CENTRES FOR EXCELLENCE IN MATHS

FE centre resource

Pearson

Lesson plan

Probability

Level 1

1. Lesson objectives

- Understand the likelihood of events using a probability scale
- Calculate simple probability as a fraction, decimal or percentage, including from a table
- Identify and correct common misconceptions

2. Functional Skills Level 2 curriculum

Handling information and data
30 understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events
31 use equally likely outcomes to find the probabilities of simple events and express them as fractions

3. Lesson plan

This is an overview of the lesson. More notes can be found in the notes in the lesson slides.

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Introduction	Introduce the key language and concept of probability	10	This whole class activity involves ordering events according to their probability of occurring. It can be done in either of two ways: • A 'washing line' hung across the classroom, or along one wall • By asking learners to stand in a line across the classroom, or along one wall. Ask learners to pick events cards and place themselves (or their card) in a line and justify their position.	Slide 2 Handout: Event cards
Discuss 1	Review previous learning of the language and concept of probability	10	Introduce the decimal probability number line and ask questions to identify where impossible, certain, likely and unlikely would fit on this. Discuss some of the events from the previous activity, and what numbers would apply to them, then match the percentages to the probability scale. Use Slide 4 to confirm key vocabulary and ways of expressing probabilities in numbers.	Slides 3 and 4

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Discuss 2	Review knowledge of fraction, decimal, percentage equivalences	10	Show the grid on Slide 5 and ask learners to say what they see. Probe to get more mathematical responses, draw out the fractions, decimals and percentages represented by the blocks of squares. Ask learners to label their handout with this information. Use slide 6 to draw out common misconceptions about fractions, decimals and percentages.	Slides 5 and 6 Handout: Say what you see
Explore 1	Find probabilities of equally likely events	20	Explain the game scenario of the grid, with a light stopping on squares at random. Use questioning with mini whiteboards to identify the probability of the light stopping on different squares. Next, provide pairs of learners with handouts of different grids (or ask them to make their own), and tell them to write their own probability questions relating to the grid – including easier and more difficult questions. Learners then pass their questions on for a different pair to answer. Finally, those who set the questions mark the answers. Check for what learners found difficult. Summarise by presenting Slide 9, showing the formula for finding the probability of equally likely events. Emphasise that the sum of all possible events always adds to one. Use Slide 10 to discuss a scenario where the events are not equally likely.	Slides 7–10 Mini whiteboards and markers Handouts: 100 square grid

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Explore 2	Locate the probability of simple events and mutually exclusive events on a probability scale	20	Return to the probability scale, and provide an A3 copy for pairs/small groups to work with. Ask learners to work in pairs or small groups and give each group card set A. Ask them to calculate the probability of the event on each card and stick on the probability scale handout. When learners have completed card set A, provide them with set B and repeat. These are more challenging probabilities, involving mutually exclusive events (and an example of a simple combined probability). Ask learners to attach their A3 handouts to the wall and review each other's. Use Slide 12 to extend this task, and address a misconception about probabilities adding to 1.	Slides 11–13 Handout: Probability scale Handout: Probability card sets A and B
Explore	Calculating probability from data in a table	5	Introduce the data in a tabular format. Discuss the similarities of this to the 100 square grid and recap what is known of the probability values. Remind the learners that the key idea is to work out the number of ways an event can happen divided by the total number of possible outcomes. Ask learners how to calculate probabilities from data in a table.	Slide 14
Practice questions	Practice questions	10	Ask learners to answer the selection of practice questions and after a few minutes discuss their thinking.	Slides 15–19 Handout: Exam questions

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Review	To summarise the key learning points	5	Review the learning objectives for the lesson. • Do learners feel more confident tackling probability questions now? • For which questions do they need more practice?	Slide 20