

LIFE ON THE MURRAY RIVER

Level: 3 & 4

Activity: 1

Overview

Australian Aboriginal people have lived along and cared for the Murray River for tens of thousands of years, and evidence of their sustained connection to this body of water can still be seen today. Many different traditional stories exist regarding the creation of the Murray River. During this activity, students will read one version of this story from Ngarrindjeri Country, close to the mouth of the Murray in South Australia. Students will then consider the main ideas and sequence of events to create a storyboard for 'The Ngurunderi Dreaming'.

Resources

- Appendix A: *The Ngurunderi Dreaming – Storyboard Template*

Activity

ENGAGE

Explain to students that cultures all around the world use stories to entertain or explain. Ask them to THINK (think first alone), PAIR (then discuss with a partner), SHARE (finally, share their thoughts with the group) about stories that are told in their family or community and whether the purpose is to entertain or to explain something.

EXPLORE

Read [The Ngurunderi Dreaming](#) together as a class. Discuss as a whole group:

- What was the purpose of this story?
- What does the story show us about the relationship between the Ngarrindjeri people and the river/land?
- Can you give any examples from the story that demonstrate this relationship? For example, using bark to build canoes.

EXPLAIN

In pairs, students identify the most important parts of the story, using dot points to describe them, and group these into six separate sections for storyboarding later.

ELABORATE

Students work independently, using Appendix A: *The Ngurunderi Dreaming – Storyboard Template* and their notes, to create a storyboard.

EVALUATE

Students share their storyboards with a younger class. Later, discuss as a group:

- What went well? What was tricky?
- Do you think it is important to share stories like this today? Why/why not?

Curriculum Links



Level 3		
HISTORY	<u>Historical Knowledge:</u> Community, remembrance and celebrations	One significant narrative, myths or celebration from the past (VCHHK075)
ENGLISH	<u>Reading:</u> Interpreting, analysing, evaluating	Use comprehension strategies to build literal and inferred meaning and begin to evaluate texts by drawing on a growing knowledge of context, text structures and language features (VCELY257)
Level 4		
HISTORY	<u>Historical Knowledge:</u> Community, remembrance and celebrations	One significant narrative, myths or celebration from the past (VCHHK075)
ENGLISH	<u>Reading:</u> Interpreting, analysing, evaluating	Use comprehension strategies to build literal and inferred meaning to expand content knowledge, integrating and linking ideas and analysing and evaluating texts (VCELY288)

Sample Report Comments

{Name} recently read '*The Ngurunderi Dreaming*', a traditional dreamtime story about the creation of the Murray River. {He/She} created a storyboard, sequencing the main events and showing a good understanding of the author's purpose.

{Name} understands the importance of storytelling in Aboriginal culture and is beginning to describe the role these stories play in preserving culture and passing knowledge down to the next generation.

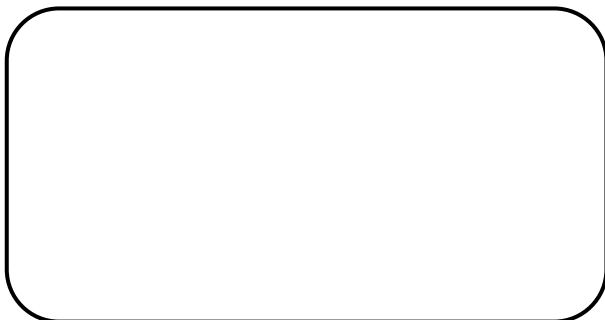
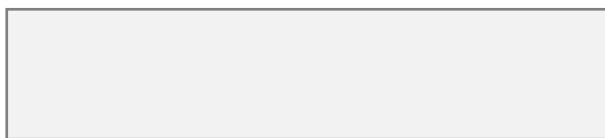

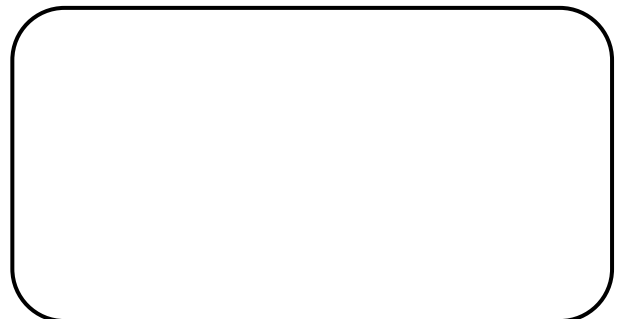

References

Discover Murray River, 2009-2018. *Ngurunderi - Dreaming of the Ngarrindjeri People Murray River*, <http://www.murrayriver.com.au/about-the-murray/ponde-dreamtime/> [viewed 05 July 2018].

Appendix A

The Ngurunderi Dreaming – Storyboard Template

Create a storyboard by drawing the main events from the story in the boxes below and including a short caption for each.

A large, empty rounded rectangle for drawing the first event of the story.A small, empty rectangular box for writing a short caption for the first event.A large, empty rounded rectangle for drawing the second event of the story.A small, empty rectangular box for writing a short caption for the second event.A large, empty rounded rectangle for drawing the third event of the story.A small, empty rectangular box for writing a short caption for the third event.A large, empty rounded rectangle for drawing the fourth event of the story.A small, empty rectangular box for writing a short caption for the fourth event.A large, empty rounded rectangle for drawing the fifth event of the story.A small, empty rectangular box for writing a short caption for the fifth event.A large, empty rounded rectangle for drawing the sixth event of the story.A small, empty rectangular box for writing a short caption for the sixth event.

LIFE ON THE MURRAY RIVER

Level: 3 & 4

Activity: 2

Overview

Colin (Marra) Clark is an Elder and Bakindji man. Bakindji means 'river people' and Colin spent much of his life growing up and working near the river. Growing up on the banks of the river allowed Colin to learn about which native plants can be used for different purposes. During this activity, students will learn about traditional uses for various native Australian plants, identify some plants found in their local area and investigate their uses.

Resources

- Smartboard or projector
- Computer access for students
- Appendix A: *Versatile Vegetation* (One copy per student)

Activity

ENGAGE

Watch [Bush Food](#) as a whole class. Discuss:

- Which bush foods were mentioned?
- Which bush medicines were discussed?
- Why do you think it was important for these kids to have this experience?

EXPLORE

Give students a copy of Appendix A: *Versatile Vegetation*. Using computers, they will need to find some plants (not already mentioned in the video) that were traditionally used for food, medicine or other purposes and complete the table. The following pages from the Australian National Botanic Gardens website may be useful:

<https://www.anbg.gov.au/gardens/visiting/exploring/aboriginal-trail/index.html>

<https://www.anbg.gov.au/apu/index.html>

https://www.anbg.gov.au/gardens/education/programs/pdfs/aboriginal_plant_use_and_technology.pdf

EXPLAIN

As a whole class discuss:

- How would you describe the relationship between Aboriginal people and the environment?
- What are some plants that were traditionally used by Aboriginal Australians? What were they used for?
- How did people know which plants were edible or could be used for medicine? How was this knowledge passed along?
- What could be challenging about using plants for such a range of purposes? What are the advantages?

ELABORATE

Now challenge students to find out about three types of plants that are found in their own local environment, including possible uses, and complete the bottom section of Appendix A: *Versatile Vegetation*. [The Atlas of Living Australia](#) website might be useful here.

EVALUATE

Invite some students to share what they discovered about the plants in their local area. Discuss:

- Where does the food we eat come from? What about medicine/tools/clothing etc?
- Could we use any plants in our local area for another purpose?
- What would be the challenges/benefits?
- How would you describe our relationship with the environment today?

Curriculum Links



Level 3		
GEOGRAPHY	<u>Geographical Knowledge:</u> Diversity and significance of places and environments	Types of natural vegetation and the significance of vegetation to the environment, the importance of environments to animals and people, and different views on how they can be protected; the use and management of natural resources and waste, and different views on how to do this sustainably (VCGGK082)
HISTORY	<u>Historical Knowledge:</u> Community, remembrance and celebration	A significant example of change and a significant example of continuity over time in the local community, region or state/territory (VCHHK073)
Level 4		
GEOGRAPHY	<u>Geographical Knowledge:</u> Diversity and significance of places and environments	Types of natural vegetation and the significance of vegetation to the environment, the importance of environments to animals and people, and different views on how they can be protected; the use and management of natural resources and waste, and different views on how to do this sustainably (VCGGK082)
HISTORY	<u>Historical Knowledge:</u> Community, remembrance and celebration	A significant example of change and a significant example of continuity over time in the local community, region or state/territory (VCHHK073)

Sample Report Comments

{Name} has investigated traditional uses for plants. {He/she} is beginning to describe the relationship that different groups of people have with the land and discuss how this relationship has changed or remained the same over time.

References

Behind the News, 2013. *Bush Food*. [online video] Available at: <http://www.abc.net.au/btn/story/s3775984.htm> [Accessed 11 July 2018]

Australian National Botanic Gardens. *Aboriginal Plant Use*, <https://www.anbg.gov.au/gardens/visiting/exploring/aboriginal-trail/index.html> [viewed 11 July 2018]

Australian National Botanic Gardens. *Aboriginal Plant Use – NSW Southern Tablelands*, <https://www.anbg.gov.au/apu/index.html> [viewed 11 July 2018]

Australian National Botanic Gardens. *Aboriginal Plant Use and Technology*, https://www.anbg.gov.au/gardens/education/programs/pdfs/aboriginal_plant_use_and_technology.pdf [viewed 11 July 2018]

Australian National Botanic Gardens. *Aboriginal Plant Use and Technology*, <https://www.ala.org.au/> [viewed 11 July 2018]

Appendix A

Versatile Vegetation

Aboriginal Australians have used plants for a variety of purposes (including food, medicine, tools and shelter) for thousands of years. Fill in the chart below as you investigate some interesting plants and their uses.

Plant Name	Picture	Where it is found	Uses

Find out about some plants in your local area:

Name:
Picture:

Uses:

Name:
Picture:

Uses:

Name:
Picture:

Uses:

LIFE ON THE MURRAY RIVER

Level: 3 & 4

Activity: 3

Overview

The Murray River supports over 350 types of bird species and many other types of animals. During this lesson, students will find out about native plants and animals that are found near the Murray River. They will investigate how these living things support and depend on each other and the environment around them to survive.

Resources

- Speakers
- Computer access for students
- Appendix A: *Creature Connections*

Activity

ENGAGE

Tell students to close their eyes and listen carefully as you play the [Murray River Sounds](#) clip (audio only). Afterwards, ask them what animal noises they could hear. Identify as many as possible and make a list on the board. Ask students to highlight any of these animals that they think might be native to Australia.

EXPLORE

In pairs, students have 15 minutes to find as many species of animal as they can that are native to the Murray River region. They should list these in their workbook, sorting them into the following categories:

- Fish
- Bird
- Mammal
- Reptile
- Insect

EXPLAIN

Discuss as a class how we can distinguish between fish, birds, mammals, reptiles and insects. Ask students:

- What are the common features of each of these?
- For which group of animals did you find the most species? Which had the least?
- Which of these groups do marsupials belong to? What are their distinguishing features?
- In which group does a platypus fit? What makes this animal tricky to classify? (Answer: It is a mammal, but belongs to a small group, called monotremes, which lay eggs rather than giving birth to live young.)

ELABORATE

With their partner, students now need to choose one of these animals to research further. As they investigate, they need to use Appendix A: *Creature Classifications* to show how their chosen animal is connected to other animals, plants and the environment around them.

EVALUATE

Each pair now needs to find another pair to present their findings to. Choose a few groups to present to the whole class. Discuss as a group:

- What do you think would happen if one species of plant or animal was removed from this ecosystem?

Curriculum Links



Level 3		
SCIENCE	<u>Science Understanding:</u> Biological Sciences	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (VCSSU057)
		Different living things have different life cycles and depend on each other and the environment to survive(VCSSU058)
	<u>Science Inquiry Skills:</u> Recording and Processing	Use a range of methods including tables and column graphs to represent data and to identify patterns and trends (VCSIS069)
	<u>Science Inquiry Skills:</u> Communicating	Represent and communicate observations, ideas and findings to show patterns and relationships using formal and informal scientific language (VCSIS072)
Level 4		
SCIENCE	<u>Science Understanding:</u> Biological Sciences	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (VCSSU057)
		Different living things have different life cycles and depend on each other and the environment to survive(VCSSU058)
	<u>Science Inquiry Skills:</u> Recording and Processing	Use a range of methods including tables and column graphs to represent data and to identify patterns and trends (VCSIS069)
	<u>Science Inquiry Skills:</u> Communicating	Represent and communicate observations, ideas and findings to show patterns and relationships using formal and informal scientific language (VCSIS072)

Sample Report Comments

{Name} has learnt about native animals that live in the Murray River area. {He/She} can classify these animals into categories (e.g. Bird, reptile, mammal etc) based on specific, observable features.

{Name} has developed an understanding of how plants and animals depend on each other and the environment for survival. {He/She} chose one animal, found near the Murray River, to investigate and used a mapping tool to show its relationship with other animals, plants and the environment.

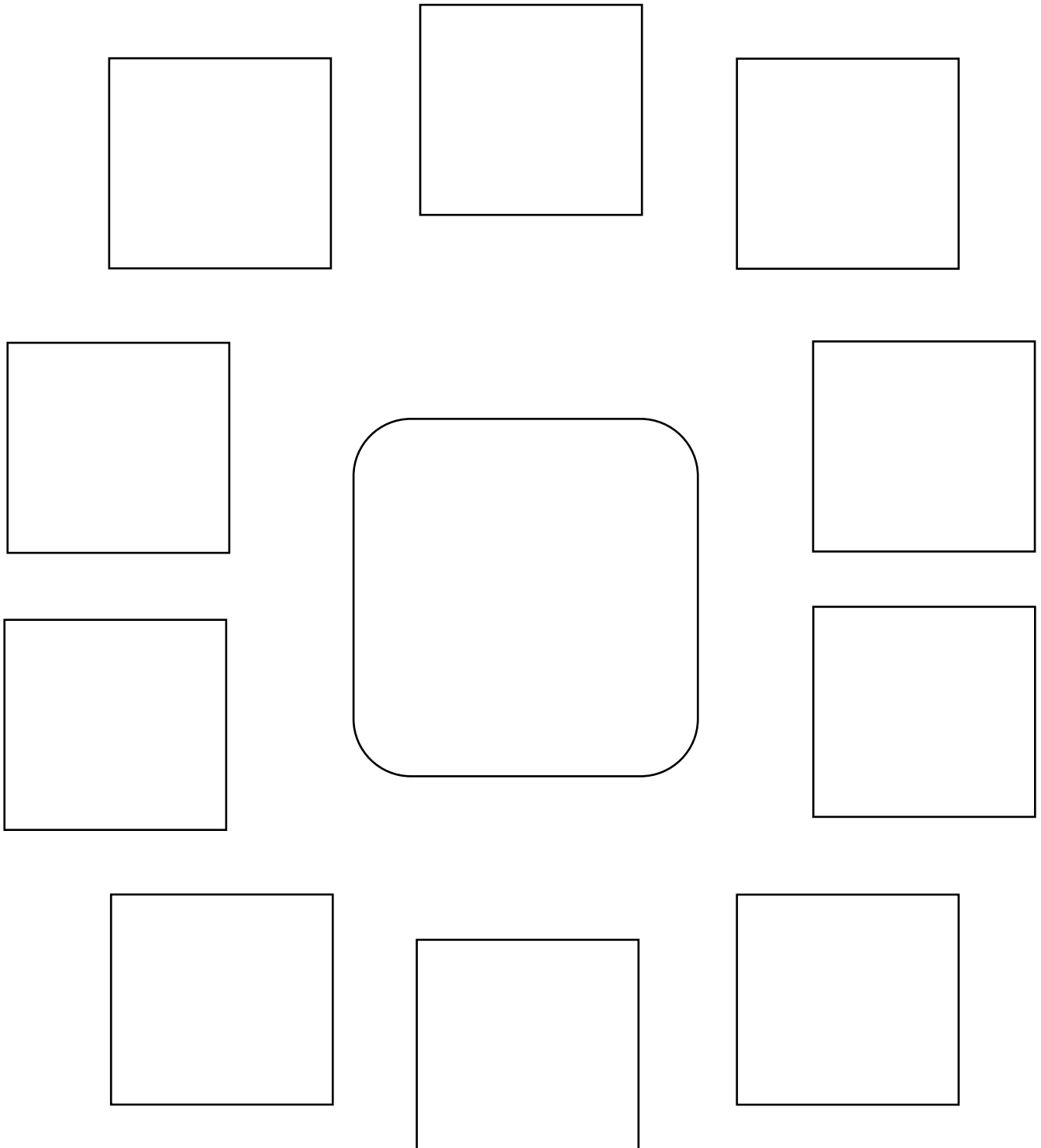
References

YouTube, 2017. *The Murray River in 4K*. [online video] Available at:
https://www.youtube.com/watch?v=fsP1KFs_hjw [Accessed 12 July 2018]

Appendix A

Creature Connections

Choose an animal that is native to the Murray River region and do some research to find out more about it. As you investigate, fill in the map below with images and text, drawing labelled arrows between the boxes, to show how your chosen creature connects with other plants, animals and the environment.

A diagram for a "Creature Connections" activity. It consists of a central rounded rectangle and ten surrounding squares. The squares are arranged in three rows: three in the top row, two in the middle row (flanking the central box), and three in the bottom row. All shapes are empty, intended for students to draw and label connections between a chosen animal and its environment.

LIFE ON THE MURRAY RIVER

Level: 3 & 4

Activity: 4

Overview

The water level of the Murray River can be affected by rain events that happen hundreds of kilometres away. Many inland river systems feed into the Murray River. If rain events occur at these systems, the water is carried hundreds of kilometres downstream to the Murray River. During this lesson, students will investigate rainfall in the Murray-Darling Basin over the past year and create a bar graph to visualise how much water this actually is.

Resources

- Smartboard or projector
- Computer access for students
- Poster paper
- Rulers

Activity

ENGAGE

Watch [1956 Murray River Floods](#) (the first video on the webpage).

- How did the community respond to this disaster?
- Why did the flood spread so far across the land?
- Where did this water come from?
- What dangers do floodwaters pose?
- Explain why you should always check rainfall and conditions before swimming in the river?

EXPLORE

As a whole class look at the [Murray Darling Basin map](#). Either allow students to choose, or assign them a town or city within the Murray-Darling Basin (the following task could be done either individually or in pairs depending on student ability). Students now need to collect data regarding total rainfall for the town/city for each month of the previous year. They should collate this data using Appendix A: *Monthly Rainfall Data*. A useful website is [Climate Data Online](#) from the Bureau of Meteorology.

EXPLAIN

Model to the whole class how to graph this data as follows:

- Draw the following sample data table on the board:

Town: Examplesville	
Year: 3000	
Month	Total rainfall (mm)
January	37.2
February	54.6
March	113.5
April	68.9

- Show students how to set up their graphs by ruling two axes. Label the horizontal axis with the months and the vertical axis with millimetres. Point out that the vertical axis needs to be at least as tall as their largest monthly rainfall measurement.
- Model how to build the bar graph, using the ruler to measure each total.

ELABORATE

Allow students enough time to create their own bar graphs, using the data they collected, on the poster paper provided. Remind them to include a title and label for each axis.

EVALUATE

Students now need to show their graph to a partner. They should compare their months of most and least rainfall. As a whole class, discuss:

- What would we need to do to change these measurements to cm? (Maybe try a few examples!)
- Which town had the most/least total rainfall for the whole year?
- What do you think the average rainfall for the entire year was across these towns?
- How do you think this might compare to towns/cities in other parts of the country?
- Which parts of Australia do you think would get more/less rain than the Murray-Darling Basin?

Curriculum Links

Victorian Curriculum Foundation–10

Level 3		
MATHEMATICS	<u>Measurement and Geometry:</u> Using units of measurement	Measure, order and compare objects using familiar metric units of length, area, mass and capacity(VCMMG140)
	<u>Statistics and Probability:</u> Data representation and interpretation	Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (VCMSP149)
GEOGRAPHY	<u>Geographical Concepts and Skills:</u> Data and information	Represent data and the location of places and their characteristics by constructing tables and simple graphs and maps of appropriate scale that conform to cartographic conventions of border, scale, legend, title and north point (VCGGC075)
	<u>Geographical Knowledge:</u> Diversity and significance of places and environments	Main climates of the world and the similarities and differences between the climates of different places(VCGGK081)
Level 4		
MATHEMATICS	<u>Measurement and Geometry:</u> Using units of measurement	Use scaled instruments to measure and compare lengths, masses, capacities and temperatures(VCMMG165)
	<u>Statistics and Probability:</u> Data representation and interpretation	Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values (VCMSP179)
GEOGRAPHY	<u>Geographical Concepts and Skills:</u> Data and information	Represent data and the location of places and their characteristics by constructing tables and simple graphs and maps of appropriate scale that conform to cartographic conventions of border, scale, legend, title and north point (VCGGC075)
	<u>Geographical Knowledge:</u> Diversity and significance of places and environments	Main climates of the world and the similarities and differences between the climates of different places(VCGGK081)

Sample Report Comments

{Name} understands that rainfall differs throughout the year and across the country. {He/She} knows that rainfall in one area can affect water levels in a river hundreds of kilometres away.

{Name} collected data regarding monthly rainfall in {Town}, analysing and comparing with other towns in the Murray-Darling region. {He/She} displayed this data accurately as a bar graph.

References

Discover Murray River, 1998-2018. *1956 Murray River Floods*. [online video] Available at: <http://www.murrayriver.com.au/about-the-murray/1956-murray-river-floods/> [Accessed 15 July 2018]

Murray-Darling Basin Authority. *Murray-Darling Basin Boundary Map*, https://www.mdba.gov.au/sites/default/files/pubs/Murray-Darling_Basin_Boundary.pdf [viewed 15 July 2018]

Bureau of Meteorology. *Climate Data Online*, <http://www.bom.gov.au/climate/data/?ref=ftr> [viewed 15 July 2018]

Appendix A

Monthly Rainfall Data

Use the table below to compile data about your chosen town/city's monthly rainfall totals for the previous year.

Town/City: Year:	
Month	Total Rainfall (mm)

Now, using the data that you have collected, complete the following tasks:

1. Find the month with the **highest** total rainfall and colour it **green**.
2. Find the month with the **lowest** total rainfall and colour it **red**.
3. Can you think of any reasons why these months might have had the highest and lowest rainfall?
3. Estimate the total rainfall for the whole year:
4. Now calculate the total rainfall for the whole year:
5. How do you think this will compare to other towns in the region?