



“Climate is what we expect, weather is what we get”

Roll a dice 100 times and keep a tally of the numbers that appear.

In the FREQUENCY column, note the number of times each number appears.

In the TOTAL column, put the sum of the numbers in that row. (e.g., if 6 appears 10 times, write 60.)

NUMBER	TALLY	FREQUENCY	TOTAL
1			
2			
3			
4			
5			
6			

Q1 What is the **probability** of rolling each number?

Q2 What is the **average** of all the numbers you have rolled?

We can compare this to the weather and climate. Each of the numbers on the dice corresponds to a particular ‘weather’, with an equal probability of getting each different type of ‘weather’ (or number on the dice).

The ‘climate’ is the average ‘weather’ – in this example, the ‘climate’ is the average of the numbers you throw.

Q3 If you throw the dice another 100 times, can you predict what the climate will be? Can you predict what the weather will be on the next throw?

Q4 If the sides of the dice were labelled 11-16 instead of 1 – 6, what would the climate be? Could you predict the weather (i.e. the next number you throw) with any more certainty than you could with a normal dice?

Q5 You can’t predict what number the dice will show on the next throw, but weather-forecasting isn’t like this. What’s the difference?

Scientists find it difficult to predict what the weather is going to be like in 5 days time, but that doesn’t mean they can’t discover how the climate may change. The climate, or average weather, is determined by large scale features – such as how much energy the Earth is getting from the Sun. The day to day weather is much less predictable: it can be very similar to, or very different from, the climate.