Statistics: Loopy aeroplanes

**(Y6)**

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| To read the most recent version of this sequence, download associated resources, and view embedded professional learning including classroom videos and work samples, visit: [https://resolve.edu.au/teaching-sequences/year-6/statistics-loopy-aeroplanes](https://resolve.edu.au/teaching-sequences/year-6/statistics-loopy-aeroplanes?utm_source=docx&utm_medium=sequence_overview&utm_campaign=loopy_aeroplanes) |

# Sequence Overview

## About this sequence

Students compare distributions of discrete and continuous numerical and ordinal categorical data sets as part of their statistical investigations, using digital tools.

## Australian Curriculum: Mathematics (Year 6)

### Achievement standard

Students collect and record categorical data, create one-to-one displays, and compare and discuss data using frequencies.

### Statistics

**AC9M6ST01 -** Interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape

**AC9M6ST03 -** Plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation

# Lessons in this sequence

## Lesson 1 • Best design

Students make a loopy aeroplane using a small and large loop. They explore if the plane flies further when thrown with the small loop or large loop at the front.

## Lesson 2 • Aeroplanes protocols

Students create protocols to control variables when flying their planes.

## Lesson 3 • Testing aeroplanes

Students use established protocols to collect data on their loopy plane designs.

## Lesson 4 • Small or large first?

Students determine the best loopy aeroplane design using their data as evidence.

## Lesson 5 • New loopy aeroplanes

Students identify ways to modify the design of a loopy aeroplane, and they make a plan to test these modifications.

## Lesson 6 • Testing again

Students collect data on their modified loopy aeroplane designs.

## Lesson 7 • What is the best design?

Students analyse data on the modified loopy aeroplanes to determine the best design.

## Lesson 8 • Fly-off

Students use the evidence gathered to design and build a loopy aeroplane for a class fly-off.

## Suggested implementation

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|  | **Week 1** | **Week 2** |
| **Monday** | **Lesson 1 • Best design**Problem* Making aeroplanes
* Flying planes
 | **Lesson 6 • Testing again**Data* Collecting new data
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| **Tuesday** | **Lesson 2 • Aeroplanes protocols**Plan* Making plans
* Piloting data collection
* Establishing protocols
 | **Lesson 7 • What is the best design?**Data & Analyse* Representing new data
* Looking at the data on the best design
* What is good design?
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| **Wednesday** | **Lesson 3 • Testing aeroplanes**Data* Following protocols
 | **Lesson 8 • Fly-off**Conclusion* Fly-off
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| **Thursday** | **Lesson 4 • Aeroplane data**Data & Analyse* Representing data
* Which is the best?
* Testing predictions
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| **Friday** | **Lesson 5 • New loopy aeroplanes**Plan* Changing the design
* Making our own plane
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