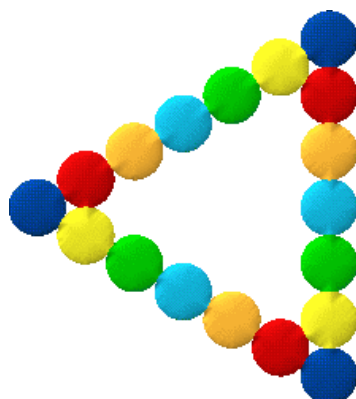


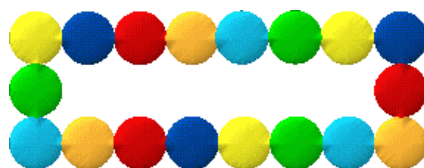


I was making bracelets with 18 beads, and I found I could put them into different shapes:

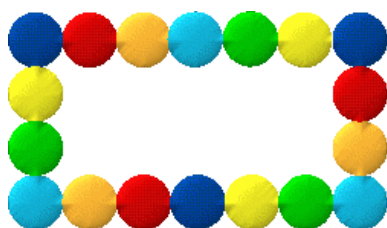


Now suppose we play around with this idea and make a rule that there has to be some shaped hole in the middle for a wrist. But we'll allow that to be all kinds of shapes: vaguely triangular, rectangular, hexagonal etc.

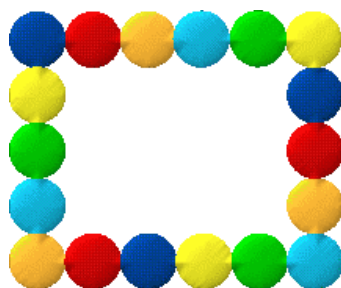
Here are some more that I found with 18 beads:



I liked that one as it is the longest rectangle you could make - remembering to keep a wrist-hole. I then went on to make:



and then, almost a square:





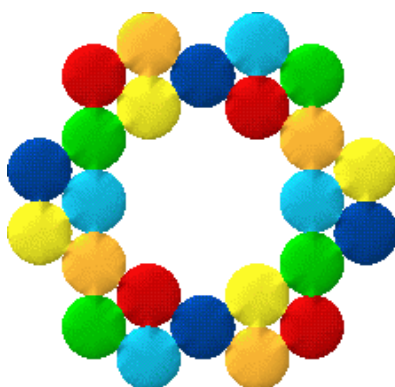
I like the next one - although it was a little hard to do on the computer!



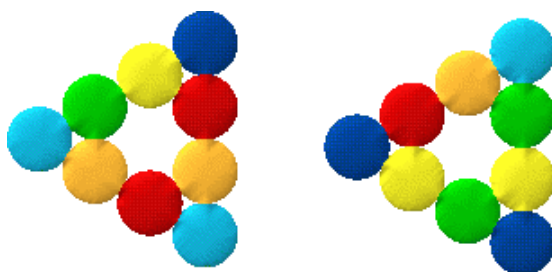
Have a go at making these with your circles!

I then moved on to 24 circles - it seemed to be a "good" number to choose - I wonder why?

I managed to get this shape:



But then I thought that since I had 24, perhaps I could make two that were exactly the same. So there's a new rule: You can make more than one bracelet as long as they're both the same.



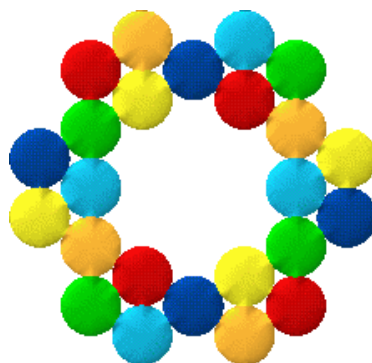
Well, now it's time to explore, to see what other bracelets you can make. Remember that there's to be a "wrist-hole". The shapes should be kind of "regular" but not strictly so, because then we could not use rectangles.



Other things to investigate:-

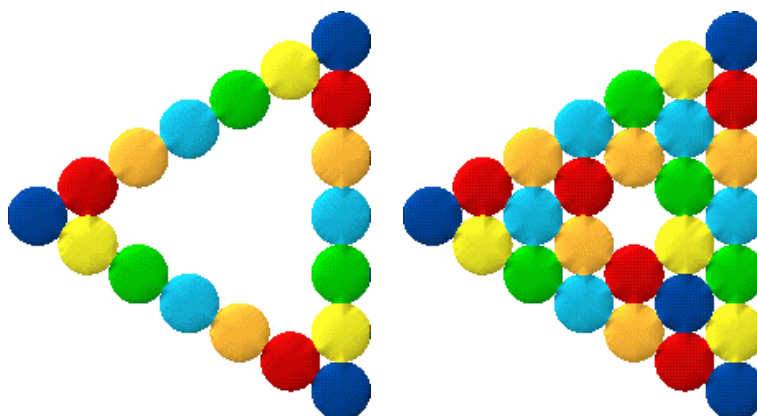
1. If you make a particular shape with 18 and then the next size up comes when you use 24, is there going to be the next size up at 30?

So whatever shape you make, how many will you need to make the next size up? How does each shape grow? Look at the first shape I made using 24:-



What will the next size up of this look like?

2. What are good numbers of beads to use? Why?
3. What's the smallest number of beads that will allow you to make two identical bracelets? Why? How many will you need to make three of those?
4. If you make a bracelet with just one thickness of beads then how many will you need to make one that has a double thickness? Here's one I did by making the wrist-hole smaller and getting it to be twice as thick:



5. Would cube beads lend themselves to exploring slightly differently? What about tetrahedral beads?
6. What about ...?