



A lot of people enjoy outdoor gigs.

In this activity you will use weather records to consider which would be the best month to hold an outdoor gig.



### Information sheet

The table below shows how many hours of sunshine there were in each month from January 2001 to December 2010.

#### Total monthly hours of sunshine for the years 2001–2010

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2001	74.5	86.7	90.2	134.6	226.2	192.7	190.0	177.8	113.8	103.6	65.8	75.4
2002	41.2	75.3	112.4	189.4	180.2	163.5	163.9	158.3	154.6	93.4	55.3	34.3
2003	70.5	95.3	165.2	191.3	189.9	209.4	172.5	207.6	166.0	130.3	67.4	52.1
2004	49.5	88.3	108.2	133.3	204.6	198.2	166.0	173.8	155.7	95.9	47.9	52.1
2005	56.4	72.0	79.5	146.9	216.6	190.8	178.4	210.6	150.6	81.1	90.8	57.0
2006	51.0	68.3	97.4	160.4	173.1	229.7	287.6	151.4	157.5	95.6	93.1	45.8
2007	60.5	70.4	153.9	216.5	167.1	149.8	179.7	198.1	149.3	109.4	71.2	51.2
2008	47.8	118.2	120.0	153.9	193.0	199.3	184.9	112.8	114.6	122.5	56.6	66.4
2009	56.9	55.6	153.2	170.3	212.7	202.0	177.1	173.5	142.8	90.2	65.7	62.2
2010	60.9	60.1	125.8	201.8	204.8	238.8	152.1	148.8	138.8	120.3	71.5	53.8

### Think about...

Why is it difficult to see which is the sunniest month?

Which months are obviously not the sunniest?

It is a good idea to use just one figure, an average, to represent each month?

## Mean

This average is the sum of all the data items divided by the number of data items.

But the mean just gives you an idea of how much sunshine you get on average in July.

To find out how much the total amount of sunshine varies, work out the range.

## Range

The **range** is the largest figure – smallest figure.  
It measures how variable a set of figures are.

## Using a spreadsheet to work out the mean and range

There are two ways to find the mean:

- use the spreadsheet formula **SUM** to add up all the values, then divide by the number of values
- or use the spreadsheet function **AVERAGE**

To find the range use **MAX – MIN**

## Try this

Find the mean and range of the total number of hours of sunshine for May, June, July and August.

## Think about...

The table gives the mean and range for the total number of hours of sunshine for May, June, July and August:

	May	June	July	August
Mean	196.8 hours	197.4 hours	185.2 hours	171.3 hours
Range	59.1 hours	89.0 hours	135.5 hours	97.8 hours

- What do these results tell you about the amount of sunshine?

## Try this

Investigate which would be the best month to hold an outdoor gig.

Use the spreadsheet to find means and ranges for rainfall and temperature.

Write a brief report using your results to back up your recommendation.

You will have to decide for yourself which are the most important weather factors!

### At the end of the activity

- How do you work out the mean on a spreadsheet?
- Why is it a good representative value?
- How do you work out the range on a spreadsheet?
- What is measured by the range?
- Can you predict next year's weather reliably from previous data?

### Extension

Include statistical charts or graphs in your report to illustrate some of the data. Describe what they show, and how they help you to decide when to have the outdoor gig.