

➤ Notes for parents. Activity next page.

**The purpose of this task is to have your child:**

- Make accurate measurements as they collect (statistical) 'data' in a practical experiment

**Think about this:**

- **Multivariate Data** is data that arises from more than one variable. In reality, statistical information often includes a number of elements or features. Processing these is more complex than if information is collected about one variable.

For example: statistical information about a population often includes many variables: age, gender, marital status, etc... (multivariate data). Findings can be made about one of these variables, or about a more complex combination of these.

- In this task, as your child tests their planes, they are collecting multivariate data. Their decision about the 'best' plane will therefore need to consider all of the variables of distance, height, position, flight path, etc...
- Your child will benefit from discussing this with you.

**He taura kōrero Māori:**

Tīkina he pepa, he kutikuti hoki, ka hanga ai i tētahi rererangi pepa.	Get some paper and scissors and make a paper plane.
Whakamātauria tō waka rererangi. Anei ngā mea hei ine māu.	Test out your plane. These are the things you need to measure.
Hangaia kia toru ngā rererangi rerekē. Tukuna ō rererangi kia rere tawhiti. Inea ēnei mea, ka tuhi ai ki te tūtohi.	Make three different planes. Launch your planes to fly as far as they can. Measure these things and write them on the table.
Ko ngā inenga i tuhia e koe ki te tūtohi, ka kīia ērā he raraunga. He raraunga matatini nā te mea he raraunga mō ētahi āhuatanga maha, pērā i te tawhiti o te rere, te teitei, te wā e rere ana.	The measurements you wrote on the table are called data. Multivariate data because it is data about lots of things such as the distance flown, the height, and the time spent flying.
Ko tēhea te rererangi e tino pai ana tōna rere? He aha ai?	Which plane flies the best? Why?



**He tūhuratanga ine, he tūhuratanga tauanga.**

**Ngā rauemi e hiahiatia ana:**

He taura ine, he pepa, he kutikuti, he wāti tū, he pene rākau

**Hei mahi:**

- Hangaia kia toru ngā waka rererangi pepa rerekē.
- Whakamātauria ēnei rererangi ki roto, ki waho anō hoki, ka ine ai i ngā āhuatanga e whakaaturia ana ki te tūtohi.
- Tuhia ngā inenga ki te tūtohi.
- Āta tiro tirohia tō tūtohi, ka tātari ai i ngā inenga. Tuhia he kōrero hei whakatairite i ngā rererangi e toru.
- He aha ngā whakakitenga ka hua ake i tō tūhuratanga?
- He aha ngā ngoikoretanga o te tūhuratanga?
- Whakamāramahia tō tūhuratanga me ngā hua ka puta.

**Te whakamātau i ngā rererangi ki roto**

	te tawhiti			te wā e rere ana			te teitei (whakatau tata)			te taunga tika/hē			te ara rere torotika/hurihuri		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
<b>Whakamātau</b>															
<b>Waka 1</b>															
<b>Waka 2</b>															
<b>Waka 3</b>															

**Te whakamātau i ngā rererangi ki waho**

	te tawhiti			te wā e rere ana			te teitei (whakatau tata)			te taunga tika/hē			te ara rere torotika/hurihuri		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
<b>Whakamātau</b>															
<b>Waka 1</b>															
<b>Waka 2</b>															
<b>Waka 3</b>															

