Sample virtual program: Stage 4 Agriculture, climate and weather in NSW

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| Guiding question |  |
| What are your students going to learn? (Objectives) | A student:**AG4-2** outlines the interactions within and between agricultural enterprises and systems**AG4-9** identifies aspects of profitability, technology, sustainability and ethics that affect management decisions |
| How are they going to learn it? (Resources and Strategies) | **Resources**The Climatedogs: The main drivers that influence climate in NSW <https://www.dpi.nsw.gov.au/climate-and-emergencies/seasonal-conditions/climatedogs>The Bureau of Meteorology <http://www.bom.gov.au/>**Strategies** Students will access a range of animations that describe and simplify complex atmospheric phenomena that affect Australian farmers. Informative posters explaining these phenomena will be developed to teach other students. Climate in the local area will be graphed and students will compare the differences between local climate and the weekly weather forecast, making inferences about why they are different.  |
| Target date for completion | Within 2 weeks (4-5 X 60 minute lessons)  |
| How are you going to know that they learned it? (Success criteria) | **Specific tasks** 1. Learn about complex atmospheric phenomena through the [Climatedog animation series](https://www.dpi.nsw.gov.au/climate-and-emergencies/seasonal-conditions/climatedogs). Use this information to create a poster representing all six of the ‘Climatedogs’ and explaining their effects on climate in Australia. You poster is aimed at teaching your fellow classmates about these climate drivers.
2. Use a suitable website, for example, <http://www.bom.gov.au/>, to find the average minimum and maximum temperatures for each month in your local area.

Create a table to represent this data and use the table to create a graph with a minimum and a maximum line, clearly identified using a key. Answer simple questions about the climate in your area as directed by the teacher. Ideas for questions could include:* Identify the hottest and coldest months of the year.
* Which months have the greatest range between the minimum and maximum temperatures.
* If a family was considering visiting your local area in winter/summer, how would you describe the expected weather patterns and what clothing suggestions would you recommend?
1. Use a reliable weather App, local TV news weather report or local newspaper to find the weekly forecast for temperatures.

Copy these down in a table similar to the previous one created for the averages for each month of the year. Does the weekly forecast match the average minimum and maximum temperatures graphed in the previous activity for this time of year? Can you explain why there may be some days outside the averages?1. Define the terms climate and weather. Explain how they are different.
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| Collecting evidence of student learning (Verification) | Using the schools online platform of choice, students will be required to submit the following:* Poster depicting each of the Climatedogs, the atmospheric phenomena they represent and how these drive climate in NSW.
* Table of minimum and maximum temperatures for each month in the local area
* Line graph depicting minimum and maximum temperatures for each month in the local area, one graph, two lines and a key.
* Table representing the local weather forecast for the week with minimum and maximum temperatures.
* Communication about the similarities and differences between local weather forecasts and local climate averages. Reasonable explanation about differences based on weather patterns and averages taken over long periods of time.
* Communication on definitions and explanations for weather and climate.
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| Feedback (Evaluation) | Format to be communicated clearly by teacher, whether it is by emailing comments or annotations on documents, upload of media/audio via online platforms or a blended approach.  |
| Communication | Teachers are able to gauge the progress of the tasks via the schools online platform. Submission dates for each task may be useful as opposed to one final due date. Students can pose questions/clarifications directly to teacher via email or online platform Scaffolds for each task may be posted by the teacher to help clarify specific requirements for each activity.  |