

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.

D samples

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D Sample: Response 1

Guide to making judgments — Year 4 Science

Student

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 sound level of knowledge and understanding when investigating seasonal data, and a limited level when explaining sunbird behaviour based on seasonal information and evidence. On balance, this work is an overall D.

	A	B	C	D	E
Knowledge and understanding Investigating [Q 2–7] Mostly correct interpretation of thermometers and graphs to identify warm months and dry months.					
Investigating [Q 8–10] Correctly transfers their seasonal information. Does not identify warm months correctly. While answer in Q 9 is incorrect, the student has “investigated” by looking back at rainfall graph to correctly identify the “driest” month. While August is the month before September, which may indicate an understanding of the problem, the student has offered no explanation to support that understanding.					
Investigating [Q 11–13] Investigates information to identify correct number of days, with appropriate explanation. Response in Q 12 is not obviously drawn from information in webpage, although the conclusion drawn is acceptable.					
Communicating [Q 1, 2, 9–13] Communicates using some scientific terminology when trying to describe and explain ideas. Response in Q 12 includes new vocabulary (camouflage).					

Feedback

Correctly interprets and graphs to identify months and dry months.

Identifies some warm months and some dry months.

Correctly interprets some information from thermometers and graphs.

Considers only part of the seasonal data when justifying the choice of month that sunbirds could return.

Correctly transfers some seasonal data to Table 2.

Selects appropriate information and draws reasonable conclusions.

Identifies some information that limits the scope of conclusions.

Selects irrelevant information.

Uses appropriate scientific terminology in descriptions and explanations.

Uses some scientific terminology when trying to describe and explain ideas.

D Sample: Response 1

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

beak — long, bendy beak with a point

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

D Sample: Response 1

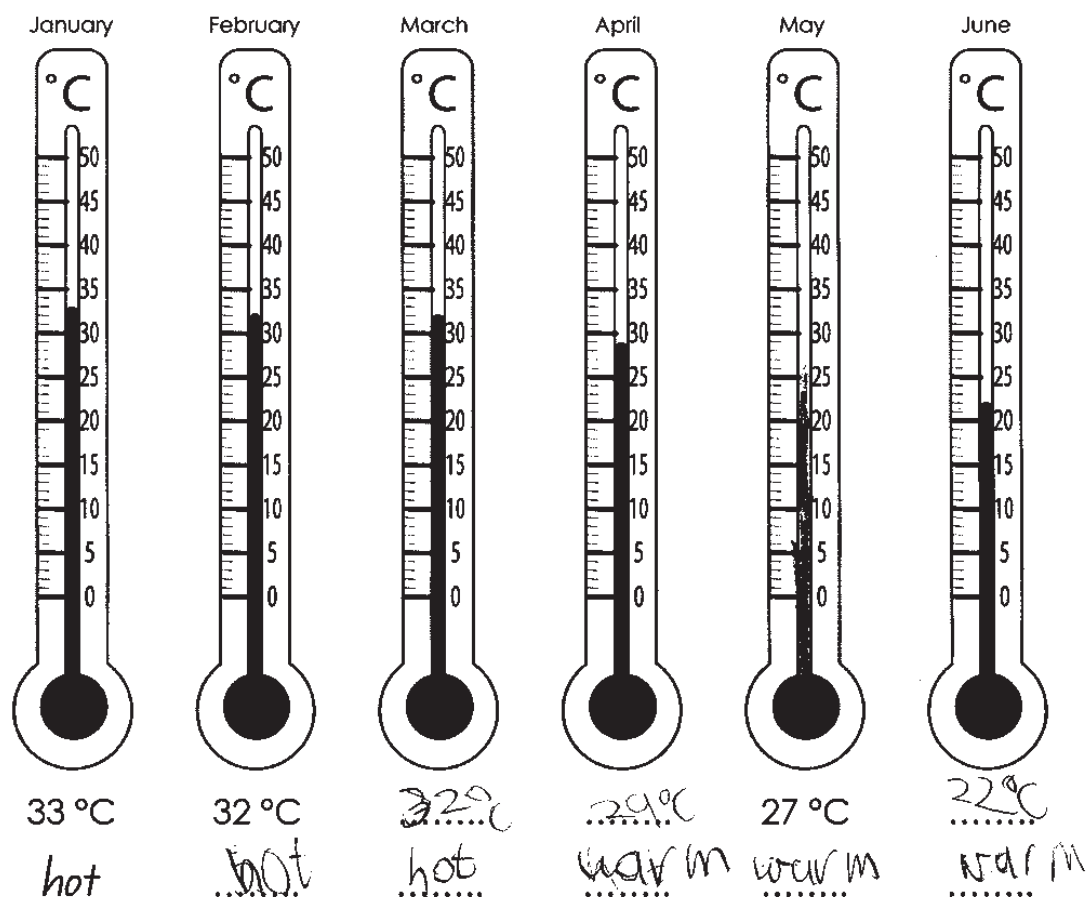
Temperature and rainfall

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.

- 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



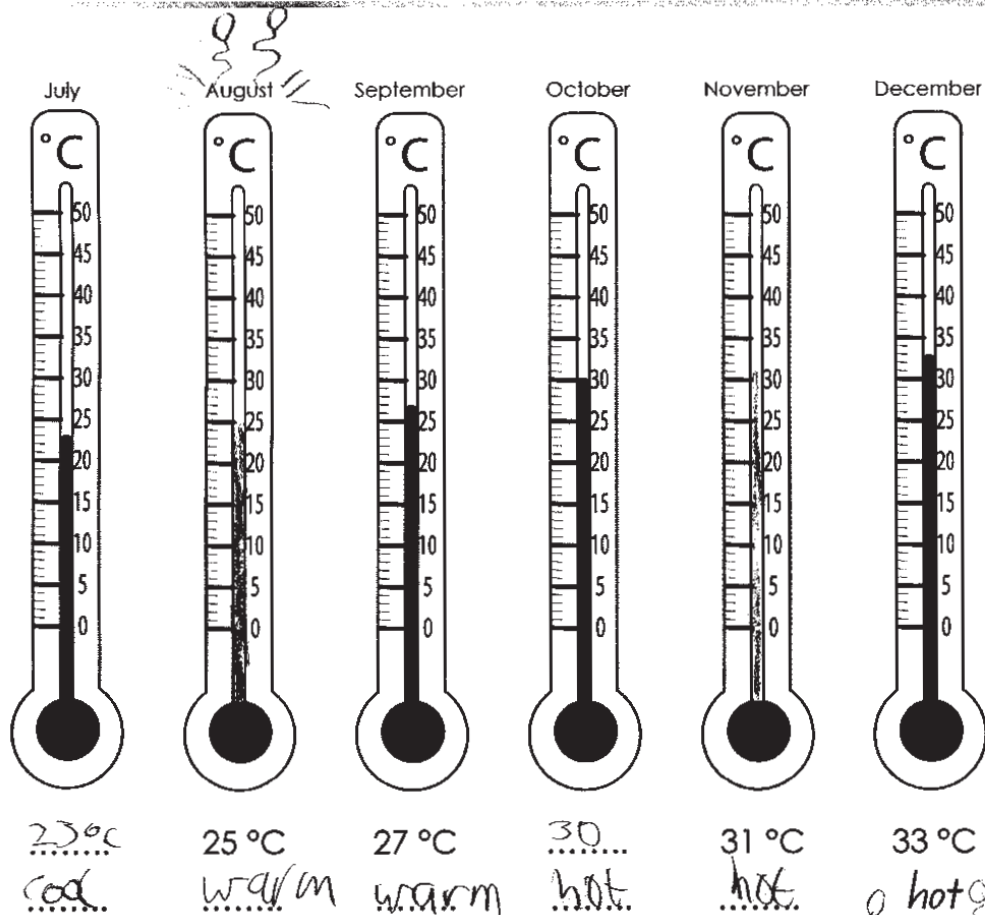
- Shade the thermometers to show the temperature for May, August and November.

D 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: April, August, September, June, May

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

D Sample: Response 1

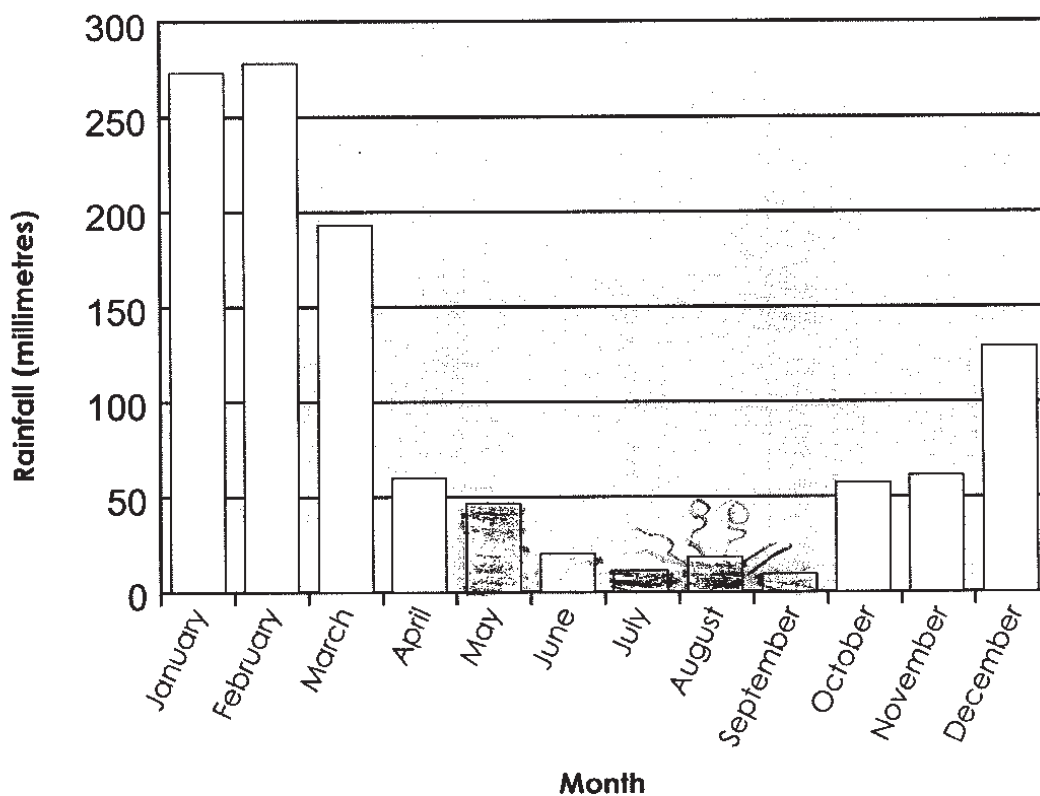
To find out the earliest month that the sunbirds could return, you need to identify the dry months.

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



D 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 May
and finishes in September

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

D 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	warm	dry	✓
July	cool	dry	
August	warm	dry	✓
September	warm	dry	✓
October	hot	wet	
November	hot	wet	
December	hot	wet	

D 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: September

Give all the reasons why you chose this month as the earliest month. because it's the dry
est and warm.

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?

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

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D 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 ¹⁵..... days

Explain: because they ONLY
get feed for 15 days

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

because it's very
strong and
can't be laid



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.

D Sample: Response 2

Guide to making judgments — Year 4 Science

Student

Knowledge and understanding Investigating [Q 2–7]

Correct interpretation of thermometers and graphs to identify warm and dry months. Evidence shows partial understanding of “wet season”.

Investigating [Q 8–10]

Correctly transfers seasonal information from prior work, but does not interpret data correctly. Has considered “warm months” and not considered “late in the dry season” when identifying earliest month.

Investigating [Q 11–13]

Investigates information to identify correct number of days, with reasonable explanation. Response in Q 12 is drawn from information in webpage but is limited in scope. While response in Q 13 is relevant, greater detail is expected.

Communicating [Q 1, 2, 9–13]

Communicates using some scientific terminology when trying to describe and explain ideas.

Overall grade

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

A	B	C	D	E
<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>Correctly interprets some information from thermometers and graphs.</p>	<p>Considers only part of the seasonal data when justifying the choice of month that sunbirds could return.</p> <p>Correctly transfers some seasonal data to Table 2.</p>	<p>Selects appropriate information and draws reasonable conclusions.</p> <p>Identifies some information that limits the scope of conclusions.</p> <p>Selects irrelevant information.</p>	<p>Uses appropriate scientific terminology in descriptions and explanations.</p> <p>Uses some scientific terminology when trying to describe and explain ideas.</p>	

Feedback

D 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.....
 body feathers — yellow everywhere.....
 beak — long and sharp and has a bit.....
 head feathers — has a bit of green^{yellow}.....
 and below has a bit of black.....
 legs — black and has three claws.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

D Sample: Response 2

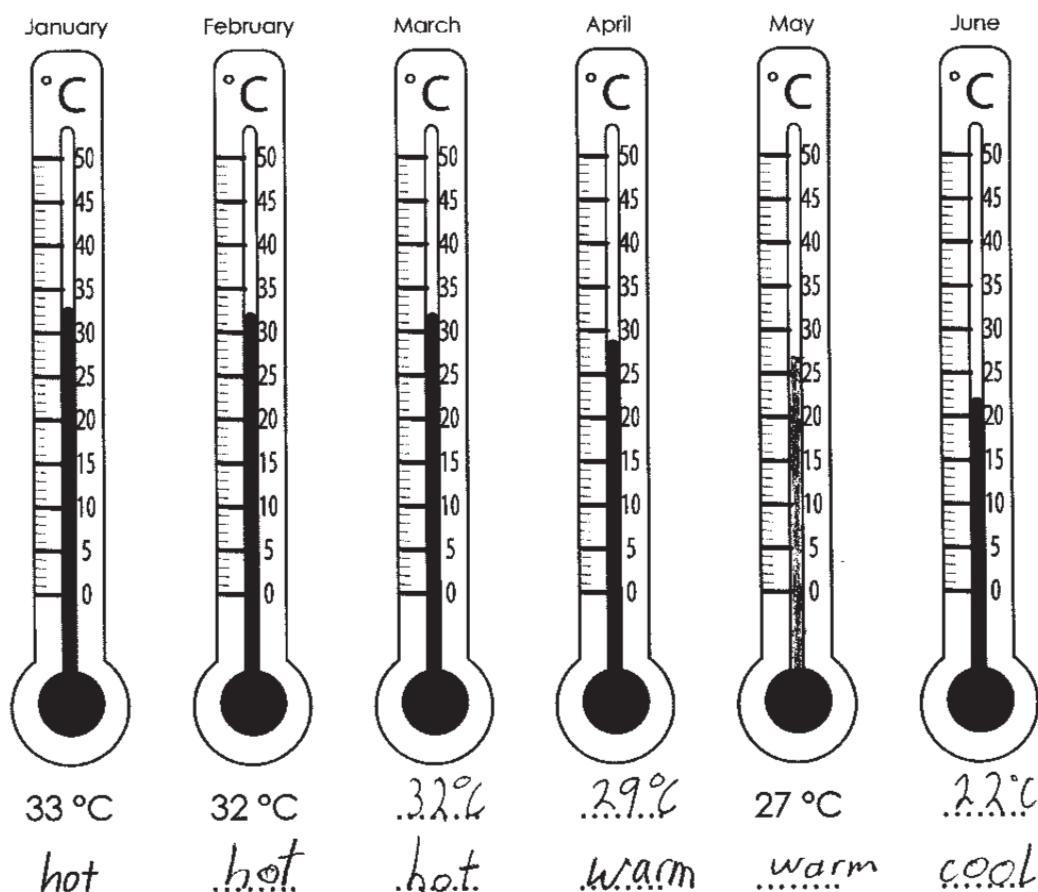
Temperature and rainfall

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



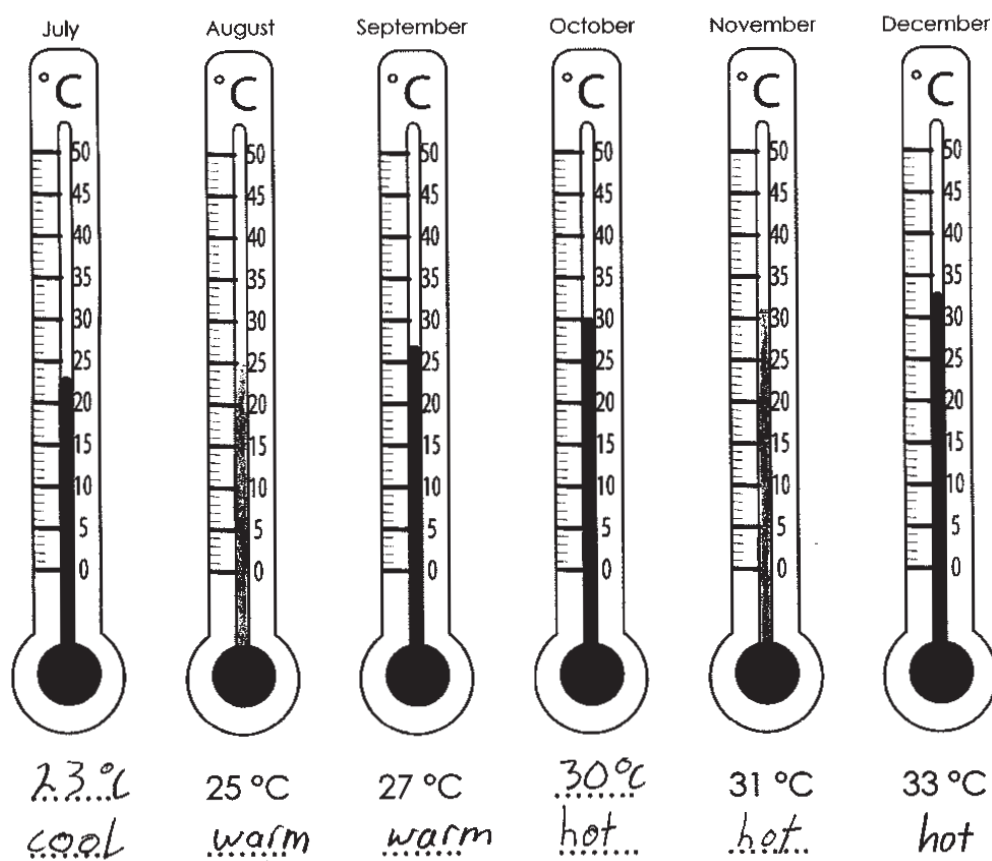
3. Shade the thermometers to show the temperature for May, August and November.

D 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: April, May, August, September

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

D Sample: Response 2

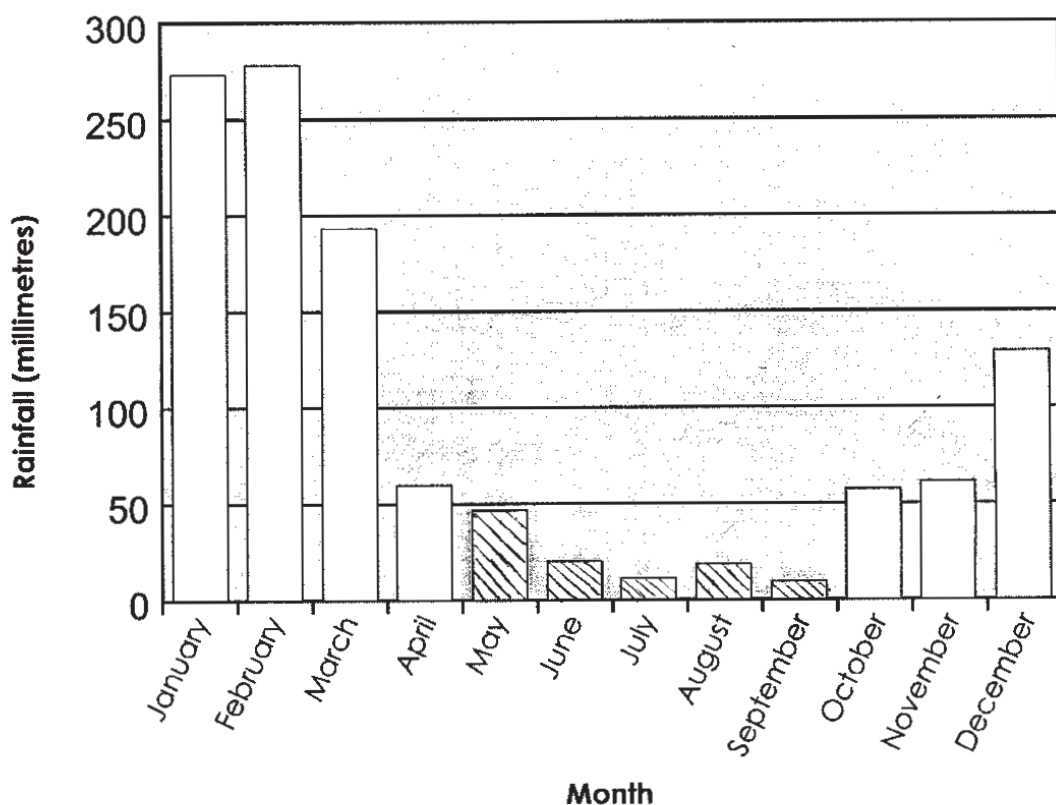
To find out the earliest month that the sunbirds could return, you need to identify the dry months.

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



D 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 in*January*.....
and finishes in*April*.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

D 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.

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June	cool	dry	
July	cool	dry	
August	warm	dry	
September	warm	dry	
October	hot	wet	
November	hot	wet	
December	hot	wet	

D 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: May

Give all the reasons why you chose this month as the earliest month. because it is the earliest

dry month and it is warm

.....

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? because if

the sunbirds came earlier

they'd want it finished

.....

STOP HERE: WAIT FOR YOUR TEACHER'S DIRECTIONS

//

D 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 chick after be
out of the egg

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

• its high above
the ground
• it has spider
web to keep it together



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.

• a hanging over branch