

# Busy at Maths 6 - Sixth Class - Teacher's Resource Book

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## Chance

Home/School Links Sheet 34

Your child will be dealing with *chance (probability)* over the coming days. Probability or chance is a measure of the likelihood or possibility of a particular event actually taking place. Your child will need to know some of the language associated with chance: even chance, impossible, possible, certain, probability, likelihood, chance/chances, possible outcomes, right, left, fractions, decimals, percentages, probability lines, experiment, multiples, digit card, odd/even numbers.

### The language of chance

Focus your child's attention on the language of chance. If your child can come up with statements of his/her own about each of the following words, then s/he has a good understanding of the language of chance.

**Possible:** It is possible that Dad/Mam/my sister/my brother will wash the dishes this evening.

**Impossible:** It is impossible that I can jump and touch the sun.

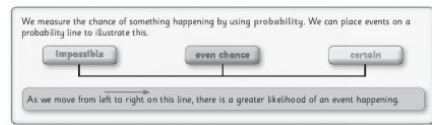
**Likely:** It is likely that I will get homework next Tuesday.

**Unlikely:** It is unlikely that it will snow in June.

**Certain:** It is certain that the sun will rise in the east and set in the west tomorrow.

**Even chance:** There is an even chance that I will get heads when I toss a coin.

### Probability lines



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Explain to your child that this probability line represents a range from **impossible** to **certain**. In the middle of the line is **even chance** – this is when there is a 50/50 likelihood/chance/probability/possibility, such as when you toss a coin. Other possibilities (which are not labelled) exist on the line e.g. likely, unlikely, very unlikely and very likely.

**Activity:** Give your child a series of statements and ask him/her to place each statement on the appropriate part of the probability line by simply pointing to the place. For example:

- Your cousins will visit this evening.
- Football training will be cancelled this weekend.
- Dad will go grocery shopping tomorrow.
- We will have prawns for dinner on Thursday.

- All the children will be sent home early from school on Tuesday.
- It will rain tomorrow.
- There will be snow in Cork in August.
- A 747 jet will land at Knock airport.
- Wicklow will win the All-Ireland Senior Football title this year.

### Beads in a bag

For this game, you will need some coloured beads/counters/cubes/toy bricks. Encourage your child to use the language of chance as outlined above during this game. Get a bag or box. Ensure that your child cannot see inside it. If you don't have a bag or box, your child can do this experiment while blindfolded. Place 10 coloured beads or cubes into the bag or box: five blue, three red, one yellow and one green. Explain that you want him/her to pick one bead out of the bag or box at random. Discuss the possible outcomes, asking questions such as:

- Am I certain to pick out a blue bead? (No.)
- Is it possible that I will pick out a red bead? (Yes.)
- Is it likely or unlikely that I will pick a red bead? (It is possible, but it is more unlikely than likely.)
- Is it possible that I might pick out a black bead? Why? (No, it is impossible because there are no black beads.)
- Which two colours have an even chance of being pulled out? (Yellow and green.)

**Extension 1:** Ask your child to determine the probability/chance/likelihood of picking a blue cube at random. Probability can be represented as:

- A chance: There is a 5 in 10 chance.  
This is simplified as a 1 in 2 chance or 1 : 2.
- A fraction:  $\frac{1}{2}$ .
- A decimal: 0.5.
- A percentage: 50%.

Calculate the likelihood of choosing each colour at random. This activity can be repeated several times using different combinations of coloured cubes, e.g. four red, three blue, two green and one yellow.

**Extension 2:** Play the game using different combinations and numbers of beads. For example, you could use 20 beads: seven yellow, four green, six blue and three red beads. Discuss whether or not the most likely colour is always chosen at random. By playing, your child should realise that chance always carries a risk!