



Surveying your classroom

In this activity you will make a scale plan of your classroom as though it was an archaeological site. It is vital to create accurate plans of where discoveries are made on an archaeological site because excavation actually destroys physical evidence of the past. A plan can help people in future understand what was found and where.

You have:

- Bananas
- Copies of estate agent or similar plans/drawings with scales marked on them
- A classroom or hall
- Clipboards
- Pencils
- Pencil sharpeners
- Tracing paper or drafting film
- 1cm² graph paper
- Masking tape
- String or hand tapes
- 2 x long measuring tapes e.g. 30m
- Rubbers – but hopefully you won't need them!

Activity:

Begin by giving the children a banana each and asking them to measure a table top (or children could use their hands). Does everybody have the same measurement? What problems might this cause? Discuss the need to measure things with a standard unit. What would be better to use than a banana? Ask the children what they think a scale is. Where have they seen scales used?

Show them copies of the scale plans and ask them first of all, what is this showing? Ask them what does the scale on the page mean? How big in real life would the rooms/objects be? Reiterate that if a scale says 1:10 it means that for every 1cm on the page there are 10cm in real life. Measure the table top using tapes and ask the children to draw a scale outline of it using a scale of 1:10 on a plain piece of paper. Ask the children to suggest what scale they would use to draw items that are larger, for example would using a scale of 1:10 mean that they could draw a plan of the school playground on a piece of A4 paper? What would be a better scale to use?

Your classroom plan will be made on the tracing paper. Tape the paper to the drawing

boards or clipboards with a sheet of graph paper behind it. In this way the children can use the squares on the graph paper to plot points accurately. Most archaeological plans are drawn at a scale of 1:20 (so each small square on the graph paper represents 2cm in real life) but you may like to use a scale of 1:10 to make plotting simpler.

To produce a scale plan of the classroom you will need to create 2 base lines to measure from. Lay out the two long measuring tapes at right angles to each other along 2 edges of the room to create a horizontal and vertical base line. These will be the points you will measure from to make an accurate plan. It is easiest to start by measuring and drawing to scale the outline of the room. You can then fit the objects you decide to plot into this outline.

To plot the position of items in the room you will need to pick a point on the object – for example the corner of a table – and measure from that point to both of the base line tapes. Ask one child to stretch a piece of string from the chosen point to the horizontal base line then write down the measurement where the string it touches the tape. Ask a second child to stretch a piece of string to the vertical base line and write down the measurement where it touches the tape. You now have a set of co-ordinates to plot onto your plan: for example if the first reading was 60cm to the horizontal base line and 80cm to the vertical base line and you are using a scale of 1:10, the children will need to plot a point 6cm along the graph paper and 8cm up. To draw the whole outline of the table they will need to take readings for the other three corners and then join up the dots.

Though this might sound like a very complicated activity, the children actually become quickly absorbed in it and don't realise they are actually 'doing maths'!

Useful questions:

- Why do we need to use standard units and scales?
- Why do archaeologists have to record where they found everything on a scale plan?

Research Opportunities:

- The children could look at scale drawings of artefacts and try drawing them life size.

Useful Websites:

www.pastexplorers.co.uk
www.finds.org.uk

This activity was donated by the Young Archaeologists Club.

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	National Curriculum	QCA Unit
KS 1	Maths: Ma3 Geography: 2b, e History: 4a	Numeracy strategy
KS 2	Maths: Ma3 Geography: 1b; 2b, c, d, e History: 4a, b	Numeracy strategy History: Unit 6 Geography: unit 9

creativeminds

The Creative Minds project works with museums libraries and archives across the Yorkshire region, to provide young people with learning opportunities in Science, Technology, Engineering & Maths (S.T.E.M.). This ground-breaking project is the first of its kind in the country and is managed by MLA Yorkshire. This pack was developed by Creative Minds with funding from Yorkshire Forward.

