology, Engineering and Maths (STEM) delivered by the Centre for Science Education at Sheffield Hallam University and Babcock.

or for more information on careers go to Maths careers at www.mathscareers.org.uk/
or Future Morph at www.futuremorph.org/<http://www.futuremorph.org/