

Second Level - Beyond Number Measure Homework Cards



M2.1 I can talk about how and why measurement is used in everyday life

Measuring at home or work Ask children to ask an adult about a time when they recently used a measuring device. They find out and record whether they used metric or imperial units, the equipment used, and whether they had to do any conversions (e.g. cm to m).



M2.1 I can talk about how and why measurement is used in everyday life

Measure search around the home Ask children to look around their house, especially in the kitchen, for examples where measurements are recorded. They find and record the examples, listing the item, the unit of measure used and the equipment that might be used to measure this.



M2.2 I can use the measurements of everyday items to help me estimate

Estimate length around the home In school ask children to establish how wide their hand span is. At home they use their hand span measurement as a guide to estimate the length of different objects. They record the item, their estimate in hand spans and the estimate in cm. For example, *radiator: about 6 hand spans; my hand span is 12 cm, so the radiator is about 70 cm.*



M2.2 I can use the measurements of everyday items to help me estimate

Heavier than, lighter than Ask children to choose an item to be a reference weight (e.g. apple, tennis ball, shoe, tin of beans). At school they weigh their item. Then at home they find three items which are lighter and three that are heavier. They record the items and estimate the weight of each.



M2.3a I can estimate and measure items and then check to see how close I was - Length

Length in the home paper Tell children that the long side of a piece of A4 paper is about 30 cm (in fact, it is exactly 29.7 cm). Ask them to use this to measure or estimate the length of objects around the house. They record their answers in cm and then convert to m and cm or cm and mm.



M2.3a I can estimate and measure items and then check to see how close I was - Length

Millimetres in the kitchen Explain that the building trade use mm as the standard unit. Ask children to look at the cupboards in their kitchen. Using an estimate reference (e.g. visualising a 30 cm ruler or knowing that the longer side of a piece of A4 paper is about 30 cm), ask them to estimate and then measure the size of the kitchen cupboards. They record the different dimensions in cm and then convert to mm. Back in class they compare their results.



M2.3b I can estimate and measure items and then check to see how close I was - Weight

Lighter or heavier than they look? Ask children to look at home and find some objects which are small in size but heavy, and some which are light but big in size. They record each item and an estimate of its weight. Back in class they compare and share their findings.



M2.3b I can estimate and measure items and then check to see how close I was - Weight

Imperial search Ask children to look for items around the house that show imperial weights. They record the item and its imperial weight and work out the metric equivalent. (The weight of some items will be given in both imperial and metric units.) Back in class they compare and share their findings.



M2.3c I can estimate and measure items and then check to see how close I was - Capacity and liquid volume

Confusing or not containers Ask children to look around the home, select some objects and decide whether it is easy or difficult to estimate the capacity, They note down or draw the object and say why they think its capacity is easy or difficult to estimate. For example, *A tall narrow glass is hard – you might think it holds more than it really does. A milk carton is easy; you know it holds a litre.*



M2.3c I can estimate and measure items and then check to see how close I was - Capacity and liquid volume

Imperial search Ask children to look for items around the house that show imperial volumes or capacities. They record the item, its imperial capacity and work out the metric equivalent. (The volume/capacity of some items will be given in both imperial and metric units.) Back in class they compare and share their findings.



M2.4a I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Area and perimeter and area of squares and rectangles

When do we use perimeter and area? Ask children to think about when people need to know about area and perimeter. What kind of people are they and why do they need to know? They record three examples. Back in class they share their examples.



M2.4a I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Area and perimeter and area of squares and rectangles

Area and perimeter at home Ask children to use their knowledge of reference measures for length (e.g. longer side of A4 paper is about 30 cm). They use this to work out the approximate length and width of at least three objects at home. They record these and use this to calculate the area and perimeter.



M2.4b I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Area and perimeter of compound shapes using squares and rectangles

Area of words *cm squared paper* Ask children to write their name, initials or favourite colour in block print on cm squared paper. They calculate the perimeter and area of each letter. Back in class they make a display of their work..



M2.4b I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Area and perimeter of compound shapes using squares and rectangles

Box area *10 cm strip of card or paper or string* Give each child a 10 cm length of card, paper or string. Ask them to find some cardboard packaging at home which they carefully unfold to make a net consisting of squares or rectangles. They use the 10 cm strip to estimate and then measure the area of each section of the net. Back in class they compare their results with others.



M2.4c I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Area of a triangle and area of compound shapes using squares, rectangles and triangles

Area of words *cm squared paper* Ask children to write their favourite word in block print on cm squared paper. They should use squares, rectangles and triangles in the letters. They calculate the perimeter and area of each letter. Back in class they make a display of their work.



M2.4c I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Area of a triangle and area of compound shapes using squares, rectangles and triangles

Different ways *cm squared paper* Ask children to draw the same compound shape on cm squared paper several times. In how many different ways can they split it into triangles, squares and rectangles to calculate the area?



M2.4d I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Volume of solid objects and their surface area

Volume of packaging *10 cm string or A4 paper* Ask children to find some empty packaging at home in the shape of cubes or cuboids. They use a 10 cm length of string or an A4 sheet of paper (almost 30 cm long) as a reference to help estimate and then measure the volume of the packaging. Back in class, children compare their findings.



M2.4d I have explored the area and perimeter of 2D shapes and the volume of solid 3D objects - Volume of solid objects and their surface area

Big and small Ask children to find two big and two small things at home (e.g. TV, cupboard, mouse, grain of rice) and estimate the volume of each in cubic centimetres. Back in class, children share their ideas and create a class 'set'. They put the whole collection in order of estimated volume, from least to greatest. Discuss the estimates – does everybody agree with the estimates, or does someone want to change any?



M2.5 I have explored how scale can be used to help us represent objects in drawings, plans and maps

A room plan *cm squared paper* Ask children to choose a room at home and draw a floor plan of this room on cm squared paper. They use steps to measure the dimensions of the room and furniture items and mark these on their plan, writing the scale on their plan, i.e. 1 cm:1 step.



M2.5 I have explored how scale can be used to help us represent objects in drawings, plans and maps

Make up a problem *prepared plan* Using the plan made in 'A room plan' or another prepared plan, ask children to use the plan as the basis for problems to be asked and solved. For example, *If one of my steps is 25 cm then how long is my bed?* Back in class children swap and answer each other's problems.



M2.6 I can interpret a problem involving measures and find a solution

Measure number Ask children to think of one number to which they add each of these units in turn: cm^2 , cm^3 , m, km. They record a measurement which would give this number and unit. For example, 64 m: the length of a 32 cm line drawn to a scale of 1:200; 64 cm^2 : a square with sides of length 8 cm. Back in class children display and discuss their examples.



M2.6 I can interpret a problem involving measures and find a solution

The need for accuracy? Ask children to think of situations (at home or at work) where people need to measure accurately or where an estimate will be adequate. Remind them that measuring involves area, perimeter, length, weight, capacity and volume. They write two headings, *Accurate* and *Estimate*, and record examples under the headings. Back in class they share and discuss their examples.
