

School/ Name: Eleanor Palmer Primary School, Natalie Stevenson

Heading: 100 Snowflakes & Faces!

TfM Big Idea(s):
REPRESENTATION

Summary of initiative:

Working with a Y1 class half way through the year, I aimed to increase their sense of the 'manyness' of 100, and how it can be built in different ways, using Cuisenaire rods, calculators and imagination!

- The children had used rods at the start of the year to build small trains, and had some experience of different colours being worth different amounts.
- We began with an exploratory lesson building snowflakes with rods. The aim was to make one worth 100 exactly. After initial suggestions of ten tens, this was banned as too boring!
- Calculators were at the front of the room and they were free to use these. Mini-plenaries drew attention to some children recording their sums and then one child grouping numbers together before adding.
- A second lesson was planned to build from one child's starting point – let's build 100 first (on a base board) and then make a face with it. Children still wanted to add up the rods and check the value of their face anyway! Much more success this time!
- Additional challenge was given in the form of... 'What if I said make your face 105? What if 97? How would you adjust it?'



Key learning and impact:

- **Unitisation** - Children had multiple experiences of building 100 using different units
- **Exchange** – Children explored what happened if they swapped tens rods for others
- **Adjusting** – Some children set their own challenge of making the snowflake/face symmetrical. This meant that they had to adjust if they went over or under their target of 100.
- **Cumulative addition** – within this context, children were happy to add up many numbers, and began to group them, adding 4s first, for example. They used calculators to free up working memory.
- **Finding starting points** – After making snowflakes with trial and improvement, one child thought to build 100 first, then make the snowflake. We used this in our second lesson on faces.
- **Estimation** -Children (most of them) who chose to start by designing their snowflake first, had to estimate what 100 might look like. Most undershot by significant amounts. One child made a 50 snowflake then reproduced it to make 100.
- **Fun and play!** This was a very motivating context and children worked industriously for more than an hour at a time.

Top tips for another school:

- This is appropriate for the end of Y1 (I did it a bit early!) or Y2 when multiplicative understanding could help to refine attempts to make 100
- Have calculators handy and be ready to help children use them! They will want to though, so no previous lesson on calculators necessary!
- Use whiteboards to build the snowflake/face and then the additions can be written beside and below them. Take photos!
- You need lots of rods! It's also handy to give them a crib sheet of rod = what value.
- Children don't really want to work in pairs on this, in general.
- For number novices and children who will find this difficult to access, allow them to build a pattern/face and then work out its total with them afterwards. Alternatively, provide a 'base board' for them to cover with rods.

Any web links, images etc.