

Teacher support materials

Reasoning in the classroom activities Year 6

The details below provide brief descriptions of the content of the Year 6 materials. They are designed to give teachers a starting point in deciding which activity most closely links to specific learning and teaching needs.

Many activities are challenging to categorise in this way as they cover several aspects of numeracy. We would recommend, therefore, that teachers explore the activities in order to decide how appropriate the content and delivery is for them and their learners.

The first activity within each set is in the same format as items within the National Numeracy Tests (Reasoning) so contains learner questions, markschemes and learner exemplars. **Tons of teeth**, **How do they know?** and **The long and the short of it** also contain stimulus materials and a teachers' script.

Some activities start with an item that has been taken from the 2014 National Numeracy Tests (Reasoning). These are clearly indicated.

Tons of teeth

Three activities that encourage learners to use and apply number patterns, interpret graphs and interpret and use data.

Buying cakes

Two linked activities that entail learners using their numerical skills to consider the cost effectiveness and price comparisons with real-life contexts.

Childminding

Three activities in which learners solve multi-step problems that involve time, money and interpreting tables.

Stacking boxes

Three activities that encourage learners to use spatial reasoning to solve problems.

How do they know?

Three activities that require learners to use their understanding of shape and space to solve a range of problems.

Aeroplane

These two activities focus on flight, including the real-life context of air travel.

Ambulance

Three activities that bring together different aspects of shape, space and number.

Fraction quilt

The focus of these two linked activities is on fractions.

The long and the short of it

Three activities that use the context of racing. Learners use their numerical skills to work out who will win a race, then interpret a graph of the race, completing a 'newspaper' report, and play and create a game using positive and negative numbers.

The first activity was included in the 2014 National Numeracy Tests (Reasoning) and contains stimulus materials and a teachers' script, test questions, a markscheme and learner exemplars.

Balance

In these two linked activities, learners use their numerical reasoning to work out the mass of an object, then solve and create balance puzzles.

The first activity was included in the 2014 National Numeracy Tests (Reasoning) and contains the test question, markscheme and learner exemplars.

Medals

These two activities share the context of medals. Learners compare the cost of a gold and silver Olympic medal, then review and evaluate the accuracy of a newspaper headline relating to the cost of pure-gold medals.

The first activity was included in the 2014 National Numeracy Tests (Reasoning) and contains the test question, markscheme and learner exemplars.

Mirror and tinsel

In these two linked activities, learners use their numerical reasoning in relation to area and perimeter.

The first activity was included in the 2014 National Numeracy Tests (Reasoning) and contains the test question, markscheme and learner exemplars.

Pens

In these two number-based activities, learners find different ways to buy a fixed number of pens, then play a game from NRICH, based on factors and multiples.

The first activity was included in the 2014 National Numeracy Tests (Reasoning) and contains the test question, markscheme and learner exemplars.

Pictures for numbers

These two activities focus on pictorial representation. Learners solve a problem in which symbols stand for numbers then explore how the Mayans represented numbers.

The first activity was included in the 2014 National Numeracy Tests (Reasoning) and contains the test question, markscheme and learner exemplars.