

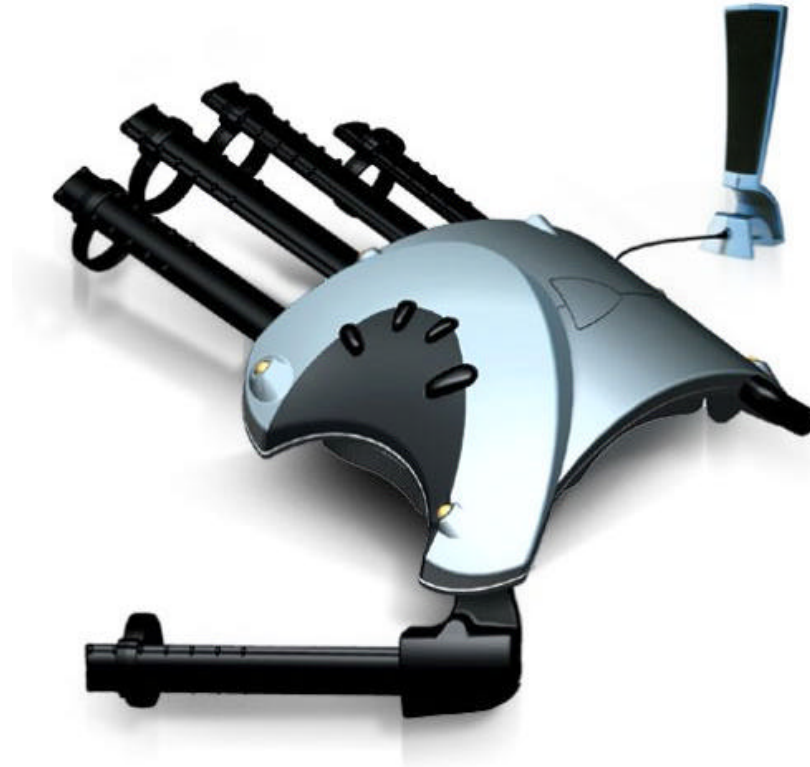
Plan

Collect

Process

Discuss

Virtual Reality Gloves



Plan

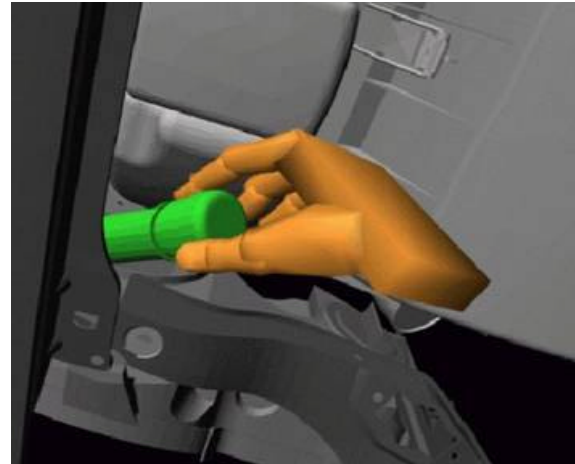


Collect

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Virtual Reality Gloves



Virtual reality gloves have been used in games and 3D design for a number of years.

Plan



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to start the
video. The next slide will be
available when the video ends.

One 3D company has created software that allows doctors to practice surgery using a computer.

It uses an expensive digital scalpel to simulate cutting flesh.

They now want to develop a *pair of VR gloves* to go with the scalpel and so improve their software.

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The scalpel controls will be put into the **left** or **right** hand glove - to match each user's writing hand.

For the computer to judge the distance between hands the user has to *start* with their hands clasped together...

...fingers interlocked



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Virtual Reality Gloves

The **thumb** on **top** will have an extra control used during the *start-up*.

The manufacturer might have to make several different sets of gloves.

For example:

	Writing hand	Control thumb
Set 1	Right	Left

They need to find out how common the different combinations of hand & thumb are.

Plan



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The problem

To find out how many people have their writing hand the **same** as their 'top thumb' hand.

To find out how many people have writing hand and 'top thumb' on **different** hands.

When the manufacturer makes **100 sets** of VR gloves, how many of each type should be made.

Plan



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Virtual Reality Gloves

What data should we collect?

How big a sample should we take?



Plan

Collect

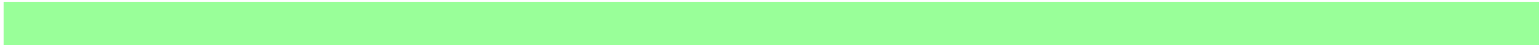


Process

Discuss

Data Collection

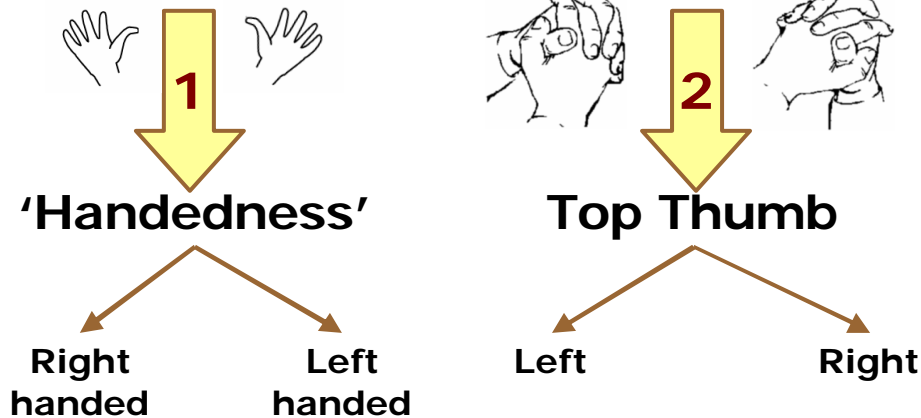
Gender	Cutting hand	Top thumb	Age





Using the results

How many features of our hands are we interested in investigating?



The best way to link these is with a **two way table**.

Plan

Collect







Process

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Two-way tables

Handedness

		Handedness	
		 Left	 Right
Top Thumb	 Left		
	 Right		



Using the results

With a large sample, converting the results into *percentages* can be a useful calculation.

For example, someone has obtained results from **160** people and found **12** people who are left handed with a right thumb on top.

$$\begin{array}{l} \mathbf{12} \\ \text{out of} \\ \mathbf{160} \end{array} \Rightarrow \frac{\mathbf{12} \times 100}{\mathbf{160}} = 7.5 \%$$

$$(\mathbf{12} \div \mathbf{160}) \times 100$$

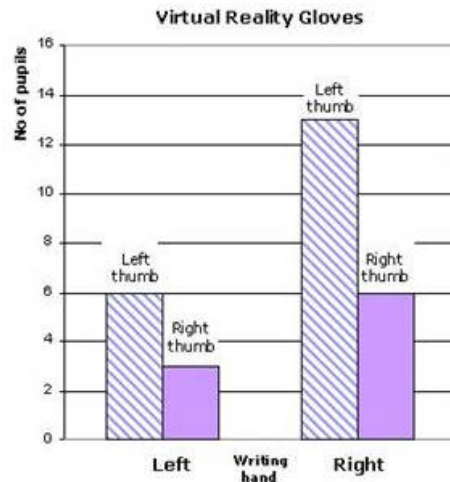




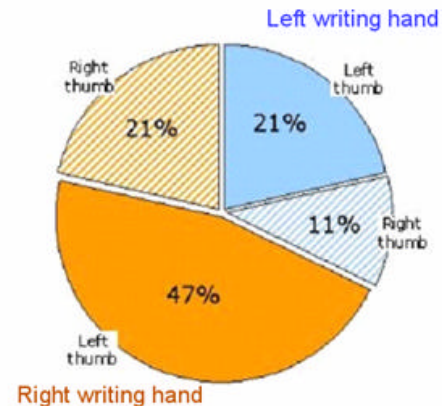
Displaying the results

Two useful ways of showing our results are with either...

a **bar chart**



or a **pie chart**



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Virtual Reality Gloves

What have you found out from your data?
Do people tend fall into one group or another?

What would you say to the VR glove manufacturer
about the sets of gloves they want to make?

Are there any features you have *noticed* or
wondered about during the investigation?

Is there more or different data that we could
collect to aid this investigation?

Plan

Collect

Process

Discuss

The Problem Solving Approach

