# MATHS learning springboards

## Place value to 10,000,000

#### Using natural objects to explore place value

Aim: Read, write, order and compare numbers to at least 10,000,000 and determine the value of each digit.

#### Activity 1:

This activity works well with leaves and any other natural resources such as conkers, cones, flowers, foraged fruit or twigs. Pupils work in teams of 4 - 6 and each team needs a generous collection of leaves or other natural resources.

Each leaf or item is allocated a value, for example:

A stone = 1 A twig = 10 A leaf = 100 A conker = 1000 ...and so on up to 1,000,000.

- The activity leader starts by calling out a number and each team then represents that number on their grid, by placing the items in the appropriate columns. For example, 653 would require 6 leaves, 5 twigs and 3 stones.
- Did each team get the number right?
- Ask each team to take a turn to suggest a number for the other teams to create.
- Differentiate this activity by providing one, two, three, four, five and six digit numbers as appropriate.
- Include a rounding exercise to round up or down to the closest, 10, 100 etc.

## Activity 2:

Similar to the activity above, but using just one type of object (e.g. conkers) and placing more of them in the relevant grid square. Pupils represent different numbers by positioning natural objects in the grid. For example, 76,123,465 should be represented by 7 objects in the *ten millions* column, 6 objects in the *millions* column, 1 object in the *hundred thousands* column, 2 objects in the *ten thousands* column, 3 objects in the *thousands* column, 4 objects in the *hundreds* column, 6 objects in the *tens* column and 5 objects in the *ones* column.

Pupils should place the correct numbers of objects in the corresponding columns from 10,000,000 to 1.

## Activity 3:

Nmber line to 10,000,000. Use skipping ropes to create a blank number line, marked from zero to 10,000,000 or less when differentiating. Give each child Sorting Numbers to Ten Million – these are a selection of pre-made cards with a range of numbers written on them. Pupils place the card in the correct location on their number lines.

**Challenge:** Stand at zero. Throw a pebble along the rope and use judgement of distances to estimate what number card should be placed to represent the place that the pebble landed.

#### Resources:

Leaves and other natural resources such as conkers, cones, flowers, foraged fruit or twigs. Rope – skipping ropes would be fine; chalk; metre rules for marking out number squares.

Key vocabulary: place value

### Success criteria:

 ✓ I understand and can explain place value





