

Lesson Plan Chapter 8

In practice

The following lesson plan and evaluation describe a lesson taught to a group of pupils who had been working on measuring using uniform standard units. As they have developed an understanding of the relationship between centimetres and metres the particular focus was developing their understanding of the relationship between grams and kilograms. This will help them to make connections between the units of measurement of length and of mass. I particularly wanted to focus on the fact that there are 100cm in a metre but 1 000grams in a kilogram. This will allow me to introduce the meanings of the prefixes 'kilo' and 'centi'. I am making sure that the children work practically so that they come to have an understanding of 'how much' 1kg, 500g and 10g is. The program 'Scales' was used to explore the children's knowledge of properties of the shapes. This program is available on the companion website

Topic: understanding the relationship between grams and kilograms

Age Group: lower primary

Objectives: Know the relationship between kilograms and grams		
Choose and use appropriate units to estimate, measure and record measurements		
Key vocabulary:	Context: This is the fourth lesson of the week and so far we have used hand spans to measure lengths and widths and then measured hand spans to the nearest 1/5 cm to calculate lengths. We have estimated lengths to the nearest centimetre and then moved on to using metre sticks. This should support the children in making connections between kilograms and grams in this lesson	
Gram, kilogram, weight, heaviest, lightest		
Resources:	Starter activity: I'll ask the children to sit in their 'talk partner' pairs. The pairs have 2 minutes to write down as many different units of measurement as they can think of. After 2 minutes I will go round the pairs getting one unit from each pair to record on the board until we have collected everyone's answers. I'll draw a table on the board – length, capacity, mass and time. Individuals then pick a unit and tell me which column to put it in	
Mini whiteboards and pens; 1 kg, 500 g, 100 g, 50 g and 10 g weights; pan balances; collection of items to weigh; three large sheets of paper		
Main activity	Teacher	Pupil activity

<p>Whole group activity</p>	<p>I will ask the children to move to their numeracy tables which I have set out with the balances and a range of everyday items to weigh</p> <p>Groups should estimate which item on their table is the heaviest and bring it to the scales at the front to weigh. I will ask the class if they think it will weigh more or less than 1 kg. I will also ask if they think it is heavier/lighter than the previous item and model how to write down the weight</p>	<p>Pupils pick up the objects to estimate the weight in terms of heaviness/lightness</p> <p>They will draw on their previous knowledge as more items are weighed</p> <p>They will observe the way I am using the different weights to balance and then the method I am using to record the weights</p>
<p>Group activity: Children operating above expected levels</p>	<p>I will ask members of the group to estimate the weight of the objects before they weigh them, encouraging them to draw on their previous measurements to come up with sensible estimates</p>	<p>This group will weigh all their objects and record the weights. They will then arrange them in order of weight and complete a table allowing them to record the measurements formally</p>
<p>Group activity: Children operating at expected levels</p>	<p>This group will work with the 1 kg, 500 g and 100 g weights only</p> <p>They will weigh the objects and complete the following chart:</p> <p>Objects less than 100 g</p> <p>Objects between 100 and 500 g</p> <p>Objects between 500 g and 1 kg</p> <p>Objects heavier than 1 kg</p>	<p>I will focus my attention on this group and encourage them to estimate the answers first before measuring</p> <p>If necessary I will fetch extra weights and move on to measuring more accurately</p>

<p>Group Activity: Children operating below expected levels</p>	<p>This group will work with the 1 kg, 500 g and 10 g weights. I will give them three large sheets of paper labelled 1 kg, 500 g, 10 g. Pairs of children from the group will find objects that weigh approximately 1 kg, 500 g and 10 g and place them on the appropriate piece of paper</p>	<p>The TA will work with this group and if necessary the children can leave the room to find a wider range of objects</p>
<p>Plenary: I will use the 'Scales' program on the IWB. I will use the 'compare' setting to place two objects on the scales – I will ask children to estimate the weights each time and then in pairs to calculate the difference in weight using the number line for support</p>		