

4

SCIENCE

SAMPLE RESPONSES



Sunbirds

This booklet is designed to help teachers make overall, on-balance judgments by providing examples of student responses. The responses are not an exhaustive set.

B samples

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B Sample: Response 1

Guide to making judgments — Year 4 Science

Student

Purpose: To explain sunbird behaviour based on information and evidence.

Knowledge and understanding Investigating	Investigating	Investigating	Communicating
Identifies seasonal data by reading and interpreting information from thermometers and rainfall graphs. Q 2-7	Collects and uses relevant data to identify and justify the month when the sunbirds could return and the month the cat run must be finished. Q 8-10	Identifies information and evidence to give explanations of sunbird nesting behaviour. Q 11-13	Uses scientific terminology to describe and explain ideas and information. Q 1, 2, 9-13
<p>Correctly interprets thermometers and graphs to identify warm months, dry months and wet season.</p> <p>Correctly interprets thermometers and graphs to identify warm months and dry months.</p> <p>Identifies some warm months and some dry months.</p>	<p>Identifies correct months with justifiable explanations drawn from data and earlier answers.</p> <p>Considers only part of the seasonal data when justifying the choice of month that sunbirds could return.</p>	<p>Accurately identifies information and draws valid conclusions using supplied information.</p> <p>Selects appropriate information and draws reasonable conclusions.</p>	<p>Uses scientific terminology in clearly articulated descriptions and explanations.</p> <p>Uses appropriate scientific terminology in descriptions and explanations.</p>
A	B	C	D
			E

Overall grade

The purpose of this QCAT is for students to explain sunbird behaviour based on information and evidence. This student's work demonstrates a high level of knowledge and understanding and investigating when interpreting seasonal data, and also a high level of investigating when explaining sunbird nesting behaviour based on information and evidence. Considering the purpose of the task, on balance, this work is an overall B.

Knowledge and understanding Investigating

Correct interpretation of thermometers and graphs despite a minor error in July temperature reading. Partial understanding of the concept of "wet season".

Investigating

Correctly transfers seasonal information. When interpreting seasonal data, the response considers some appropriate information, i.e. "warm months" but does not consider "late in the dry season". The response demonstrates understanding of the problem to be solved even though the answer in Q 10 is incorrect. Based on the answer in Q 9 (May) the student has shown justifiable reasoning when choosing April, the month before May.

Investigating

All answers are appropriate and drawn from webpage information, but Q 13 provides only partial information from the webpage.

Communicating

Communicates using appropriate scientific terminology and adds new vocabulary (predators). Descriptions and explanations can be understood but are not well articulated.

B Sample: Response 1

Sunbirds

Look at the picture below.

1. **Describe the sunbird in detail.**
Include as many body features as you can.



Image: Olive-backed sunbird (Cinnyris jugularis) eclipse; also known as Nectarinia jugularis. A Creative Commons Attribution-Share Alike 2.0 Generic licensed photo from Lip Kee's Flickr stream, accessed 8 Jan 2009, <www.flickr.com/photos/lipkee/2230003837/>.

This picture shows the actual size of the sunbird.

Body features

Example: tail feathers — thin, dark feathers with white edges
 ..beak— long, sharp, lime, curved.....
 ..belly— yellow, fat, round.....
 ..feathers— different colour.....
 ..Feet— Black, sharp, straight, firm.....
 ..eye— black, little.....
 ..neck— black.....
 ..top of head— yellow, black, brown, tiny brain.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

B Sample: Response 1

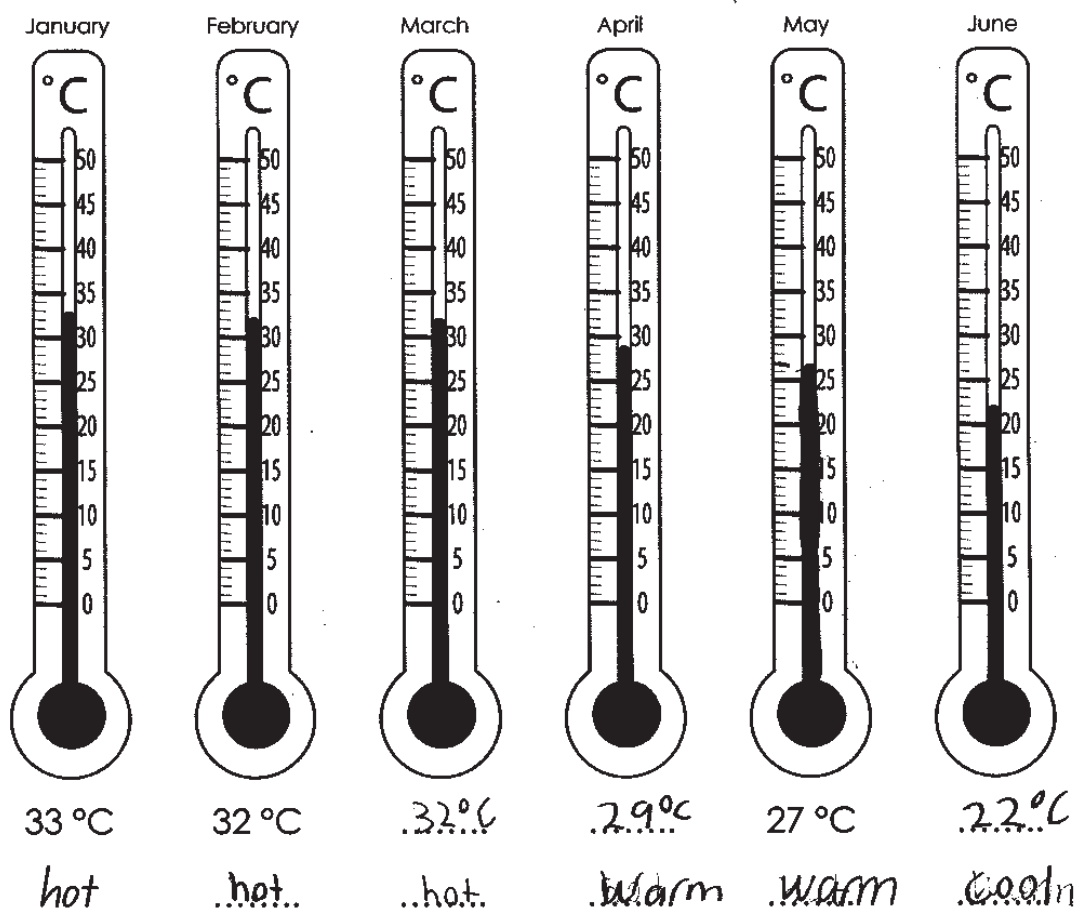
Temperature and rainfall

You are now going to identify the months that are both warm and dry.

The thermometers in Diagram 1 will help you identify the warm months for Sam's area.

2. Read the temperature shown on the thermometers for March, April, June, July and October in Diagram 1. Write the temperature under these thermometers.

Diagram 1: Highest daily temperature for each month in Sam's area



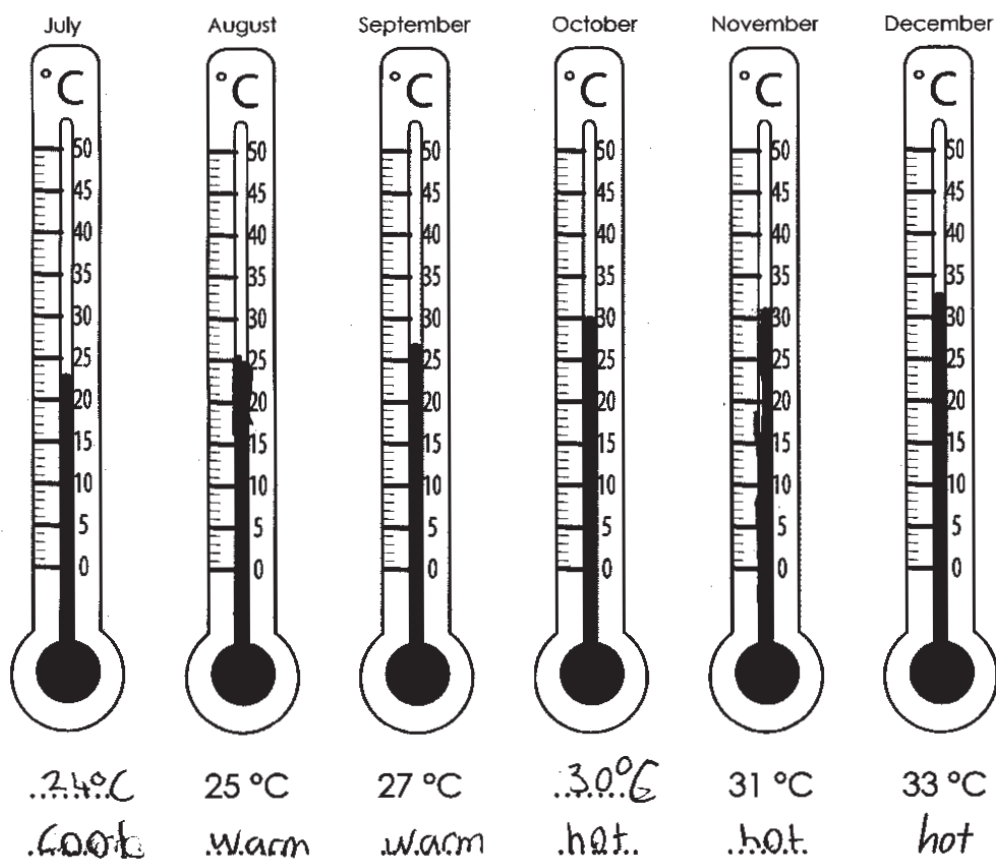
3. Shade the thermometers to show the temperature for May, August and November.

B Sample: Response 1

4. Write which months are hot or warm or cool under each thermometer. Use the information from Table 1.

Table 1

Highest daily temperature	Description
30 °C and above	hot
25 °C, 26 °C, 27 °C, 28 °C, 29 °C	warm
24 °C and below	cool



5. The warm months in Sam's area are: May, April, August, September,

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

B Sample: Response 1

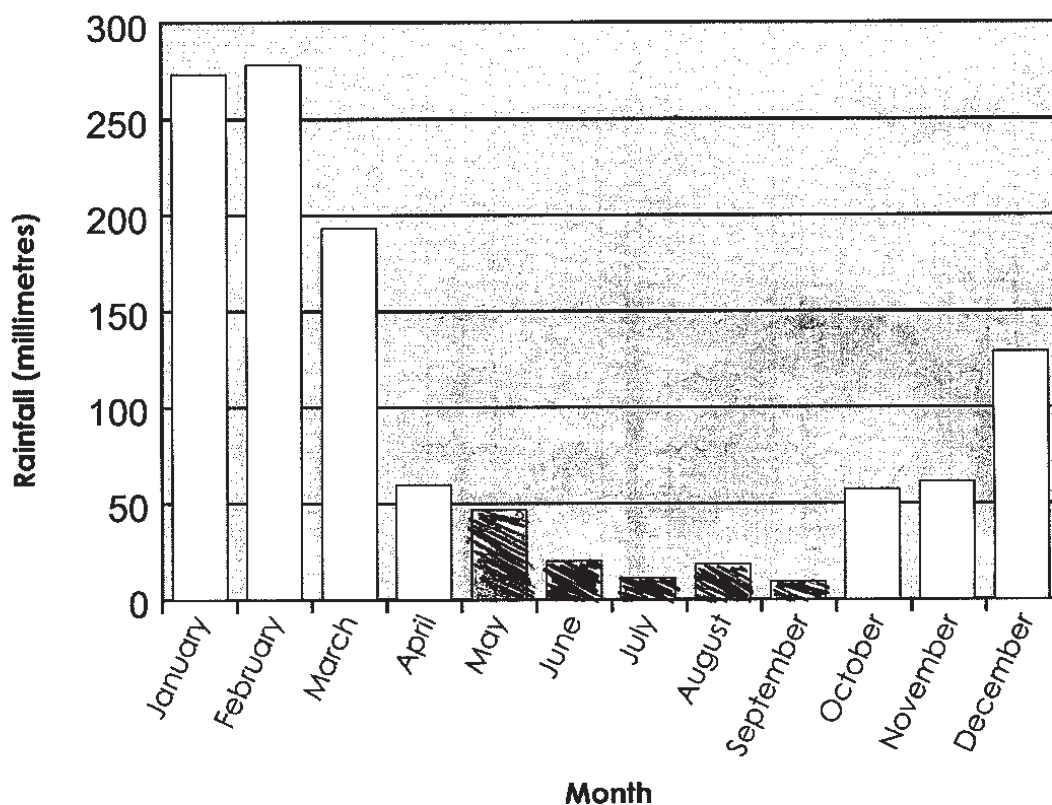
To find out the earliest month that the sunbirds could return, you need to identify the dry months.

6. Shade the bars of the dry months in Diagram 2.



- A dry month has less than 50 millimetres of rain.
- A wet month has 50 millimetres or more of rain.

Diagram 2: Monthly rainfall in Sam's area



B Sample: Response 1

7. Complete the following sentences. Use the information from Diagram 2.

In Sam's area the months in the dry season are ..*May*....
...*June, July, August, September*.....

The wet season starts in*January*....*April*.....
and finishes in*Oct*.....*Dec*.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

B Sample: Response 1

The warm, dry months

To find out which is the earliest month that the sunbirds could return, you now need to identify the months that are both warm and dry.

8. Work out which months are both warm and dry by completing Table 2.

January has been done for you.

Write **hot** or **warm** or **cool** for each month. Refer to your answers on pages 6 and 7.

Write **wet** or **dry** for each month. Refer to your answer on page 9.

Tick ✓ the months that are **both** warm and dry.

Table 2

Month	Temperature	Rainfall	Warm and dry months
January	hot	wet	
February	hot	wet	
March	hot	wet	
April	warm	wet	
May	warm	dry	✓
June	cool	dry	
July	cool	dry	
August	warm	dry	✓
September	warm	dry	✓
October	hot	wet	
November	hot	wet	
December	hot	wet	

B Sample: Response 1

Use the information on page 10 to help you complete the following questions.

9. What is the earliest month the sunbirds could return?



The sunbirds return to nest in the warm months late in the dry season.

Month: May

Give all the reasons why you chose this month as the earliest month. because its the first month that
is warm dry and sunbirds would like
the time to come back because
its warm and dry.

10. To keep the sunbirds safe, what is the latest month Sam and his dad must finish building the cat run?

Month: April

Why did you choose this month? before May

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

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B Sample: Response 1

Use the webpage to help you answer these questions.

11. For how many days can Sam's friends come to see the chicks in the nest?

About 35 days

Explain: because feed chicks in nest

.....

.....

12. Explain how a sunbird nest helps to keep the chicks safe.

their up high
from predators
and some of
the twigs and
spider web might stop the chicks
from falling also call of nest
the hole is small



The pictures may help you with ideas.

13. List the things sunbirds might look for when they are searching for a place to build their nests.

some where high and dry
and far away predators and
close to food

.....

.....

.....

B Sample: Response 2

Guide to making judgments — Year 4 Science

Student

Purpose: To explain sunbird behaviour based on information and evidence.

Knowledge and understanding Investigating	Investigating	Investigating	Communicating
Q 2–7 Identifies seasonal data by reading and interpreting information from thermometers and rainfall graphs.	Q 8–10 Collects and uses relevant data to identify and justify the month when the sunbirds could return and the month the cat run must be finished.	Q 11–13 Identifies information and evidence to give explanations of sunbird nesting behaviour.	Q 1, 2, 9–13 Uses scientific terminology to describe and explain ideas and information.
<p>Correctly interprets thermometers and graphs to identify warm months, dry months and wet season.</p> <p>Correctly interprets thermometers and graphs to identify warm months and dry months.</p>	<p>Identifies correct months with justifiable explanations drawn from data and earlier answers.</p> <p>Considers only part of the seasonal</p>	<p>Accurately identifies information and draws valid conclusions using supplied information.</p> <p>Selects appropriate information</p>	<p>Uses scientific terminology in clearly articulated descriptions and explanations.</p> <p>Uses appropriate scientific</p>
Knowledge and understanding Investigating Correctly transfers seasonal information. Identified correct month with explanation. It may be too late to finish building the cat run in the same month	Investigating All answers are appropriate and drawn from webpage information, but Q 13 provides only partial	Communicating Communicates using appropriate scientific terminology. Descriptions and explanations can be	

Overall grade

This student's work demonstrates a very high level of knowledge and understanding when investigating seasonal data, and a high level when explaining sunbird behaviour based on seasonal information and evidence. On balance, this work is an overall B.

Knowledge and understanding Investigating

Correct interpretation of thermometers and graphs to identify warm months, dry months and wet season.

Investigating

Correctly transfers seasonal information. Identified correct month with explanation. It may be too late to finish building the cat run in the same month the sunbirds may return; the answer in Q 10 is not correct based on the explanation provided.

Investigating

All answers are appropriate and drawn from webpage information, but Q 13 provides only partial information from the webpage.

Communicating

Communicates using appropriate scientific terminology. Descriptions and explanations can be understood, with some articulation evident.

B Sample: Response 2

Sunbirds

Look at the picture below.

1. Describe the sunbird in detail.
Include as many body features as you can.



This picture shows the actual size of the sunbird.

Body features

Example: tail feathers — thin, dark feathers with white edges
 wings — black with a little bit of yellow
 beak — long with some green and pointy
 claws — black and sharp with orange underneath
 head — bright yellow with a tad of black
 Feathers — dark grey outline of yellow

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

B Sample: Response 2

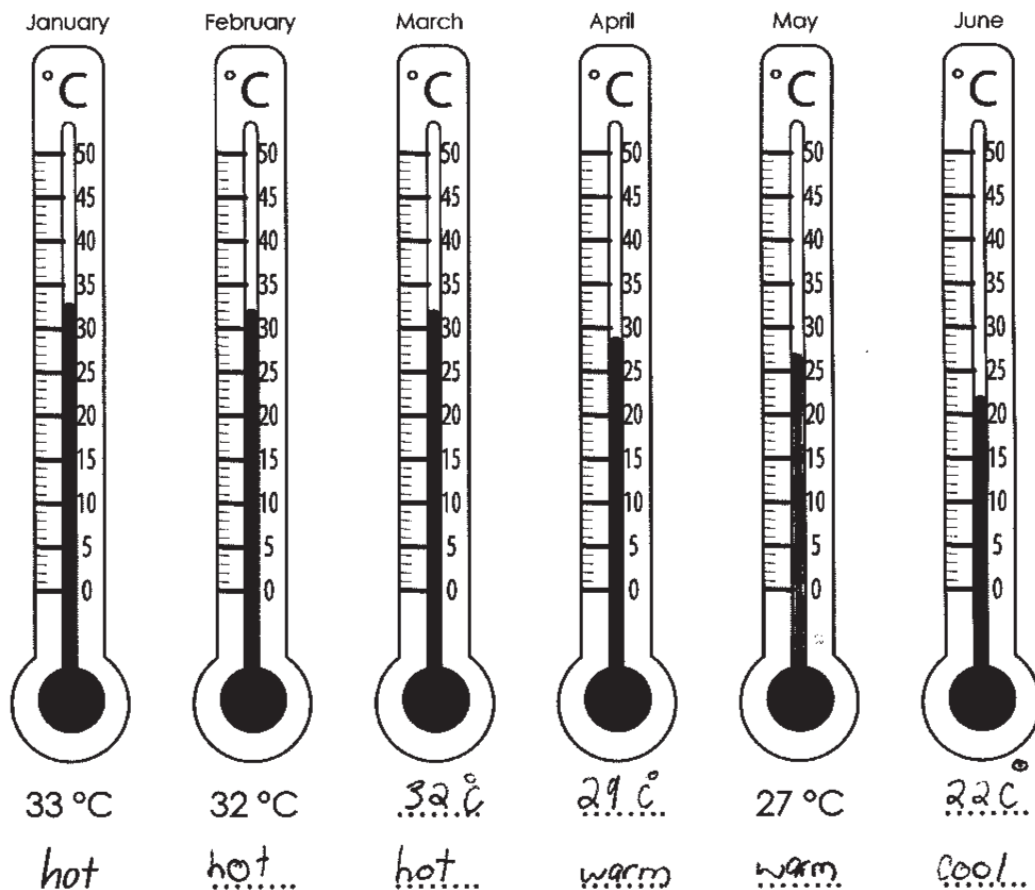
Temperature and rainfall

You are now going to identify the months that are both warm and dry.

The thermometers in Diagram 1 will help you identify the warm months for Sam's area.

2. Read the temperature shown on the thermometers for March, April, June, July and October in Diagram 1. Write the temperature under these thermometers.

Diagram 1: Highest daily temperature for each month in Sam's area



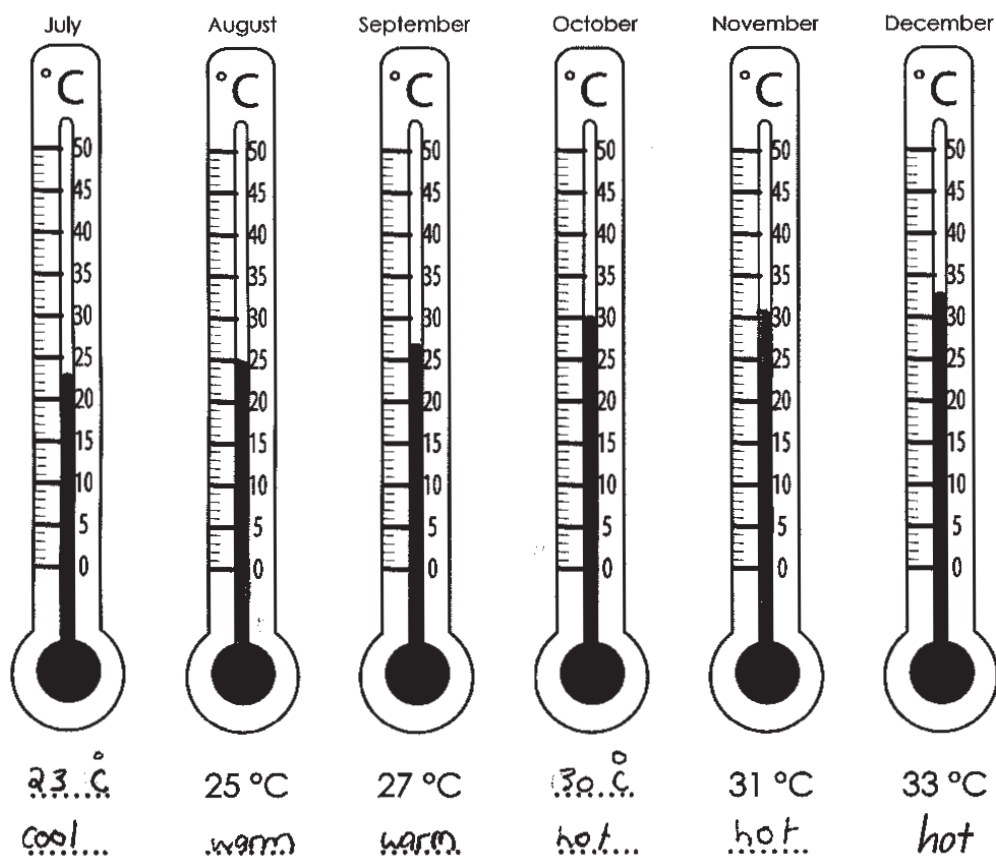
3. Shade the thermometers to show the temperature for May, August and November.

B Sample: Response 2

4. Write which months are hot or warm or cool under each thermometer. Use the information from Table 1.

Table 1

Highest daily temperature	Description
30 °C and above	hot
25 °C, 26 °C, 27 °C, 28 °C, 29 °C	warm
24 °C and below	cool



5. The warm months in Sam's area are: september, august, may...
april.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

B Sample: Response 2

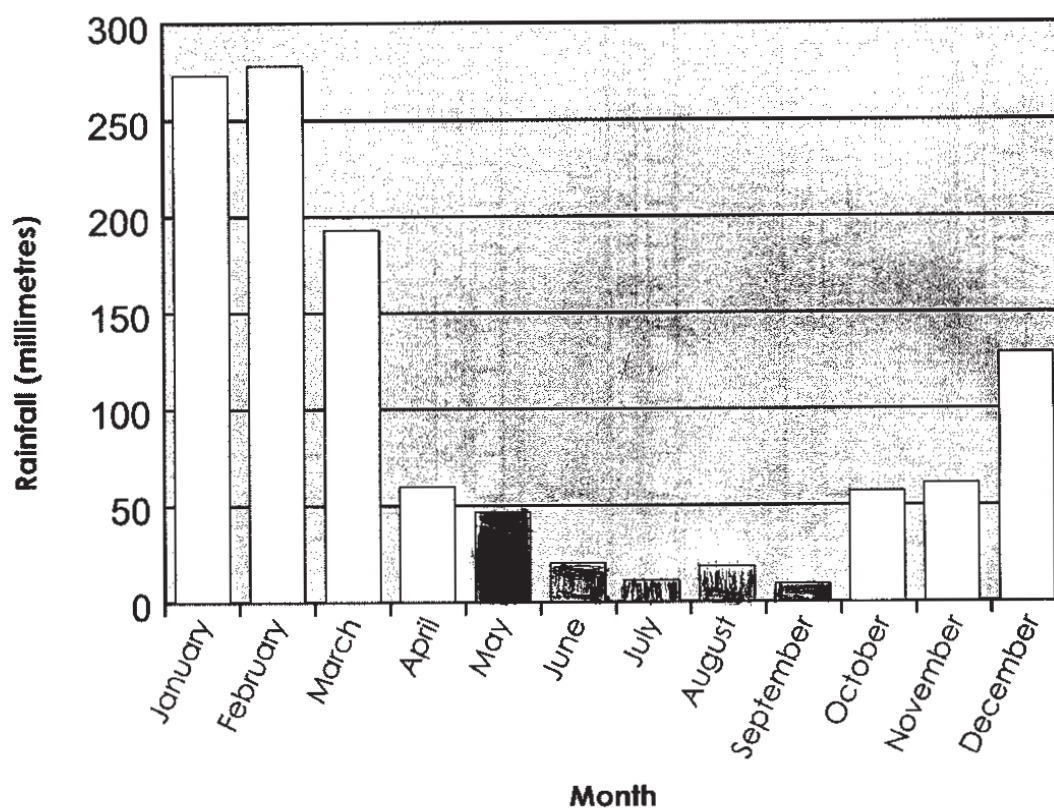
To find out the earliest month that the sunbirds could return, you need to identify the dry months.

6. Shade the bars of the dry months in Diagram 2.



- A dry month has less than 50 millimetres of rain.
- A wet month has 50 millimetres or more of rain.

Diagram 2: Monthly rainfall in Sam's area



B Sample: Response 2

7. Complete the following sentences. Use the information from Diagram 2.

In Sam's area the months in the dry season are may, June,
July, august, september.....

The wet season starts inOctober.....
and finishes inapril.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

9

B Sample: Response 2

The warm, dry months

To find out which is the earliest month that the sunbirds could return, you now need to identify the months that are both warm and dry.

8. **Work out which months are both warm and dry by completing Table 2.**

January has been done for you.

Write **hot** or **warm** or **cool** for each month.
Refer to your answers on pages 6 and 7.

Write **wet** or **dry** for each month.
Refer to your answer on page 9.

Tick ✓ the months that are **both** warm and dry.

Table 2

Month	Temperature	Rainfall	Warm and dry months
January	hot	wet	
February	hot	wet	
March	hot	wet	
April	warm	wet	
May	warm	dry	✓
June	cool	dry	
July	cool	dry	
August	warm	dry	✓
September	warm	dry	✓
October	hot	wet	
November	hot	wet	
December	hot	wet	

B Sample: Response 2

Use the information on page 10 to help you complete the following questions.

9. What is the earliest month the sunbirds could return?



The sunbirds return to nest in the warm months late in the dry season.

Month: ...August.....

Give all the reasons why you chose this month as the earliest month. Cause it is the first ^{month} late in season.....

.....

.....

.....

.....

.....

10. To keep the sunbirds safe, what is the latest month Sam and his dad must finish building the cat run?

Month: August.....

Why did you choose this month? it is the latest warm and dry season.....

.....

.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

//

B Sample: Response 2

Use the webpage to help you answer these questions.

11. For how many days can Sam's friends come to see the chicks in the nest?

About 15 days

Explain: Because the female sits on the eggs for about 14 days and feeds them for 15 days.

12. Explain how a sunbird nest helps to keep the chicks safe.

There's not a hummingbird hole so anything can go in it and hurt them.



The pictures may help you with ideas.

it hangs

it's covered

13. List the things sunbirds might look for when they are searching for a place to build their nests.

Food for the baby chicks, twigs, sticks, leaves, water.