

Estimation – number lines

National Curriculum attainment target

- Identify, represent and estimate numbers using different representations, including the number line

Lesson objective

- Estimate numbers using a number line

Previous related lessons

Unit 1, Week 1, Lessons 1 & 2; Unit 5, Week 1, Lessons 2 & 3

Prerequisites for learning

Pupils need to:

- accurately recognise and write numbers to 100
- demonstrate a good understanding of place value and ordering numbers

Vocabulary

zero, one, two, three ... twenty, thirty ... one hundred, multiples, tens, fives, more, less, larger, largest, smaller, smallest, before, after, estimate

Future related lessons

Unit 9, Week 1, Lessons 2–4

Success criteria

Pupils can:

- apply their knowledge of place value and ordering of numbers to estimate numbers on a number line



i You may choose to work with numbers 0–50 initially, before extending the range to 100. You may also choose to vary the number lines used, e.g. an 'empty' number line or one marked in multiples of ten.

Getting Started

- Choose an activity from Number – Number and place value.
- Choose an activity from *Fluency in Number Facts: Y1/Y2* – Number and place value.

**Collins
Connect**
Year 2, Unit 5,
Week 1

Teach

Resources

mini whiteboard, pen and eraser (per child)



- Display: the Number Line tool showing the numbers 0–100.
- Together with the class, count on in tens from zero to 100, and back again.
- Say: **We have counted in tens. Each number is a multiple of 10.**
- Draw attention to the number line and say: **Find a multiple of ten on the number line and write it on your whiteboard.**
- Ask children for their suggestions and circle each multiple of ten as it is identified.
- Say: **It can sometimes be useful when we are estimating or guessing a number on a number line, or number of objects in a set, to round to the nearest ten. That means that we find the nearest multiple of ten to a number.**
- Display: Slide 1 showing the numbers 0–50, in multiples of ten.
- Write 24 on the board, and ask: **Which multiple of ten does this number lie between?** (20 and 30)
- Identify 20 and 30 on the number line, and point to 24. Ask: **Is 20 or 30 the nearest ten to 24?** (20) Ask: **Roughly where do you think that 24 belongs on this number line?**
- Choose a child to come to the front to explain their choice. On the board, mark an arrow above this point on the number line and say: **[child's name] estimates that the number 24 is about here. Let's see how close his/her estimate is.**
- Click to reveal the numbers on the number line, and check the accuracy of the estimate with the class. Ask: **How close was [child's name]'s estimate? Did he/she estimate a number more or less?**
- Restart the slideshow and repeat two to three times in the same way.



- Mark an arrow approximately above 15 on the number line and ask: **Can you estimate the number that the parachute will land on? Use the multiples of ten to help you.**
- Ask children for their suggestions before clicking to reveal the numbers.
- Repeat several times, marking arrows in a variety of positions along the number line and discussing each estimate with the class.
- Now position three arrows along the number line and say: **Work together to estimate the numbers that each arrow is positioned above.**
- Children write their estimates on their whiteboards.
- Choose individual children to suggest the position of each number in turn and explain the reasons for their choice.
- Then click to reveal the number on the number line.
- Repeat the activity to reveal the remaining numbers.



Individualised Learning

Refer to Activity 4 from the Learning activities on page 227.

Activity Book 2B: – Page 5: Parachute predictions

Progress Guide 2: – Support, Year 2, Unit 5, Week 1, Lesson 4:
Air balloon estimates

Resources: scissors and glue (per child)



Plenary

- Display: Slide 2 showing the numbers 0–100, in multiples of ten. To one side write five different numbers between zero and 50, e.g. 23, 47, 31, 29 and 6.
- Point to the first number and ask: **Where do you think this number belongs on the number line?**
- Choose a child to come to the front and mark an arrow above their estimated position on the number line.
- Repeat, asking four other children to show their estimate, and then compare and discuss their accuracy by clicking to reveal the numbers on the number line.



Homework Guide 2

Year 2, Unit 5, Week 1, Lesson 4:
Gladiator guesses