***Geometry Task 4***

**Problem Solving**

**Making your own protractor:**

A protractor is a tool for measuring angles. By making your own protractor you can demonstrate your understanding of angles and your reasoning to draw them with their own self-made tool.

A protractor can be easily made by folding paper to make different angles.

**THE PROBLEM**: You need to accurately draw shapes with the correct angle, but you don't have a protractor.

1. View the video: *The amazing 'angle-a-tron'* which gives you some very good clues to begin with.
2. Draw a shape for each angle:

* 90°, 60°, 30°, 45°, 22.5°, 11.25°, 150°, 135°

1. How many more different angles can you make by folding paper?

Create a display of angles drawn and shape patterns created using an *'angle-a-tron'.*

# The amazing 'angle-a-tron'

<https://education.abc.net.au/home#!/media/1003966/>

# ***Geometry Task 3***

# ***Stain-Glass Geometry***

1. Using coloured paper, create geometric shapes to fill the page to create a ‘stain-glassed window’ look.
2. Use crayon to colour each of the sections leaving a very small border around each shape so the colour of the paper can be seen.
3. \*\*You might like to try an create a stain glass with your name inside.
4. When you have finished, give it to the teacher to create a big mural of stain-glass fo the classroom! ;)

A picture containing photo, covered, painted, computer

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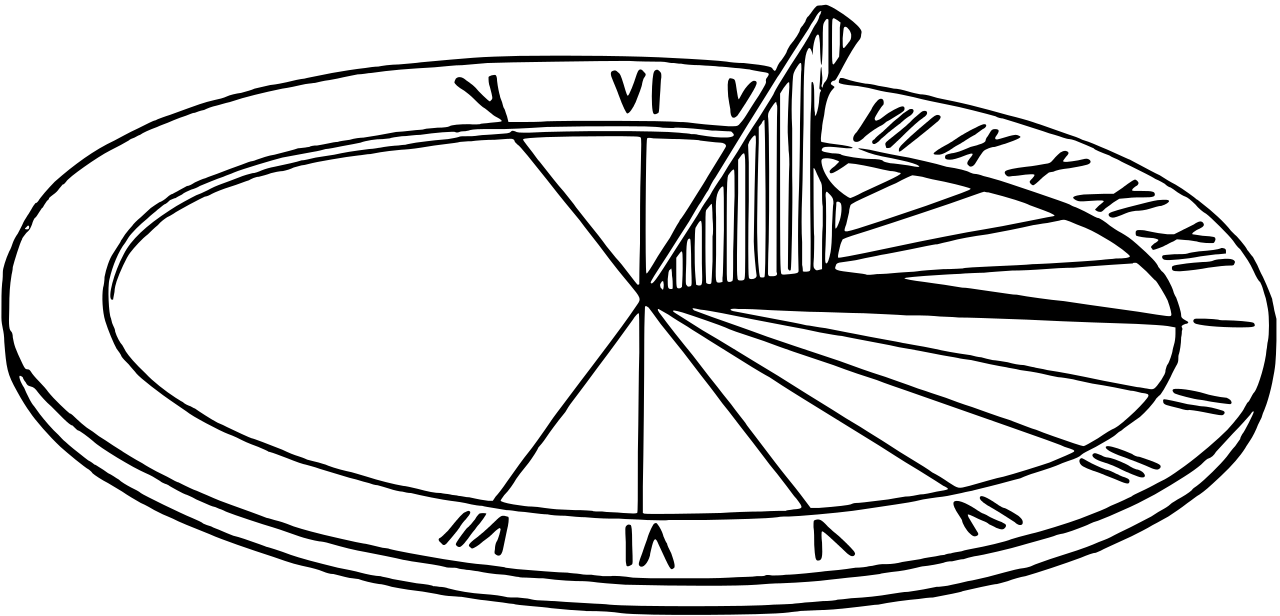
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***Geometry Task 5***

***SUNDIAL INVESTIGATION***

1. Read the booklet about the History of Sundials. You are ***not*** expected to know, understand or learn it all BUT, it demonstrates how geometry mathematics was used to develop items we use and rely on every day – a watch or a clock!
2. Use the instruction sheet to make the sundial and answer the questions on the sheet!
3. You need to test the sundial so negotiate with your teacher a good time to do so.
4. Find 1 other type of sundial that you could make! – you’ll need to research or get creative.



[This Photo](https://commons.wikimedia.org/wiki/File:Sundial_(PSF).svg) by Unknown Author is licensed under [CC BY-SA](https://creativecommons.org/licenses/by-sa/3.0/)

# ***Geometry Task 7***

Origami

**Origami**. The Japanese art of **paper folding** is obviously geometrical in nature.

A close up of a map

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EXAMPLE OF GEOMETRY AND ORIGMAI

1. See if you can follow the instructions to make this origami jumping frog!
2. You will find paper with your teacher.
3. Have fun!

***THE ORIGAMI JUMPING FROG***

A close up of text on a white surface

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A close up of a piece of paper

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A screenshot of a cell phone

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