

Y9 Independent Learning Task

Subject:	Mathematics			
ILT #1	Data Detectives			
Week set:				
Duration:	Approximately 1 to 1 ½ hours			
Hand in:				
Instructions:	Investigate a real-life dataset on a topic that interests you. Choose or be given a suitable dataset. Clean and organise the data, then create at least 3 graphs or charts showing different aspects of it. Calculate key statistics such as mean, median, mode and range. Analyse the data to identify patterns, trends or interesting features. Write a short news report explaining what you have discovered. Include a headline, introduction, key findings and conclusion, and present your work clearly and accurately. Your finished work could be presented as a newspaper article, magazine spread, blog post, poster, infographic or video news report.			
Skills:	This task develops students' ability to: • Collect, organise and analyse data. • Select appropriate graphs and charts to represent information. • Calculate and interpret statistical measures. • Identify patterns, trends and anomalies. • Draw conclusions from mathematical evidence. • Communicate mathematical findings clearly. • Think critically about the reliability and quality of data. • Develop independence, curiosity and decision-making.			
Marking schema:		Developing	Proficient	Advanced
	Assessment Area	Emerging	Secure	Excelling
	Mathematical Understanding	Calculates some statistics and creates graphs or charts, but there may be errors or limited interpretation.	Calculates appropriate statistics accurately and uses suitable graphs or charts to represent the data.	Demonstrates detailed and accurate understanding, selecting effective representations and using statistics confidently to reveal important features of the data.
	Application of Mathematics	Uses some mathematical techniques to explore the dataset but makes limited connections between the results.	Applies appropriate statistical techniques to identify patterns, trends and features within the data.	Applies mathematics confidently to investigate the data in depth, making meaningful comparisons, identifying anomalies and drawing well-supported conclusions.

	Thinking & Communication	Describes some findings using basic mathematical vocabulary.	Communicates findings clearly through an organised news report, appropriate graphs and mathematical vocabulary.	Creates an engaging and convincing report that interprets rather than simply describes the data, using precise mathematical language and evidence to support conclusions.
	Habits of Independent Learning	Completes the basic investigation with some support.	Works independently, makes appropriate choices and completes all core mission requirements.	Shows initiative by making thoughtful choices about the dataset, representations and analysis, checking accuracy and taking ownership of the investigation.
	Stretch & Challenge	Completes the core Data Detectives investigation.	Completes one or more Level Up Challenges.	Goes beyond expectations by comparing groups, investigating unusual results, making predictions or critically evaluating how the data was collected and how it could be improved.
Additional guidance or help:	Need ideas for your dataset? You could investigate: • Daily temperatures • Students' favourite subjects • Music streaming data • Steps taken each day • House prices • Social media use • Traffic data • Sales data • Sports statistics • Or another topic that interests you When choosing graphs, think carefully: which representation will make your data easiest to understand? Level Up Challenges: • Compare two groups within your data. • Find and explain any outliers or unexpected results. • Make a prediction based on the patterns you discover. • Investigate whether a different graph would change how someone interprets the data. • Evaluate the quality of your dataset: Where did it come from? Is it reliable? Is there enough data? Could it be biased? • Suggest how the data could be collected more accurately.			