



## Predicting the Weather

### Skiful Prediction

#### Scenario

We would like to add a regular weather forecast to the school's radio station 107.2FM To do this we all need an understanding of how weather predictions are made. Please submit a short presentation in which you clearly demonstrate your knowledge and understanding of major factors and patterns associated with Auckland's weather. What would you use in order to make a skiful prediction on the next day's weather?



Parents' Quest Guide No.11

Dear Parents

We are about to start a new science Quest called 'Predicting the Weather.' This unit of work has been developed here at Birkdale Intermediate. Our students work in pairs to answer the question posed in the scenario.

During the Quest they listen to video interviews, read articles and look at weather maps. They also collect daily weather data from the school's weather station mounted on the roof of the theatre.

The Quest is used to teach the Planet Earth and Beyond section of the New Zealand Science Curriculum. Our students investigate major factors and patterns associated with weather, and use given data to predict weather.

Ways in which you could support your child during this study:

- Look together at the weather maps in the newspaper or on the web.

<http://www.metservice.com/>

- Look each morning at the barometer if you have one in your house.
- Talk about any old adages like, "Red sky at night, sailor's delight. Red sky in morning, sailor's warning"
- One skill they will need to make their prediction is to be able to identify wind direction. At home you could locate north using a compass a look at the cardinal and inter cardinal points e.g. North, North West
- Students with cellphones capable of taking photographs will also be asked to record the sky at dusk and bring the photo to school for others to see. If your child is able to do this please make sure they know to give the phone to their teacher for safe keeping.



### Quest Awards and Presentations



#### Online Learning Award

Recognizing creative teachers for their pioneering use of telecommunication networks to provide innovative learning opportunities for school-age students.



Presented at the National Education Computing Conference, New Orleans, United States of America.



Presenting at the 13th International Conference on Thinking June 2007, Norrkoping, Sweden.



Presented at the Col·legi Montserrat, Barcelona, Spain, 2008.

Yours sincerely

Richard Coote  
Principal

## Learning to Think Skilfully

A major part of this Quest will involve the students looking closely at ways to improve their thinking. Everyone is capable of critical thinking. Every day we compare and contrast, make predictions, problem solve etc. Although we do this in our everyday lives we often do not do this skilfully.

As part of this Quest your child will be looking at the skill of prediction. In this case predicting the weather. The students will be discussing and practising skilful prediction.

### Skilful Prediction

Dr Robert J. Swartz

'What will the weather be like next week? What will the economy be like next year? Will global warming occur? Will global warming happen in my lifetime? These are all direct questions about trends or general conditions in the future. To answer them well we have to make predictions.'

'The most common problem about predicting is that sometimes we do not take time to think about what might happen in the future. We do not ask questions like, "What might it be like tomorrow?" or "What might happen as a result of what's going on today?" If we do not ask such questions, we may experience situations that we do not expect and may not like.'

'Even when we do consider what might happen in the future, we may develop unrealistic expectations that result in unnecessarily costly disappointments. Often we let our hopes or fears lead us to anticipate opportunities, rewards, or difficulties that we do not have a good reason to expect. I may go to a movie theatre early because I'm worried that I won't be able to get a ticket. If I have no good reason to think

the movie is popular, I may unnecessarily cut my meal short and rush to the theatre to find that few other people are interested in the movie. We take a risk in making hasty predictions that are **no more than guesses** about what is going to happen.'

If you would like to know more about skilful thinking a book by Dr Robert Swartz can be borrowed from your child's teacher.

### The Thinking Map for Skilful Prediction

A thinking map like the one below helps people find their way through their thinking in a skilful way just as a map helps us find our way around a city. It provides focal questions to ask that takes us beyond more superficial ways of predicting.

#### Skilful Prediction

1. What might happen?
2. What evidence might you get that would indicate that this prediction is likely?
3. What evidence is available that is relevant to whether the prediction is likely?
4. Based on the evidence, is the prediction likely, unlikely, or uncertain?

Once the students are familiar with how to do this thinking skilfully they begin their research.

While collecting weather data from our weather station your child and their collaborative partner will use a graphic organiser that reinforces the steps in skilful prediction.

## Helping Your Child

You can help your child by pointing out times when you have had to make a prediction and why doing it skilfully helped you or would have helped had you done it more skilfully.

You could also help your child to predict important things at home by asking him or her the questions from the thinking map yourself.