**Ann Baker - 7th April, 2014**

Mental Routine- pipe-cleaner (12cm)

CLOSED

-how many pipe-cleaners long is the long side of your paper?

-how many pipe-cleaners long is the short side of your paper?

-find something on your desk that is about the same size of the pipe-cleaner?

-your pipecleaner is 12cm long- how many cm's is the short side? Long side?

-what is the perimeter of your page?

-using your pipe-cleaner I would like a line that is 6cm long -using your pipe-cleaner I would like a line that is 9cm long -draw 2 dots on the page, make a line that is 30cm long that joins the 2 dots -draw a free hand line that you think is about a metre long -draw a teddy bear/Easter bunny that is about 1metre long, then check

OPEN

-I drew a line using my pipe-cleaner at was more than half a pipe-cleaner, more than a whole and is an even number, what might I have drawn?

-I drew a curved line that was an odd number of cm's long, it is longer than 1 pipe-cleaner and less than 2, what might I have drawn?

-I have made a line that is between 20 and 30 cm's long, how long might it be?

FLIP

-is it more than 1 pipe-cleaner long?

-Is it less than pipe-cleaners in length?

-is it closer to 1 pipe-cleaner than 2?

-it is an even number of cm's?

-is it a prime number?

-is your length a multiple of 3?

-is it a more than quarter of a metre?

Vocabulary- anchor charts, or write key vocabulary used on board during the mental routine -shorter than -longer than -same as -closer to -half -quarter -estimate -predict

-play same game for about a week, start easier then become more challenging

Domino

-1 domino to measure the length of the table -records with initials next to length -why did we all get different measurements?

-does it matter?

-Reception, Year 1 critical for laying the foundations for measurement -when we measure need a start point and an end/finish point, even for receptions -by end reception critical that students know when we measure we use one kind of unit (e.g. Unifix, dominoes, popsticks) that we measure the space in between the start and the end point.

-draw a line on your board that is 2 dominoes long, go and find something that is 2 dominoes long. (Leave the domino there-point is to use estimation) -how many found something about the same? How many over estimated? Under estimated?

-create a ruler, using a strip of paper, to match the length of 2 dominoes -use the domino to measure (even with older students)

By end of year 1-no gaps, no overlaps, reiterate, counting the unit that fills the gaps, transitivity

Mental Routine - unifix, positional language, barrier game -I've laid mine out in a row, show me what a row is?

-blue isn't at the end, yellow isn't at the end, green is not at the start of the row, yellow isn't next to the brown.

-this time I'm making a tower, show me with your hands what a tower looks like -what does my tower look like?

-this time using tiles, want you to think about them as 2D -I've made a regular shape with a perimeter that is 10 blocks long. Can you make it with 6 blocks?

-can you use the 6 blocks to make a longer perimeter?

-can you made a perimeter of 12 using an odd number of blocks (different options 5 blocks, 3x3 blocks) -make a shape with the least number of blocks with a hole in the middle -how many would you need to make it a bigger square?

-make a shape that is 9 blocks

-make it 3 times bigger

-make a house (of the three little pigs) with a chimney that is 15 blocks -when done write the instructions for someone else to build it -share houses (look at the different ways that students record) -which instructions were the easiest to understand and use?

-vocab: footprint

-make a pyramid with 100 blocks

NAPLAN

-why don't kids use their paper to help answer the questions?

-need to teach them how to use it as a tool

-year 3 shoe print question- how could we use the paper to help answer the question?

-year 7 angle question

-fractions question (fold paper to find 2 thirds)

A4 paper

Fold paper, 1 fold, don't matter how

-before opening think about the types of shapes, visualise, open.

-refold, then fold again through the fold. Visualise types of shapes and how many shapes -fold again through one of the folds, what types of shapes might you have? Might you have any hexagons? Why, why not? Can you make any conjectures?

-draw along the lines, cut with scissors to get all pieces, shuffle then put back together -make some conjectures/make a hypothesis about your shapes (e.g. What do you think will be the most common shape with 1 fold, 2 folds, 3 folds) -what is the most common shape at your table? (quadrilateral) -what are the students doing? rotating, visualising

2D shapes

Level 0-identify and locate shapes

Level 1-name properties

Level 2-justify geometric thinking (e.g. Why is a square part of the rectangle family)

Large paper or sheet of newspaper cut into 2 random shapes- 6 different shapes spread out on table without overlapping (3x 2 sheets of paper, each piece cut into 2 shapes) -without touching which shape has the largest surface area? Decide on the order from largest to smallest, record 1-6 on the paper -use 1 unifix to check estimations

-when discussing record on board what worked, what didn't work.

-research tells us we move into area too soon. Need to know linear measurement first before you can move students on.

-we give students grid paper too soon, they need to understand why we use squares before actually using grid paper.

WHAT DO THEY KNOW ABOUT AREA?

-diagnostic for area- A4 piece of paper, 1 Unifix . The Unifix is your only tool, in would like to know the area of your piece of paper.

-look for students counting all, counting perimeter, dressing squares from the centre -fold a corner- now count the area (look for how students draw on the page)

Square, circle, right-angled triangle

-how measure area (Ann drew a circle, right-angled triangle and square on board) look for students who use circles to measure the circle, triangles to measure the triangle, etc.

**Mathematics Language**

-informally, incidentally imbed language throughout the day (e.g. When we go to the library today, which route will we take?)

Kids don't make things often at home- therefore we need to provide opportunities for kids to manipulate and play, to experiment

**Planning**

-can't do one strand without the other, e.g. Can't do space without measurement, can't do measurement without number.

-Ann often asks students to manipulate shapes in silence, so that they can visualise in think in their heads about what they are doing.

-make it interesting, don't just use the AC outcomes, think about what else need to include

-needs to be purposeful and engaging