

Independent Learning Project

Department:	MATHS	Start Date:	Spring 1 st half term	Due Date:	Feb Half term
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Title of Task: Weather Forecast	How should I submit my work?	
Aims/Learning Outcomes: To collect data from the current weather and use it to predict the future weather	Success Criteria: (see other sheet)	My Target Level:
What you need to do	Extension Task	Useful Topic Related Words
Guidelines: Over 5 weeks, your task is to collect data from the weather: record the amount of rainfall per day and the wind direction and represent it in appropriate graphs and charts. Using your results you will predict what the weather will be like for the next couple of days. You Must: <ul style="list-style-type: none">Collecting primary dataRepresent data in a range of graphs and tablesAnalyse graphs and chartsUse the results to draw conclusions- and predict the weather. You Should: <ul style="list-style-type: none">Present your work neatly and orderedShow evidence of analysing graphs and charts accurately.	You Could: <ul style="list-style-type: none">Show evidence of using secondary data, from previous years, to help you make your predictions. Comment on any possible reasons why it may be different in different years.	Statistical Words: Predict Research Interpret Evaluate Conclude Wind direction: N, NE, E, SE, S, SW, W, NW. Types of weather: Overcast, Cloudy, Sunny, Rainy, Thundery. Cold, Humid, Hot, Warm.

What steps can I use to help along the way? These steps will be helpful when completing the project.	Are there any supporting documents – PowerPoint's, images, pictures, website links, etc?	Equipment that I may need												
<p>Checkpoint 1 (due in week 1)</p> <ul style="list-style-type: none">Make your rain gauge, make your wind vane- Evidence (picture) of homemade equipmentStart collecting weather data- everyday at the same time and record in a table. Full table drawn with the first week's table of values recorded clearly. <table><tr><td>Day/ Time</td><td>Rain level/ cm</td><td>Wind Direction</td><td>Temperature/ °C</td></tr><tr><td>Mon- 4pm</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>	Day/ Time	Rain level/ cm	Wind Direction	Temperature/ °C	Mon- 4pm									<p>Homemade rain gauge: 2l plastic bottle, Ruler, Permanent marker,</p> <p>Homemade wind vane: Pencil, Straw, Pin, Small piece of light plastic.</p> <p>Thermometer (or one at school),</p> <p>Graphical paper,</p> <p>Ruler,</p> <p>Pencil,</p> <p>Graph paper,</p> <p>Protractor (pie charts)</p>
Day/ Time	Rain level/ cm	Wind Direction	Temperature/ °C											
Mon- 4pm														
<p>Checkpoint 2 (due in week 2)</p> <ul style="list-style-type: none">Continue collecting weather data- everyday at the same time and record in a table. <p>Write the first section of the project:</p> <ul style="list-style-type: none">Explain the task-What are you going to do?State what you will measure-How are you going to do it?What equipment are you using? And why?How will you record your results?How will you collect your data? (e.g. a table of values/ pie charts/ scatter diagrams)What problems do you think you might have? <p>Homework to hand in:</p> <ul style="list-style-type: none">Complete and neat copy of the first section.Table drawn with two weeks of values recorded clearly.														
<p>Checkpoint 3 (due in week 3)</p> <ul style="list-style-type: none">Continue collecting weather data- everyday at the same time and record in a table.Plan how your will represent he data- Bar chart, pie chart, scatter diagram, frequency polygon. <p>Homework to hand in:</p> <ul style="list-style-type: none">Complete the table with all three weeks of values recorded clearly.Show evidence of a plan for the diagrams and explanations.														

Checkpoint 4 (due in week 4)

Write the second section of the project:

- Raw data- table of values collected over the weeks
- Bar charts/ frequency polygons/pie charts/scatter diagrams for each set of data- what do these tell you about the previous weather? Can you use these to predict the future weather?
- Mean, and range for each set of data and compare that to last year's weather at this time. Does this help to predict the weather?

Homework to hand in:

- Complete and neat copy of the second section.

Checkpoint 5 (due in week 5)

Complete the final conclusion section:

- What do you predict the weather will be for the next two days?
- Relate your prediction to your results and graphs (e.g. my bar chart on rain fall shows that it has rained lots in the past few days, this suggests that....)
- Evaluate your plan
 - Where you correct with your prediction of the weather?
 - What could you have done better/ differently?
 - What other things could you have looked at to improve your project?
 - What problems did you have? How did you overcome these?
- Prepare to present findings to class as a TV weather report.

Homework to hand in:

- Full, complete project.
- Present findings to class as a TV weather report.

Please remember to plan out your time carefully and ask your subject teacher if there is anything that you do not understand.