

## Predicting the Weather

**Abstract:** Students are introduced to the idea of using computers to predict the weather. In this task students investigate the history of weather forecasting and how we now rely on computers.

CSIRAC was used to predict the weather in Australia. This was achieved by the consideration of lots of data about the weather—the temperature, the wind, the clouds and precipitation.

**Prerequisites:** Students should be aware that weather prediction today involves enormous quantities of data and complex calculations, hence the need and use of computers.

**Resources Needed:** Access to weather forecasting information and weather reports via the internet, newspapers, radio or television news. The following links may provide a good starting point for their investigation:

Australian Bureau of Meteorology [www.bom.gov.au](http://www.bom.gov.au)

The Globe Program [www.globe.gov](http://www.globe.gov) .

### Activity:

1. Students investigate the history of weather prediction in Australia, including Indigenous knowledge, knowledge of the local area, folk law, and using technologies other than computers.

Students shall examine some key indicators and records of weather—maximum temperature, wind speed, cloud cover and precipitation. They shall identify or make up a simple model for predicting the weather.

For example: 'If it is sunny and there is a strong wind blowing and clouds begin to appear then tomorrow will be colder than today' or 'If it is cold and rainy and there is no wind then tomorrow will be a bit warmer'.

2. Students shall use their model to make a minor weather prediction, perhaps for the following day based on a current weather report or conditions. They might ask a family member to make a weather prediction based upon a best guess.

The students need to check how accurate the predictions turn out, comparing results and reporting on their findings and communicating their findings with presentation software.

3. As an extension activity, students could gather data about weather prediction and the weather itself for one week and present their findings to the class. Students might work together as a class to create a complex weather prediction model and then test their model against real data.

**Learning Outcomes:** The decision making process used to model weather is a very simple analogy of the decision-making process used by computers. The steps of the project represent the steps of information processing where the data (weather data) is turned into information (weather prediction).

Information comes from a variety of media sources and this is indicative of how knowledge is constructed.

**Other benefits for students:** The activity allows for the individual construction of knowledge about the development of the computer by deconstructing a process into its component parts. It provides a range of themes that might appeal to different learning styles.

## Predicting the Weather- Student Worksheet

1. Investigate the history of weather prediction in Australia, including Indigenous knowledge, knowledge of the local area, folk law, and using technologies other than computers.
2. Identify or make up a simple model for predicting the weather.
3. Use you model to make a minor weather prediction, perhaps for tomorrow or two days ahead.
4. Check the accuracy of your predictions, compare your results with others and report on your findings.
5. As an extension activity, work with others to gather data about weather prediction and the weather itself for one week. Present your findings to the class.