



Behaviour and the weather

WOW resource

Science/Maths

Overview

This project aims to extend students' ideas and knowledge on **correlation** using the Weather Observations Website (**WOW**) website. It focuses on looking at the possible link between the weather and behaviour in schools.

The project is more suited for KS4 pupils but a high ability KS3 class could probably cope with its content. It involves pupils drawing scatter graphs or using spreadsheets if they have access to computers.

The ideas here can be taught in a few lessons using these resources or they can be made into a mini project lasting longer.

Teachers can adapt the ideas to suit their needs and tasks can be extended.

For example pupils could design a survey to collect information on behaviour in their own school and gather local weather data using the **WOW** website. It has possible cross curricula links with maths.

Objectives

- To develop knowledge and understanding on correlation between two variables.
- To investigate if there is a link between behaviour in schools and the weather.
- To use the **WOW** website to gather data on past weather observations.
- To design a survey to collect information on behaviour in your school.
- To gain experience in recording data in tables and spreadsheets.
- To build on pupils' ability to draw and interpret graphs.

Introduction

In this task you are going to analyse the weather data for a certain town and establish if there is a correlation between weather and behaviour. For instance, do pupils behave better or worse if it is windy?

The behaviour of the pupils was judged by their teachers over four weeks in the month of March and their behaviour was given a score by their teachers on a 1 to 8 scale.

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Behaviour scale

The behaviour scale is determined by the teacher with 1 being excellent behaviour from the class and 8 being behaviour that is seen to be unacceptable from that class for that teacher.

Behaviour no.	Behaviour shown
1	No interruptions from the class
2	Very few interruptions to the lesson
3	When they are completing their own work some pupils get distracted
4	A few pupils start to distract each other and lose focus for longer periods
5	Level of noise starts to increase and more off task behaviour is seen
6	Pupils are distracted from their work and find it difficult to work
7	Lots of interruptions to the lesson from a range of pupils both in their own work and when listening to the teacher
8	Constant interruptions to the lesson, unable to work in the lesson

Worksheet exercise

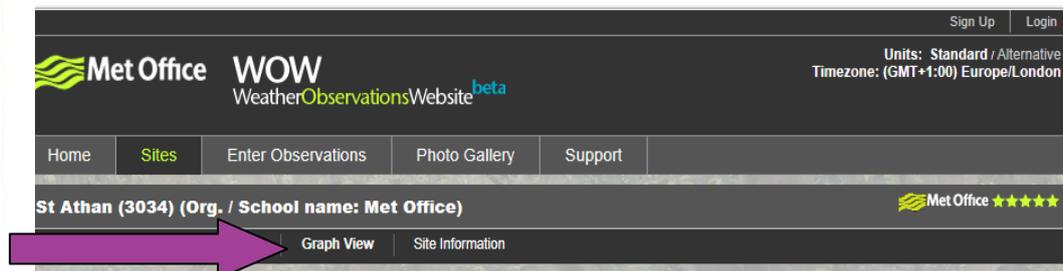
Ask the students to use one of the two worksheets to draw a graph. If time and resources permit they can gather their own data from WOW. Alternatively they can use the data from the completed worksheet.

Extracting the weather data from WOW

The website address for this station is

<http://wow.metoffice.gov.uk/sitehandlerservlet?requestedAction=READ&siteID=3034>

1. Open the web address above.
2. Click on the graph view tab.

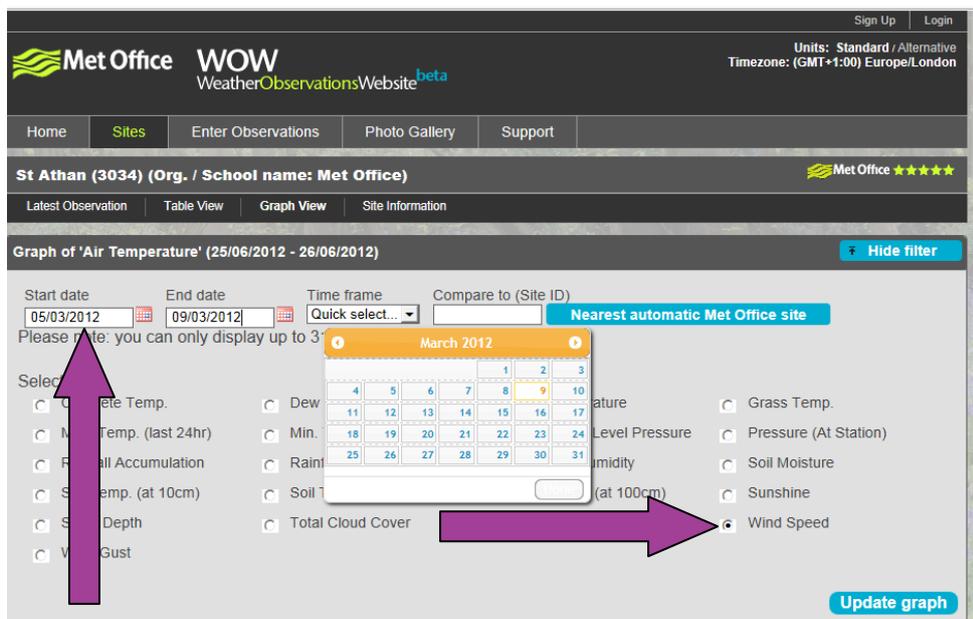


3. Click on the blue 'Show filter' button.



The screenshot shows the WOW website interface. At the top, there are navigation links for 'Home', 'Sites', 'Enter Observations', 'Photo Gallery', and 'Support'. Below this, the site name 'St Athan (3034) (Org. / School name: Met Office)' is displayed. A 'Graph of 'Air Temperature' (25/06/2012 - 26/06/2012)' is shown, with a purple arrow pointing to a blue 'Show filter' button on the right side of the graph area. The graph itself shows a line representing temperature in degrees Celsius over time, with a peak around 16:00 on 25/06/2012.

4. Click on the 'Wind speed' radio button and set the date range to the first week of observations which is 05/03/12 to 09/03/12. Then click on 'Update graph'.



The screenshot shows the filter options for the graph. The 'Start date' is set to 05/03/2012 and the 'End date' is set to 09/03/2012. A calendar for March 2012 is displayed, showing the dates 05 to 09. The 'Wind Speed' radio button is selected, and a purple arrow points to it. Another purple arrow points to the 'Update graph' button at the bottom right of the filter area.



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- To obtain the wind speed readings – go to the correct day and estimate the wind speed reading at 12:00. Fill this in the table of results.

Graph of 'Wind Speed' (05/03/2012 - 09/03/2012)



The reading on 05/03/2012 at 12:00 is 15 mph. So write 15 mph for the wind speed.

- Repeat this for each day of the week and then reset the date range for the next week. Do this by clicking the show filter tab and then resetting the graph.