

FOUR FACES COUNTING STICK



Product Code

M-T4

Contents

1m stick with four faces.

Introduction

Each face is appropriate to specific activities and to specific learning outcomes.

Face 1 Four equal divisions

This face can be used effectively with very young children.

Face 2 Ten equal divisions

This face can be used to extend the activities first covered using the simpler 'Face 1'.

Face 3 100 equal divisions.

This face is marked into 10 equal sections each of which is graduated into a further 10 sections. This provides many opportunities to further extend activities previously experienced on Faces 1 and 2.

Face 4 Unmarked

Teachers can use the unmarked face to further develop pupils' understanding of number and the number system using the skills of visualisation, estimation, logic and deduction.

The different faces offer a wide range of activities. There will be times when a teacher may, in the same session, use more than one face of the counting stick as appropriate to the task or activity being undertaken. If the children each have a mini-counting stick they can demonstrate their answers by pointing out the result on their stick and holding it up to the teacher. This allows the teacher to survey all of the children's results at the same time.



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• Reception Class and Year – Ages 4 to 6 years

You will need some cards with numbers printed on them and a method of attaching them to the counting stick, such as sticky tack.

Face 1 – 4 equal divisions.

This face can be used effectively for very simple counting activities such as:

- Attach numeral cards 1, 2, 3 & 4 to the counting stick with one on each of the four sections. Pupils count numbers forwards and backwards. Attach the numbers to the counting stick in a non-sequential arrangement. Pupils can reorganise them into the smallest to the largest normal counting number order.
- Numerals are stuck onto the counting stick but three out of four are turned around leaving only one numeral facing the children. Ask the children to name the missing numbers.
- As above using different sequences of four numbers up to 7, 8, 9 & 10. When pupils are gaining confidence in ordering four numbers the teacher can move to using Face 2 which has 10 divisions on it. Teachers should gradually move to using the counting stick with smaller numerals, each of which will be positioned on the dividing lines between the four sections of the counting stick.
- As the young pupils become more confident in knowing the numerals that match the counting number names, pupils will no longer need the numeral cards as prompts, but will count forwards and backwards along the four sections saying the number names at each divider.
- This activity of counting forward and backwards can be developed further using Face 2, again without any numeral cards.
- Tell the pupils the starting number at the starting end of the stick and the final number at the opposite end of the stick. Point to a divider and ask the pupils to name the number which it is representing.
- The 'Face 1', basic four sections can be used for early addition and subtraction activities which can be extended in subsequent years using Face 2.
- Count out three sections and say, 'Where would I stop if I moved on 2 sections? What number would I arrive at?'
- Count out three sections and ask the children where they would be if they counted back two sections.
- This activity could be extended on Face 2 which is marked into 10 equal sections.
- Introduce the concept of Fractions using Face 1 talking about the length of the stick being the whole stick.
- Ask the children to show you where half of the stick would be.
- Introduce the idea a quarter by demonstrating each section as being a half of a half.
- Use the stick to demonstrate a quarter add on a quarter, makes a half. Cover up a portion of the stick and ask the pupils how much they can see. How much is covered up?

• Years 2/3 Ages 6 to 8 years

Face 2 – 10 equal divisions

Year 2

- Tell the children that one end of the stick is zero. Count along the stick altogether in twos.
- What number is represented by the other end of the stick? Count forward and backwards in twos.
- Count forwards with occasional stops, count back and then forwards again.



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- Remind pupils of the value of each divider when counting in twos, point to a divider and ask pupils to say what number goes there.
- Repeat this process counting in fives and tens.
- Introduce the idea of the stick representing the numbers from zero to 100.
- Point to any dividing mark and ask the pupils what number should go there.
- Place your finger on a point that is in the middle of one of the sections and ask the pupils what would be 5 more than this number.
- Do the same activity asking the pupils to say what number would be 10 greater or 10 smaller.

Year 3

- When the children are confident with the above activities repeat them counting along the stick (still Face 2) from zero in hundreds.
- Point to a particular position on the counting stick and ask the children to name the number
- Pointing to the fourth divider ask the pupils how many more they would need to reach 700 etc.
- Use the counting stick when representing 0 to 20, 0 to 100 to practice instant recall of the complements to 20 and to 100 etc. e.g. point to a position and the pupils answer by identifying how many more would be needed to make 20, 100 etc.
- Point to a position. Ask where they would arrive if they subtracted 20, 25 etc.
- Use the ten sections of the counting stick to count in tenths.
- Demonstrate that 2 tenths are equal to one fifth. Count along the stick in fifths.

• Years 4,5 & 6. – 8 to 11 years of age.

Face 2 - 10 equal divisions

- Use Face 2 to further develop pupils' sense of number adding and subtracting bridging through the dividers as 105 or 1005.
- Use the stick to encourage pupils to develop a strategy of deriving unknown tables facts using previously known recall facts.
- Put your finger in the middle of the stick and name this point as zero. Count forwards to the end of the stick.
- Count backwards through zero introducing the concept of negative numbers. Use the stick to complete operations involving negative numbers. e.g. point to the middle divider as zero.
- Point to the divider which is two to the right of zero and ask the children to say what number is there. Tell the pupils to count back four sections. Ask them to name the position in which they finish.
- With older, more confident pupils state that the dividing markers represent groups of 2. Make the central position zero. Start on six, count back eight in twos through zero. Where do they finish?

Face 3 – 100 equal divisions

- Further develop the above activities using Face 3 which is divided into 10 equal sections which are graduated into 10 smaller yet equal section. Use Face 3 to work with money.
- Ask the children to count along the major dividers in steps of 10p at a time.
- Point to a small sub divider having indicated that the stick is starting at 0 pence, ask the pupils to identify the amount of money indicated.
- Use this stick to model addition starting with by identifying the first number and count on bridging through tens.
- Use Face 3 to demonstrate finding the difference between two numbers by counting on from one to another.



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- Point to two positions on the counting stick and ask the pupils to work out the difference between the two.
- Use the stick to add and subtract decimal fractions. Discuss with pupils the value of divisions given the starting values at each end of the stick.
- Face 3 can be used effectively to support pupils understanding of percentages.
- Ask pupils to exchange between 50% and a half and 0.5 by counting along the stick firstly in tenths, identifying 5 tenths as being half way along and then in percentages such as 10%, 20% etc.
- Point to the position which is two major divisions along this stick and ask the pupils to name this position as a fraction of the whole stick, ask them what this position would be if one end of the stick was zero and the other was 1.
- Ask the pupils to count up to the mark in percentages starting from 0% through to 100% at the other end. Name the position indicated as a percentage, as a fraction and as a decimal.
- Ask the pupils where 75% would be located. What is the decimal fraction at this point? What fraction of the stick is to the left of this point? What fraction is to the right?

Face 4 – Unmarked

- The unmarked Face 4 can be used to further develop many of the above activities but with the emphasis on pupils estimating the positions on the stick using their understanding of number. Pupils should be encouraged to justify their estimation explaining how they arrived at their decisions.
- The unmarked Face could be used with pupils of all ages if the values at each end of the stick are clearly explained to the pupils and examples offered to help pupils make estimates about the values associated with any position on the stick.
- The stick can be used to complete simple counting activities, to count in 2's, 5's, 10's.
- Pupils should be encouraged to count forwards and backwards in steps of varying sizes.
- They can move along the counting stick identifying fractions, decimals and percentages.
- The counting stick can be used for negative numbers.
- Activities and calculations which can be completed on an empty number line can be modeled on an unmarked counting stick.
- Percentages, decimals and fractions can all be explored using the unmarked Face.