0-30 and 0-120 Number Lines

Teacher's Guide

Knowledge Builder offers 2 number lines – one that starts at zero and finishes at 30 and a second number line that starts at zero and ends at 120. The folding feature allows children to work with the number range appropriate for their development. For example, when the 0 to 30 Number Line is folded they are only working with the numbers from 0 to 10. As the number line is unfolded the numbers increase in increments of 10. Each folded section of the 0 to 120 Number Line has 20 numbers.

Both boards have a write on wipe off surface and are suitable to use with dry erase markers. The plastic clips offer an alternative way for children to record number patterns.

Calibrated Number Lines
Provide children with a linear model of numbers. The lower numbers are on the left and the numbers increase in value as they move to the right. These can be used for number recognition, counting in ones, skip counting, demonstrating strategies for addition and subtraction and showing multiplication as repeated addition and division as repeated subtraction.

Empty Number Lines
These can be used in early years to estimate the location of a number. For example, locating 5 on a number line that starts at zero and ends at ten.

For older children the empty number line allows them to locate decimal numbers, fractions and record the mental strategies they use for addition and subtraction.

Activity Suggestions

Number Recognition - Odd & Even Numbers
Use the blue clips to show even numbers.
Ask children what they notice about these numbers. They should notice they all end in 0, 2, 4, 6 and 8 and are all divisible by 2.
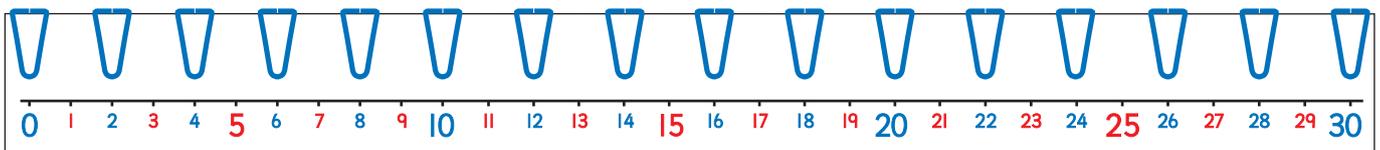
Repeat activity using red clips to show odd numbers. These numbers are not divisible by 2.

Counting - Number Patterns
Using the 0 - 30 Number Line and a dry erase marker have children record jumps along the number line in ones starting at zero. Repeat activity with jumps of three numbers starting at zero
Repeat for other multiples.
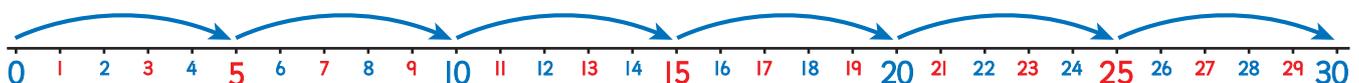
Variations
- Start at a number other than zero.
- Count backwards in multiples.
- Using two 0 - 30 Number Lines and a 1 - 6 dice have children take turns to roll the dice and move along their number line. The first to 30 wins. Children may record their move as counting on in ones or as jumps.
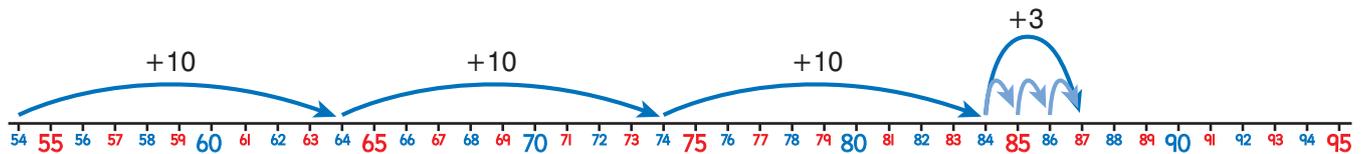
Addition & Subtraction

Have children show on the number line how they worked out the answer to an equation. For example for 8 + 7 children could use the *counting on strategy* or a combination of *partitioning and bridge to ten strategy*. Discuss which strategy is most efficient.
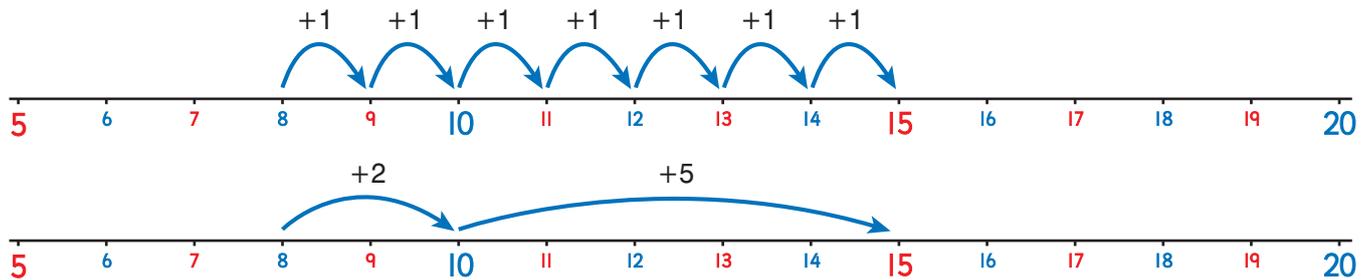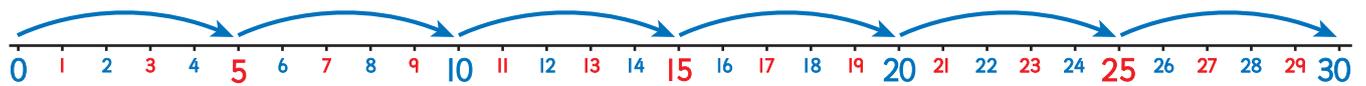

Variation

Use the number line to explore strategies to solve two digit addition and subtraction. For example 54 + 33
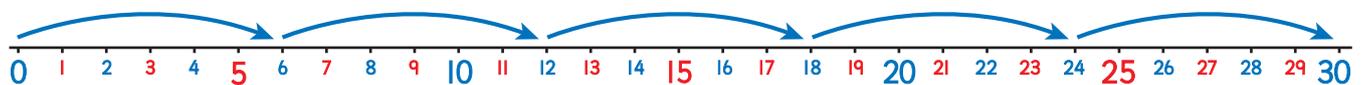

Multiplication and Division

Have children use the number line as an introduction to multiplication as repeated addition and division as repeated subtraction. The number line helps illustrate the *lots of* concept
For example; 6 lots of 5 or 6 x 5 looks like

Whereas 5 lots of 6 or 5 x 6 looks like

Variation

Introduce the commutative property of Multiplication using the Number Line. For example 6 x 5 = 5 x 6

Estimating Numbers using the Empty Number Line

Using the reverse side of the Number Lines and either the complete length or a folded section, write a zero on the left hand side below the line and 10 at the end of the line. Ask children to use the clips to estimate the location of 5 and write the number on the board. Repeat for other numbers between zero and ten.

Variation

Extend end number to 20, 50 or 100.

Recording Calculations using the Empty Number Line

Using the reverse side of the Number Lines older children can record their thinking when they are performing calculations. For example 45 + 27
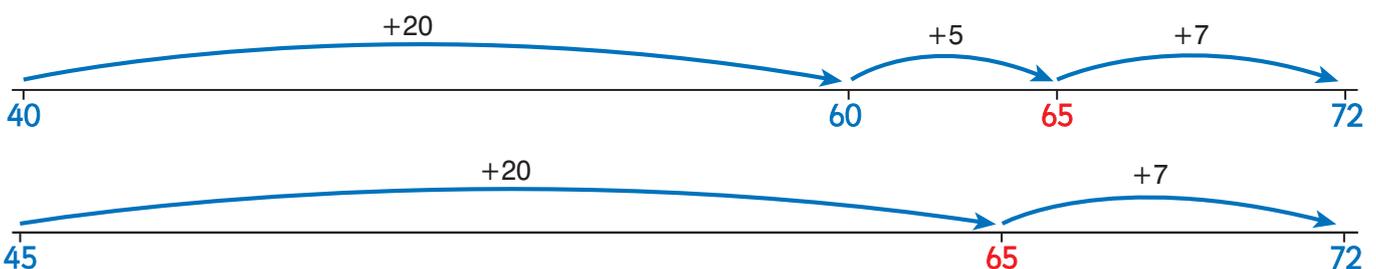
Reference
Norris, K. & Swan, P. (2015) Number Lines. A-Z Type WA.