

STATISTICS AND PROBABILITY CONCEPT SEQUENCE

Select the Level number to link to the TEACHING RESOURCES for that Level at A LEARNING PLACE A TEACHING PLACE.

This concept is broken into statistics (data) – information we place into logical mathematical representations, and into probability (chance) – the likelihood that an event will occur.

Statistics and Probability are intrinsically related – without data we cannot identify chance.

		LINKS
KINDERGARTEN	1	Answer yes/no questions and record data in a chart in rows.
	2	Identify and describe the outcomes of familiar events involving chance using everyday language.
YEAR 1	3	Ask questions to collect data. Represent and describe data with objects and pictures with one-to-one correspondence. Identify categories with the greatest or least number of objects or pictures.
	4	Interpret picture graphs using the language of chance.
	5	Describe likelihood using chance language.
YEAR 2	6	Collect data using tally marks. Display data in lists, tables and picture graphs using a base line and one-to-one correspondence. Compare the usefulness of different types of data displays.
	7	Interpret lists, tables and picture graphs by asking questions about data, including using the language of chance, and using the data to answer the questions.

Essential related concepts are Multiplication and Division 5, Patterns and Algebra 8.

LINKS

YEAR 3	8	Collect data, record in picture graphs, simple column graphs, with and without technology.
	9	Interpret and compare data displays, including making statements using the language of chance.
	10	Refine questions to collect data that may be easily recorded in categories. Compare child-generated data representations.
	11	Conduct repeated trials of chance experiments, identifying possible outcomes, recording results in lists, tables and column graphs, and explaining variation in results.
YEAR 4	12	Trial and evaluate methods for collecting data, including constructing surveys and recording sheets, selecting the most effective method for a given investigation, including 2 way tables. Construct tables, columns and picture graphs with one-to-many correspondence, with and without technology, evaluating the effectiveness of different displays of the same data. Interpret data representations in the media with one-to-many correspondence.
	13	Ask questions about data in a display, including using the language of chance, and use the data to answer the questions.
	14	Order the chance of familiar everyday events occurring from most likely to least likely. Identify everyday events where one cannot happen if the other happens. Identify events where the chance of one occurring will not be affected by the occurrence of the other.

LINKS

YEAR 5	15	<p>Pose questions to investigate and collect categorical and numerical data by observation or survey.</p> <p>Construct data displays, including column graphs, line graphs, dot plots and tables with and without technology, identifying the best representation for each investigation, justifying the choice.</p> <p>Use data to make decisions.</p>
	16	<p>Identify the outcomes of chance experiments and list probabilities using fractions.</p> <p>Investigate the probabilities of all outcomes for a simple chance experiment and verify their sum equals 1.</p> <p>Identify the likelihood of winning a simple game, given the number of possible outcomes and the likelihood of each outcome.</p>
	17	<p>Conduct chance experiments with technology, with a small number of trials, using the results to predict likely outcomes of large numbers of trials.</p> <p>Compare the frequencies of outcomes each trial, and comparing the predicted frequencies of outcomes from actual frequencies of outcomes, identifying surprising results.</p> <p>Use the results to make predictions about a larger population, identifying that the prediction closely matches the results of larger numbers of trials.</p>
YEAR 6	18	<p>Evaluate the relative benefits to organisers and participants in games of chance, describing probabilities using fractions, decimals and percentages, including on a number line. (Also Place Value 30, Fractions and Decimals 31)</p>
	19	<p>Interpret and compare a range of data displays, including two-way tables and side-by-side column graphs, describing similarities, differences and usefulness of each representation for interpreting the data, and making decisions based on the data.</p> <p>Interpret secondary data presented in digital media, identifying the intended message and any potentially misleading representations of the data, explaining that it is important to read all information before making a judgement.</p>