

### Place Value Assessment Question 9:



**Objective:** I can make realistic estimates of amounts of objects.

**NPV6:** identify, represent and estimate numbers using different representations

#### Assessment Task:

Set up the tables with trays or piles of different objects. Ask the children to estimate how many are in each tray/pile. You may want to make a simple sheet/table for the children to record their estimations for each tray/pile of objects. Make sure you know the amount (or near to) of each object so that you can reveal the answer to the children at the end of the task. Whilst the children are estimating, observe the children's predictions and the skills they are using. Look out for children who show very little understanding, rely on attempting to count or make very unrealistic estimations. Also look out for children who show a good understanding and a variety of skills.

#### Prior Learning:

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|                     | <b>Question 9:</b><br>I can make realistic estimates of amounts over 1000. | I feel |
| <b>Practical:</b><br>Look at the groups of objects given to you . Estimate how many objects there are. |  |        |
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### Input:

It is important for children to understand what the word estimate means and why it is used. Give the children examples of when it is used such as estimating time, estimating how many people there are in the classroom, estimating money, estimating to help with calculating, etc. Explore the definition of estimate and display this around the classroom for future reference.

The assessment question and all of the activities are practical and hands on to help the children develop their understanding of estimation, making sensible guesses and understanding that an estimate does not need to be the actual answer; a close guess is still a good estimation. You will need to ensure there are lots of different objects and different sized objects such as buttons, paper clips, grains of rice, sugar cubes, milk lids, cotton reels etc. for the activities. As a school you may want to create a central store of counting boxes for the children to explore with objects over a thousand.

Explore demonstrating skills such as:

- Estimating with different sized objects.
- Using an example to help, such as I know there are 500 objects here. Now look at this pile of objects, should my estimation be higher or lower than 500. How many lots of 500 do they look there? Does it look double, so a 1000 or more. Can you visualise what 1500 would look like? Encourage the children to explain their choice and why.
- Amending their estimate through trial and error as they explore more groups of objects.
- Deciding if it is a good estimate or not.

### Practice Activities

**Purple:** Most suited for children who make unrealistic estimations and have little understanding of estimation.

Make a pile/group of the same objects so that the children can use this as a comparison/example, such as 500 (if using pasta, a bag has around 500 pasta shapes). Discuss that this is 500 of the objects. Discuss how this information can help to estimate. Then show the children different groups of that same object to make estimates; such as groups 1500, 2020, 1050, Ask the children to think about the estimates they have made and discuss which were more accurate. How do they know? What is a good estimate? Did I make a good estimate? Why? Why not?

**Green:** Most suited for children ready to apply estimation skills to different sized objects.

Children to have different sized and types of objects to develop their estimation skills. You may want to encourage children to record with photographs, their estimations and the actual amount. As a challenge the children can also write about their estimating skills and if their estimation was a good guess or not.

**Yellow:** Most suited for children who can make realistic estimations with objects presented in front of them.

Give the children large piles of different objects and children to estimate picking up/ creating a group of a set number such as make a group of around 2000, make a group of around 3200. Etc. Can the children use their prior learning to group the amounts to count and check. Can they children make groups to help them with estimating? You could encourage children to record their work with photographs and write about their estimating skills. Although it is a lot to resource, it is really important for the children to see what thousands of different objects look like and to further develop their understanding of place value.

**Mastery:**

Introduce to the children to the vocabulary approximation. What does this mean? How is it different to estimation?

Show the children the task. Look at the amounts provided in each sum. What do you notice about the amounts? Can you add 1999 and 3002 quickly? What would make this easier to work out? How? Why? Encourage the children to realise that if they round the amounts to thousands or hundreds they can add and subtract quickly. Ask the children how this can help. Why do some mathematicians use this? Why is there a need to approximate?

Look at these different sums that Sanjay wants to work out. How can we use approximation to help him?

$1999 + 3002 =$

$5005 - 1999 =$

$890 - 599 =$

$3888 + 2050 =$

$1020 - 399 =$

