

TESSELLATIONS IN WORD

Colin Foster and pupils from 7FR and 8ML at King Henry VIII School, Coventry, create some eye-catching tessellations using *Microsoft Word*.

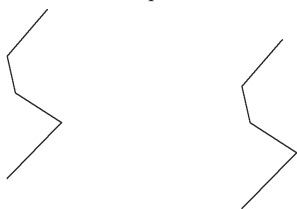
Tessellating in Word¹

1 Load *Microsoft Word* and locate the Drawing toolbar. (You may need to go *View – Toolbars – Drawing*.)

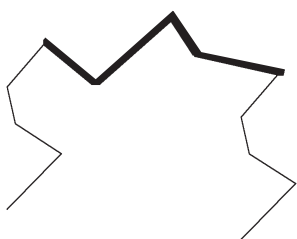
2 Use the line tool to draw a jagged line such as this: (You can of course use curves if you wish but it's easier to start with straight lines.)



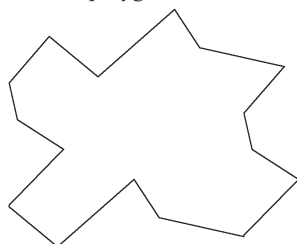
3 Copy and paste the same piece some way to the right and a little up or down.



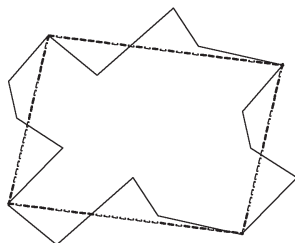
4 Join the tops of the two pieces with another jagged line (shown thicker here).



5 Copy this new top piece and paste it at the bottom. It will fill the gap to make a closed polygon.



This shape *has* to tessellate, because it's based on a parallelogram (dashed).

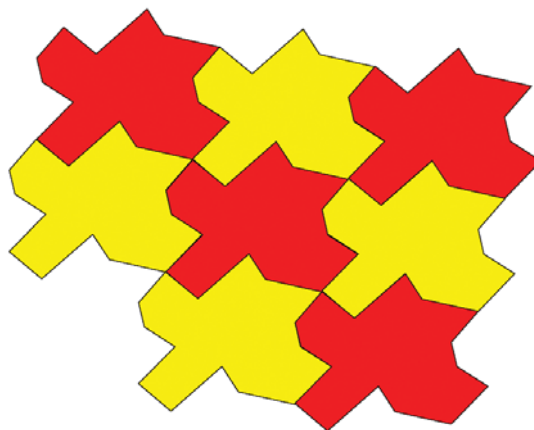


Because parallelograms tessellate, the shape we have created must tessellate.

6 Later on we want to colour in our shape. To be able to do that in *Word* you need to make your drawing into one shape. 'Grouping' isn't good enough; you need to use the *Freeform* tool from the *Autoshapes – Lines* menu. Click this tool and then go round the vertices of your shape in sequence until you get back to the vertex where you started. This creates a new shape identical to yours. Then delete your original shape. The difference is that your new shape can now be filled with colour or any other fill effects that you want to use. Double click the shape and choose a colour.

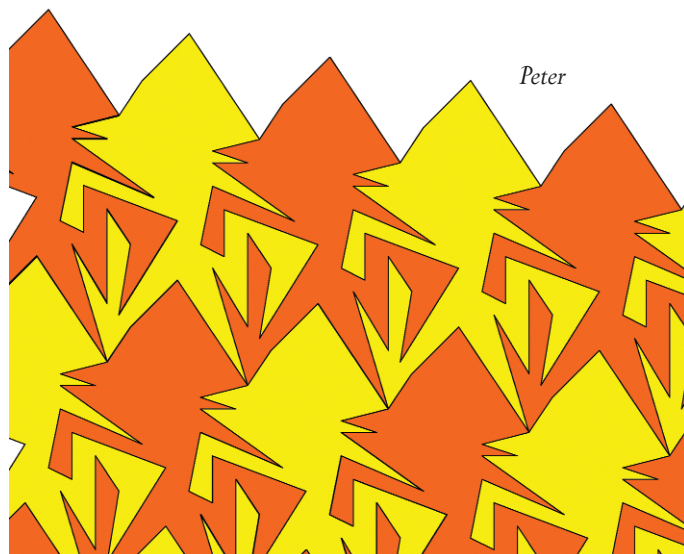


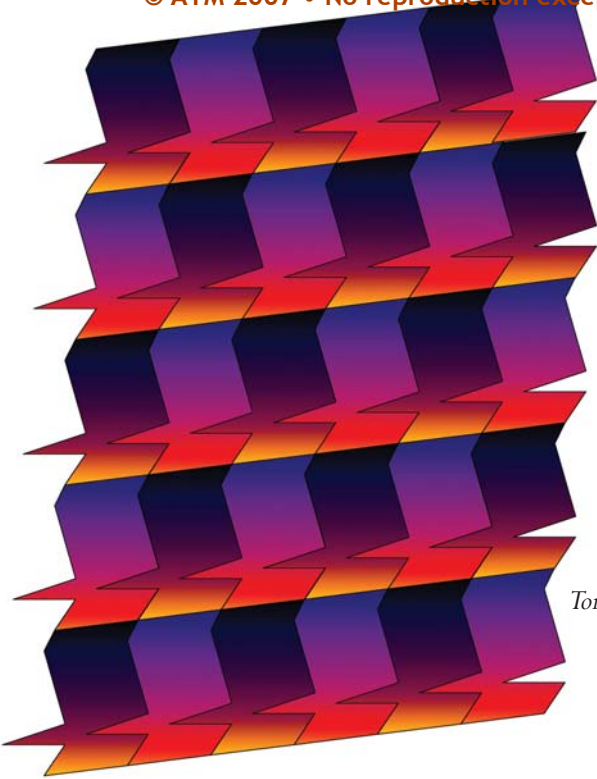
7 Copy your shape lots of times and fit them together. The colouring looks attractive if you use just two colours and alternate them as below.



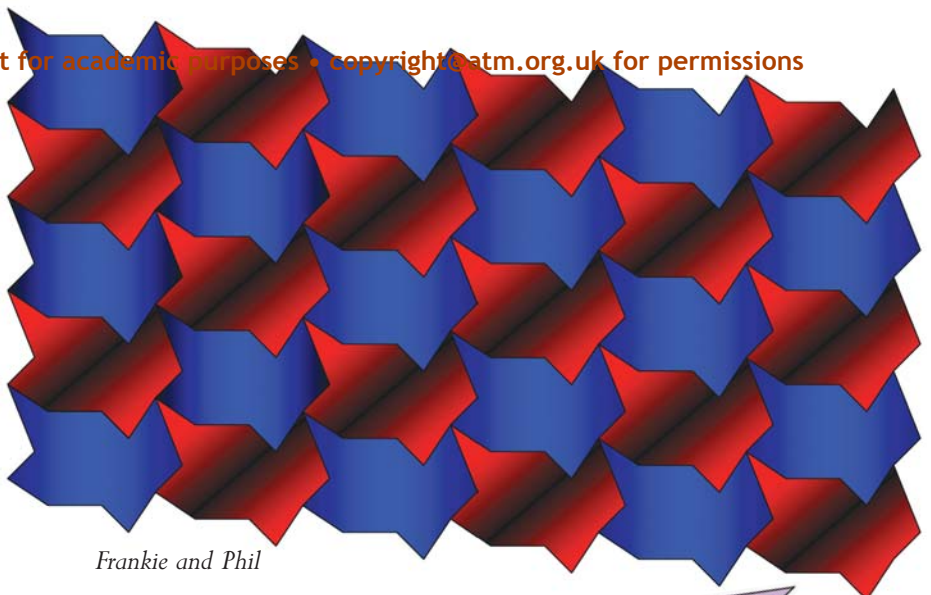
8 You could try to design a shape that looks like something: a person, an animal, etc. It's harder than you think!

Maurits Cornelis Escher (1898-1972) used this sort of technique by hand to make his magnificent drawings. See www.mcescher.com – go to 'picture gallery' and then 'symmetry'.

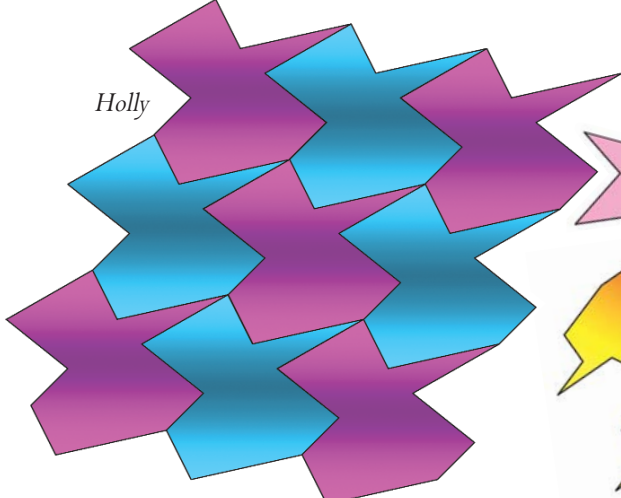




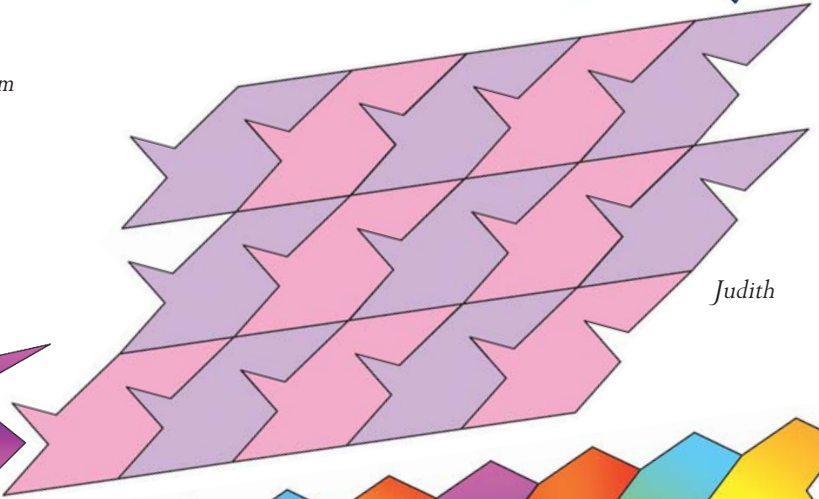
Tom



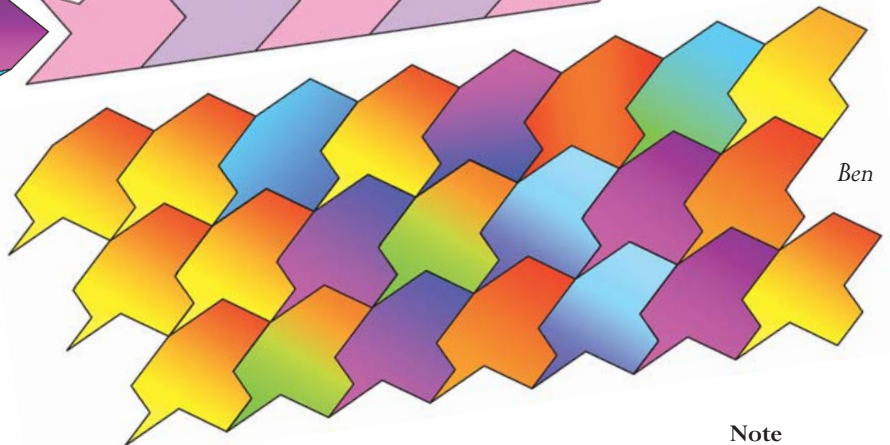
Frankie and Phil



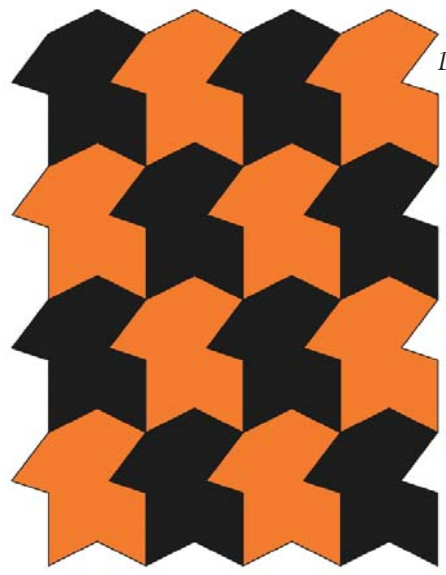
Holly



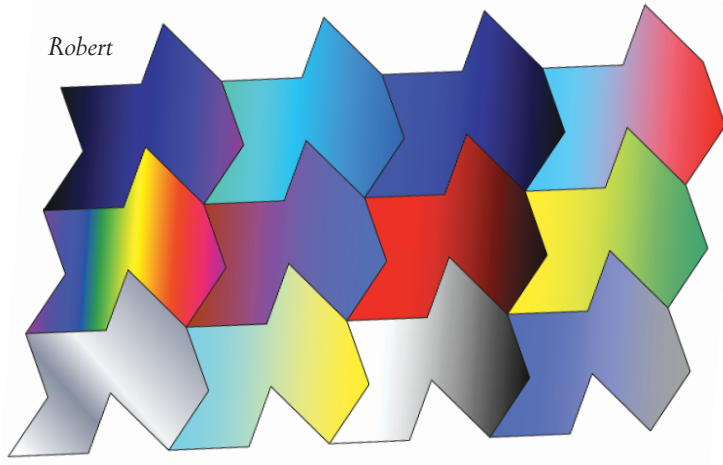
Judith



Ben



Dominic



Robert

Note

1 A Microsoft Word worksheet version of these instructions is available at www.atm.org.uk/mt/, where you can also find instructions from James Robinson on how to do the same thing using Paint.

Acknowledgement

Colin Foster first heard this idea from Carl Elliott, Cirencester Deer Park School.

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