

Zatah

23/11/21 Optional

To finish over the Christmas holidays. Taken from rich.maths.org

Make Those Bracelets

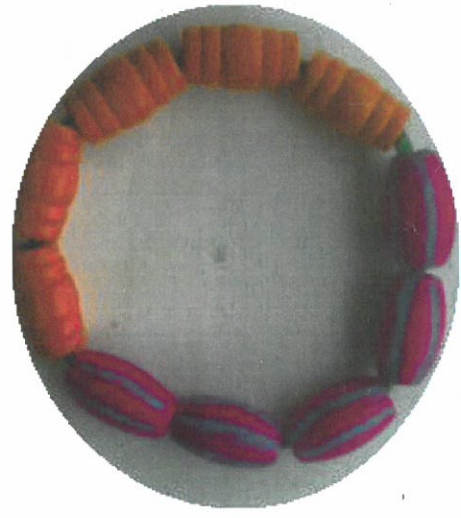
Age 7 to 11
Challenge Level

Mrs Everett

Here are two pictures of children and parents in Africa making bracelets. They have lots of colourful beads to choose from.

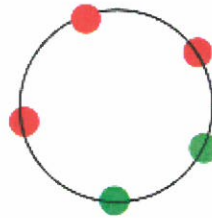
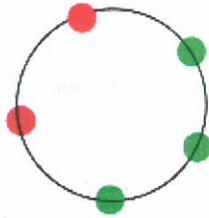


Let's think about making a bracelet using two different colours of beads. The smallest bracelet will have two of each colour and the largest five of each colour.



The challenge

Find all the ways of arranging four beads and then five beads on the bracelets, each time using just the two colours. Be careful not to have any arrangements the same! These two will be counted the same, as they are both 3 of one colour and 2 of the other colour.



Can you convince others that you have found them all?

Try this next for six, seven, eight, nine and ten beads.

Final Challenge

A new person joins your group and wants to make bracelets.

Can you put on paper for them some guidance so that they have a system to make sure that they find them all and know how to avoid repeats?

Very hard! Try new possibilities you have to try different patterns and arrangements it takes a long time but it is fun! if you start from 1 and the rest it's easier, ~~and diff~~ when you think your done **YOUR NOT** and just keep trying different ones until your finally done, you will

2 3 1 1 2 1

red red red red 1.

Brow red Brow red 1.

red red B B

red Brown Brown Brown 1.

B r r r

B r 0

red red Red red red 2.

Brow red red red red 2.

red red Red Brow Brown 2.

~~Brow red Brow red Red 2.~~

A good start, Zarah.

Well done.

B B B B B B 3

B B B B B R 7

B B B B R R

B B B R R R

~~B B R R R R~~

~~B B R R B R~~

B B B B B B

B B B B B R

B B B B B R R

B B B B R R R

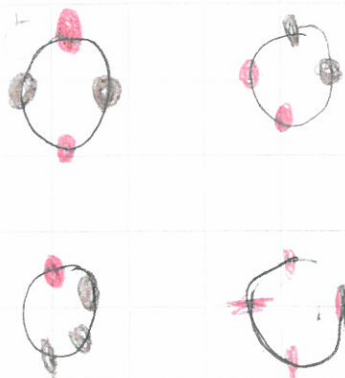
~~B B B R R R R~~

29.11.21 You have made a big jump of understanding. Well done!
* Keep persisting *

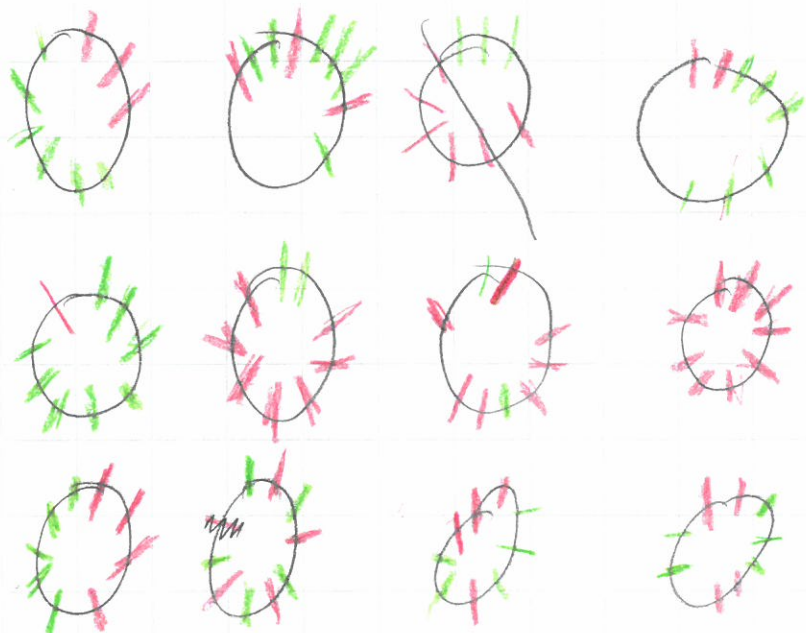
14.12.21

It is excellent seeing your mathematical thinking and process improve. Well done.

4 Beads



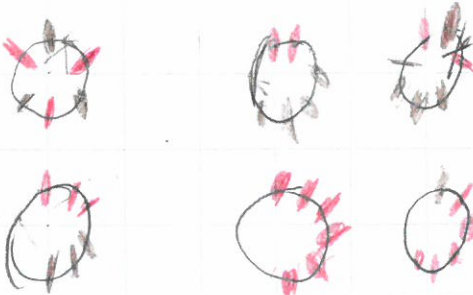
9 Beads *



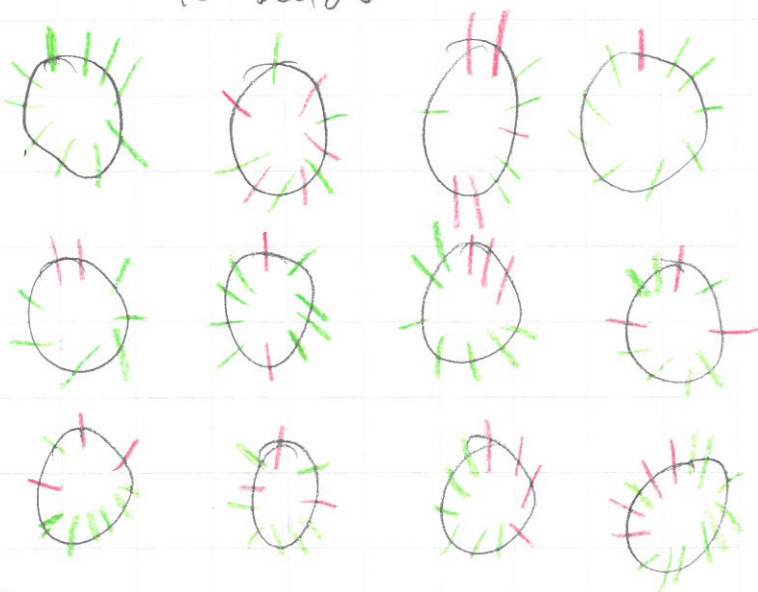
5 Beads



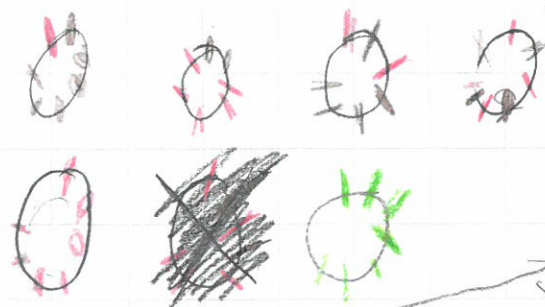
6 Beads



10 Beads



7 Beads *



8 Beads *

