Investigate weather forecasts

Watch your local weather forecast each day and notice how accurate it is. For every day that the forecasters get it right reward them with one point. If they get it wrong you get the point.

Correct weather forecasts	
Incorrect weather forecasts	10

After 10 days who has the most points?

You can use these results to work out a probability for the forecast being right.
Probability = (the number of points the forecasters got) ÷ 10

Probability = $\frac{\text{correct weather forecasts}}{10}$ = $\frac{\square}{10}$ = $\square$

The closer your answer is to 1, the better the forecasters are at predicting the weather.

Carry on recording the success of the weather forecasts for another 20 days. Score the weather forecasts as you did before.

Correct weather forecasts for the next 20 days	
Incorrect weather forecasts for the next 20 days	10

Investigate weather forecasts

You have now checked the weather forecast a total of 30 times altogether. Are the forecasts any more accurate?

Probability = $\frac{\text{correct weather forecasts}}{30} = \frac{\square}{\square} = \square$

30

The closer your answer is to 1, the better the forecasters are at predicting the weather over a longer period.

Accuracy

In the weather experiment you are seeing how accurately the weather is predicted.

An answer between $\frac{1}{2}$ and 1 tells us that the forecasters are more likely to be right than wrong.

An answer close to 1 would mean that the forecast is right most of the time.

Like the coin experiment in the **Investigate flipping a coin** worksheet, if you use the main data to work out your probability, the more accurate it will be. So the more days you record the forecast and score it, the more accurately your results will give a probability for future forecasts being right.

Extending the investigation

Here are some ideas for extending the investigation:

Compare forecasters

You could experiment comparing different weather forecasts. For example, from different newspapers, different TV programs or different radio stations.

Add a new result: 'half-right'

You could try scoring in different ways. Instead of just right and wrong you could have 'right', 'wrong' and 'half right'. Give points to each of these three new categories and see how they score.

Can you think of even more categories?