

## Appendix A

### Counting in Decimals

Counting activities should have:

- a lively pace
- enthusiastic participation
- two or three different short focussed activities (variety will maintain interest)
- physical activity
- a choral response
- an individual response

There are many ways of counting in decimals which include:

#### Counting Stick

- Count in different decimal decimals, for example, tenths, hundredths, thousandths.
- Start at different starting points, count forwards and backwards.
- Include whole numbers and decimal decimals
  - begin at one tenth (0.1), then count on by two tenths.
  - begin at 1.4 and count on in tenths (0.1)

#### Stamp and Tap

Pupils find a space facing the board. Count forwards in decimals stamping feet in time. Stop at required number and turn in opposite direction. Now count back tapping their shoulders in time. (Do this without pausing!)

#### Human Number Line

Each pupil is given a large card with a decimal on it. Pupils are asked to line up from the smallest decimal to the largest. Teacher/pupil then discuss the order of the decimals, for example, before/ after, more than /less than/ same as, between, first/second, etc.

#### The Sound of a Number Game (Counting Can)

Teacher shows/tell the pupils the decimal of a unit being dropped into a tin. The pupils count silently in their heads as the teacher drops the decimal pieces into the tin. When the teacher stops, the pupil can call out the answer, or show its place on a number line. Teacher completes step one but this times ask

pupils what decimal she/he would need to make 1 unit, 2 units etc. How many decimal pieces are in the tin, etc.

### Fill the Bag

Place an even number of cubes on the desk, for example, 8. Tell the pupils you want them to place 0.5 of the cubes in the bag. Extend by asking questions, for example, how many cubes did you put in the bag? How many cubes are left? What decimal fraction does this represent? Etc. This can also be extended by using different numbers of cubes and different decimals.

### Stand and Sit Game

Pupils stand and then sit while saying the decimal number sequence required, for example, Stand when our count is a whole unit. Pupils begin sitting and counting in tenths: 0.1, 0.2, 0.3.... (One tenth, two tenths, three tenths...) they stand and so on.

### Count Around

Pupils stand in a circle and count around, each pupil saying the next number in the sequence. Start counting at 0.5. The pupil who says number 2 sits down. Keep going until only one pupil is standing.

This could be differentiated in a number of ways including:

- using different decimals and to more decimal places (tenths, hundredths, thousandths)
- using shorter/longer sequences
- using different starting/finishing points
- counting backwards

### Counting Choir

Divide class into 3 groups. Give one group ones, one group tenths, one group hundredths. Teacher plays the role of conductor with a baton. Teacher begins to count and then points the baton at one group to continue to count in unison. Teacher then points to a different group and continues.

### Hand Game

Teacher picks a starting point, for example 1.5. If teacher raises her/his hand up it means count 0.5 more, if the hand faces down it means 0.5 less. This activity can be extended to include hand to the right (count on in 0.1) and hand to the left (count back in 0.1).

### Rope Activity

Stretch a skipping rope across the floor. Mark 0 at one end and 1 at the other end. Invite pupils to stand on or next to the rope to indicate positions of decimals, percentages and fractions, for example, 0.5,

0.33, 35%, 62%,  $\frac{3}{8}$ ,  $\frac{4}{9}$ . Add an extra rope or two to extend the line to 2(3) so that the pupils can also represent larger decimal numbers.

### Missing Number

Teacher counts forwards or backwards in a sequence, missing out one of the numbers, example 0.5, 0.4, 0.2, 0.1 Children discuss in pairs which number was missing.

### Swap Shop

Pupils sit in a circle holding a number (include each number more than once). Teacher calls out a number and the children holding it have to swap places. Extend by saying different commands e.g. swap if your number is smaller than 4.5, swap if your number is bigger than 6.2, swap if your number is between 0.8 and 1.4

### Near or Far

Select a number to two decimal places. Children work in pairs with digit cards / number fans. Teacher says a statement such as “close to 3.00”, “less than 4.00”, “close to 3 and 50 hundredths”. Children then have to rearrange the digits and show their answer. Discuss who is closest and why.