Ready-Ed Publications

mini e-book

PHOTOCOPY MASTERS

Maths

# Data

## For Middle Primary

Ready-Ed Publications

mini e-book

PHOTOCOPY MASTERS

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Preview


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# Presenting data 1

**Oops! The box containing the seashore field trip collection has been knocked over and the objects have been mixed up. It's your job to sort the objects. Use the images on this page to complete the tasks on the page that follows.**

Preview



Curriculum Link: 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 (ACMSP069) Elaboration: Collecting data to investigate features in the natural environment

# Presenting data 2

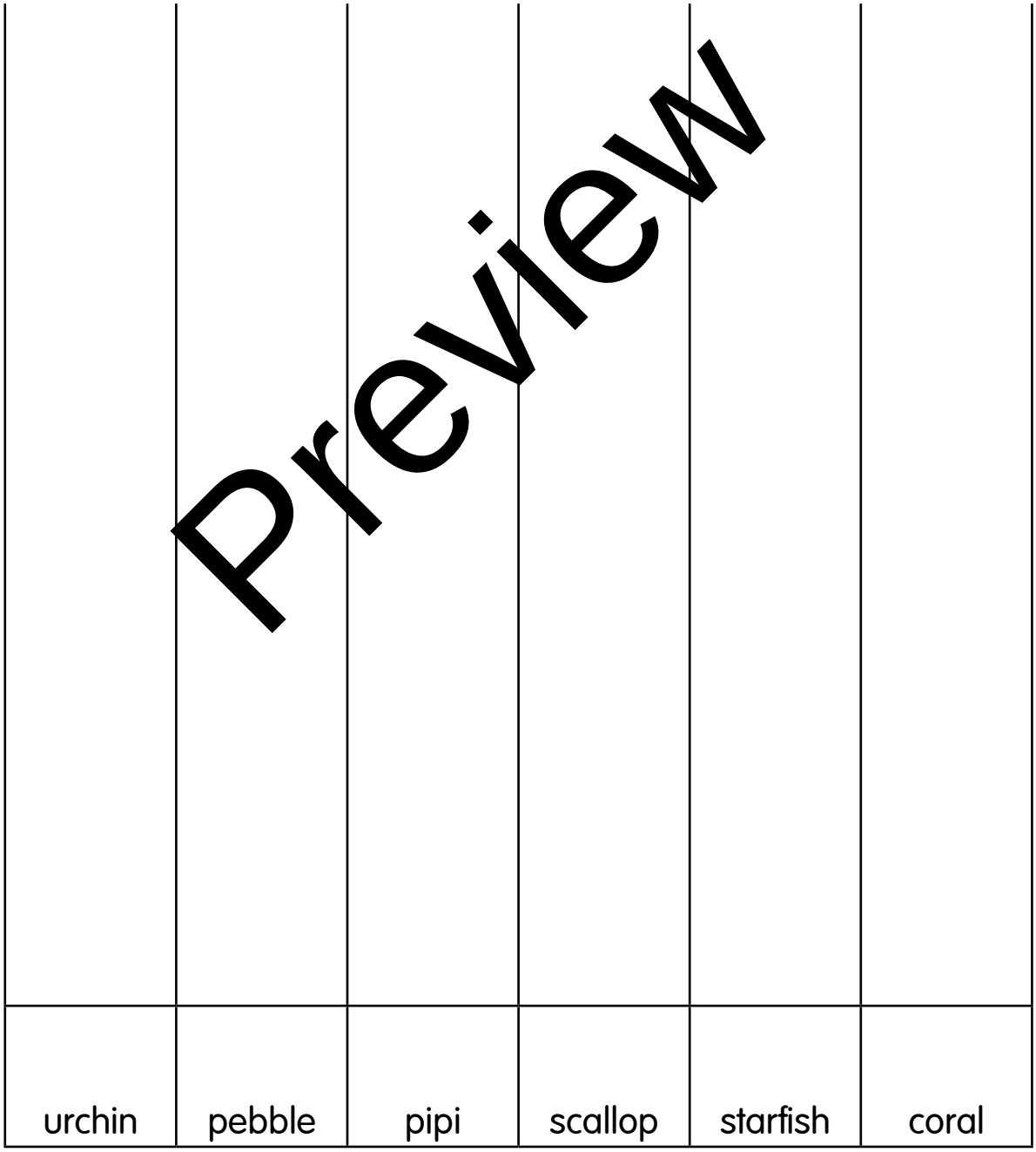
**1.** How many of each kind of seashore item is there on the previous page?

| | | |
|---|---|---|
| *sea urchin:* | *pebble:* | *pipi:* |
| *scallop:* | *starfish* | *coral:* |

**2.** Complete this pictograph with the data that you have sorted in Question 1. Use drawings. You need a label for the vertical axis and a title.

---

*Label:*




Preview

# Presenting data 3

**Graphs and tables are a good way to present, describe and summarise data. Study the table below entitled, *Magnus vs Mayra* vs *Melon the Pug*.**

## Magnus vs Mayra vs Melon the Pug

| Data | | | |
|---|---|---|---|
| Sleeps more than 10 hours a day. | ✓ | ✗ | ✓ |
| Has large, round eyes. | ✗ | ✓ | ✓ |
| Makes snuffling sounds when sleeping. | ✓ | ✗ | ✓ |
| Likes to get up to mischief. | ✓ | ✓ | ✓ |
| Can count up to 20 in Japanese. | ✓ | ✓ | ✗ |
| Likes blueberry muffins. | ✓ | ✗ | ✓ |

Preview

**1.** Why is the table called, *Magnus vs Mayra* vs *Melon the Pug*?

_____

_____

**2.** What do the ticks (✓) and crosses (✗) mean in the columns under the images?

_____

_____

**3.** What can Magnus and Mayra do that Melon the Pug can't?

_____

_____

**4.** What do the children and the dog have in common?

_____

_____



Curriculum Link: Interpret and compare data displays (ACMSP070)

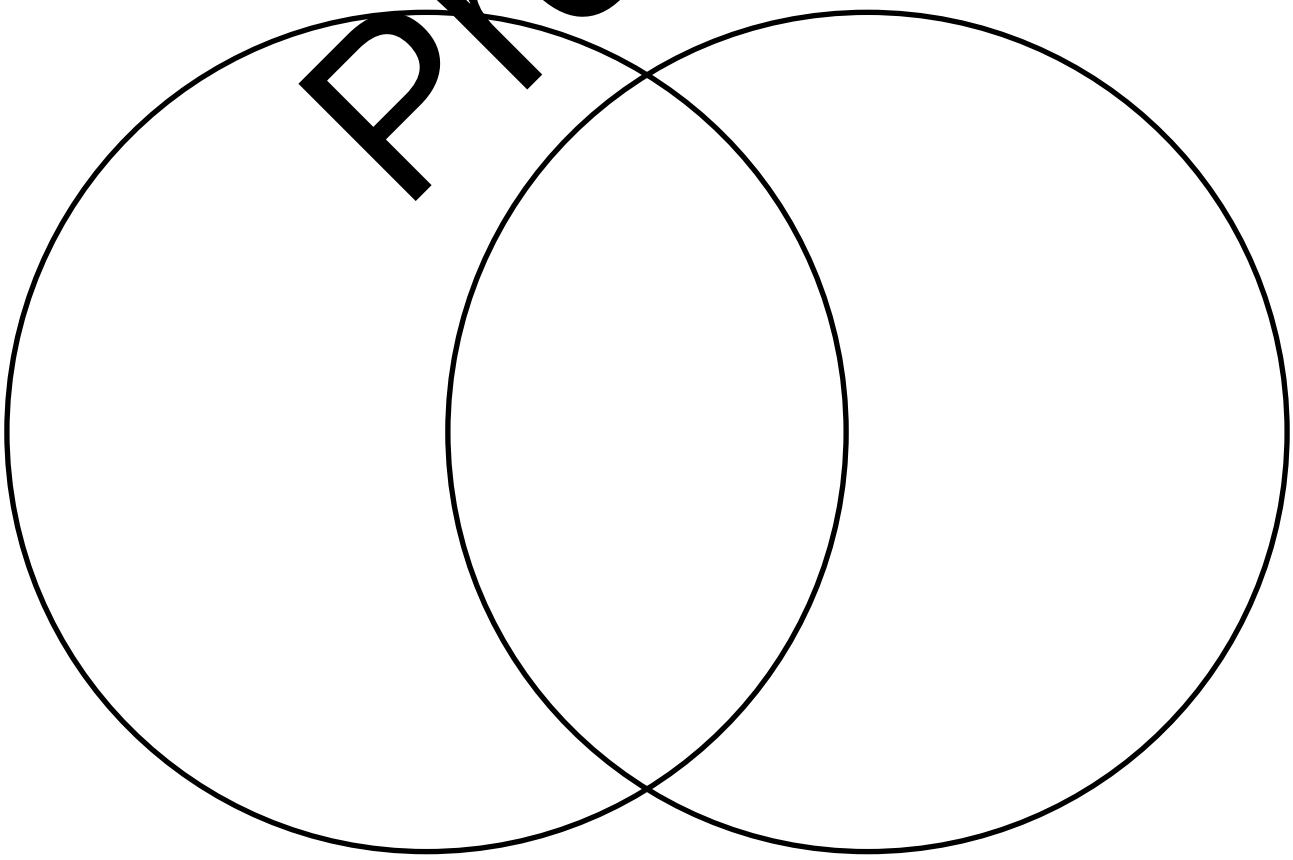
# Presenting data 4

**Complete the data table below comparing something about you and two friends. You can survey each other to compare likes and dislikes, abilities or even shoe size! Use the table on the previous table to help you.**

| Title: | | | |
|---|---|---|---|

| Data: | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |

**You can also present your data as a Venn diagram to show what you have and don't have in common with another member in your group. Transfer the data above in the Venn diagram below.**

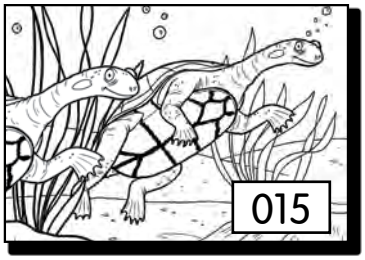


Preview

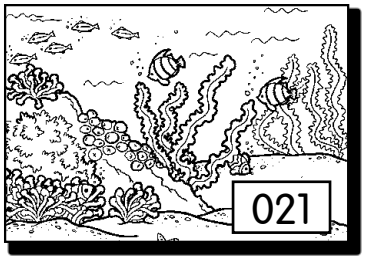
# Statistics 1

**You can collect, organise and study data to inform you about the world in which you live. During a recent dive on the Great Barrier Reef, Kirra took underwater photos of the marine life that she observed.**

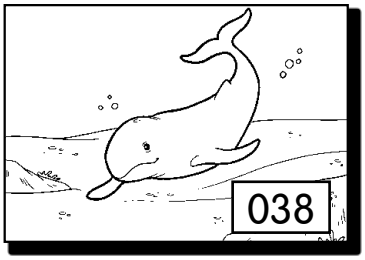
green turtle



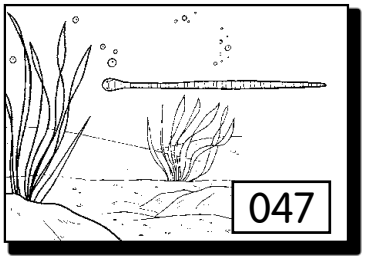

butterfly fish



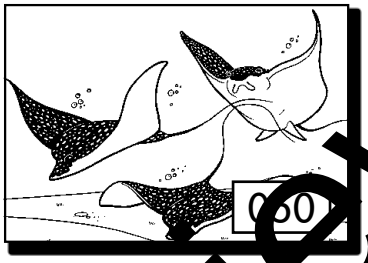

snubfin dolphin



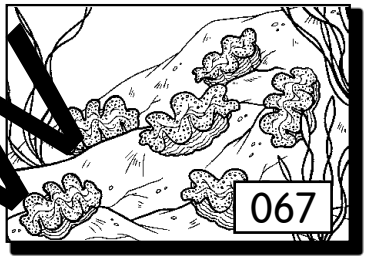

sea snake




blue-spotted ray

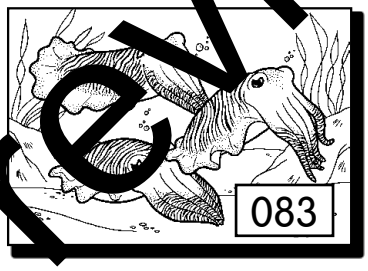



blue clam

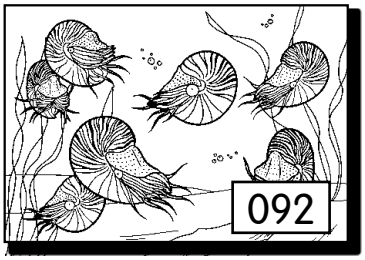



lemon shark

cuttlefish

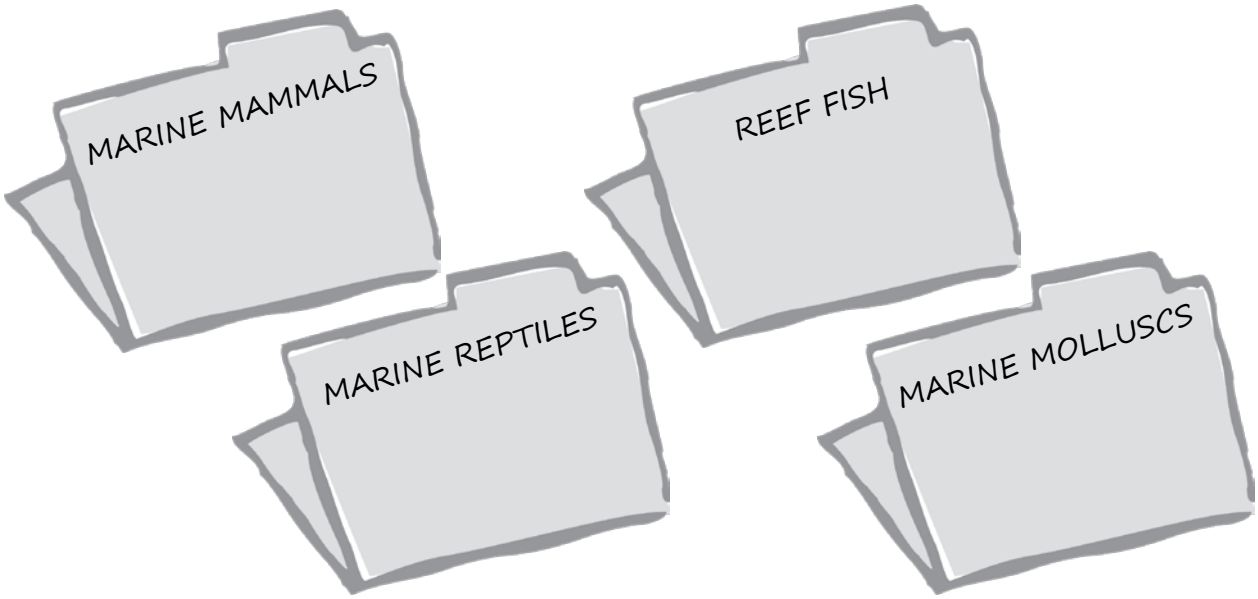



nautilus




Preview

**Kirra wants to organise her photographs into folders in her images file. She has decided on four categories. Which photographs will she put in the following folders? Write the photograph numbers on the folders.**



# Statistics 2

**1.** Help Kirra with her observation notes by completing a tally of the marine creatures that she photographed on the previous page. Fill in the table (right).

| MARINE CREATURE | TALLY |
|---|---|
| green turtle | II |
| butterfly fish | |
| snubfin dolphin | |
| sea snake | |
| blue-spotted ray | |
| blue clam | |
| lemon shark | |
| cuttlefish | |
| nautilus | |

**2.** How many marine animals did Kirra photograph altogether?

_____

**3.** Which group of animals did she see the most of?

_____

**4.** Which group of animals did she see the least of?

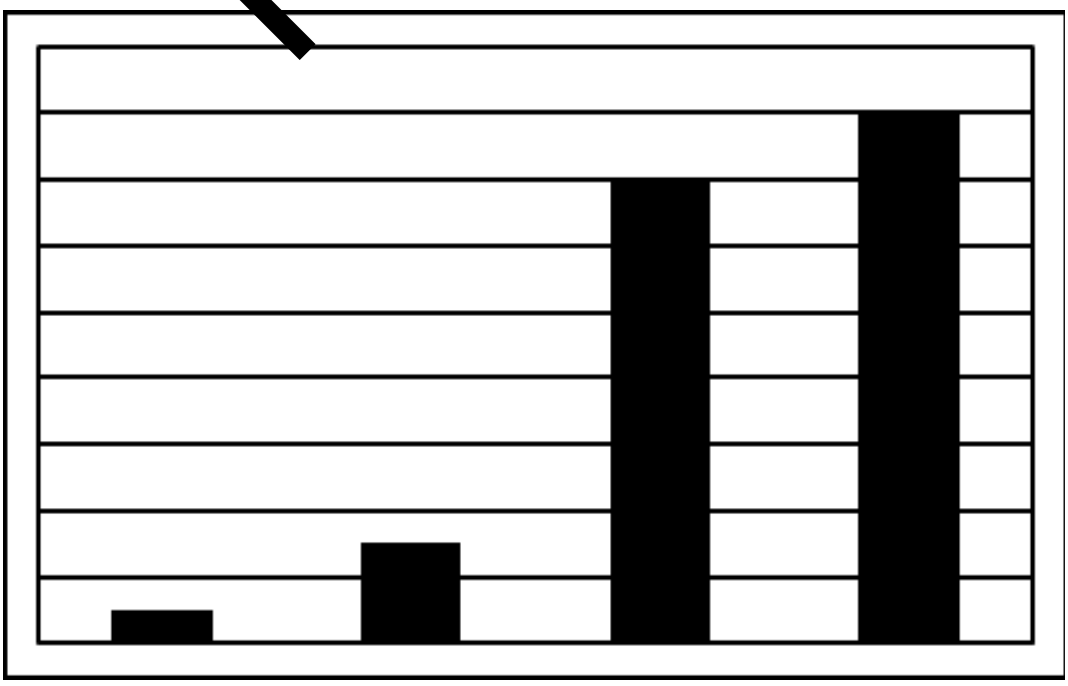
_____

**5.** What did you learn from Kirra's data about life on the Great Barrier Reef?

_____

**6.** Kirra has presented her data in a bar graph, but she hasn't finished labelling it. Complete the bar graph with labels for the bars and numbers on the vertical axis. Think about the groups that Kirra has chosen to present and the number scale.

MARINE LIFE SURVEY



Preview



Curriculum Link: Interpret and compare data displays (ACMSP070)

# Class pet survey 1

Abigail was put in charge of surveying the four Year 4 classes to find out the most popular choices for a class pet. Below are the results of her investigation.

| Class Pet | Tally |
|---|---|
| budgie | 𝍸 𝍸 𝍸 𝍸 |
| goldfish | 𝍸 𝍸 |
| silkworms | 𝍸 \| |
| dwarf rabbit | 𝍸 𝍸 |
| bearded dragon | 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 \|\| |

Preview

**Answer the questions based on the data in the tally table above.**

**1.** How many children's votes were included in this tally? _____

**2.** How many children chose a budgie? _____

**3.** How many more children chose a bearded dragon instead of

**a.** a goldfish? _____

**b.** silkworms? _____

**4.** How many children altogether voted for a dwarf rabbit or a goldfish?

_____

**5.** What do you think was Abigail's survey question?

_____

_____

**6.** There were two other possible pets on the survey, a tarantula and a stick insect, but no-one voted for them. Should Abigail still have included them in her results table? Explain your answer.

_____

_____

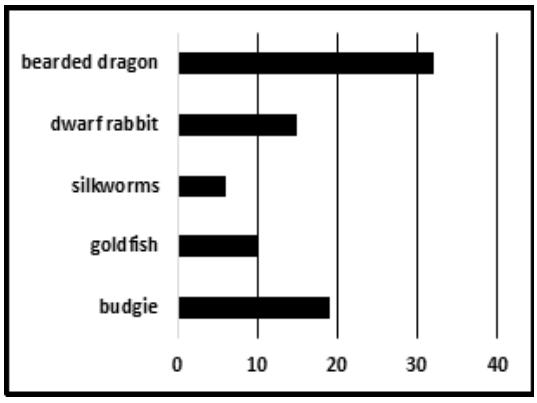


Curriculum Link: Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values (ACMSP096)

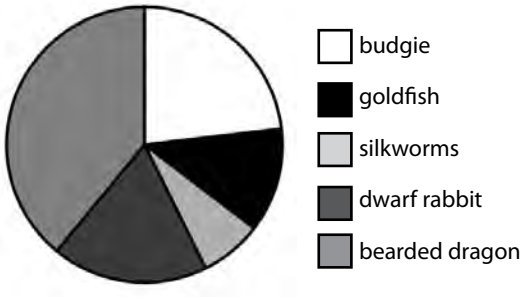
# Class pet survey 2

**Abigail experimented with different ways of presenting the data she collected. Tick the methods that show the data she collected correctly. Explain under each method the reasons for your answers.**

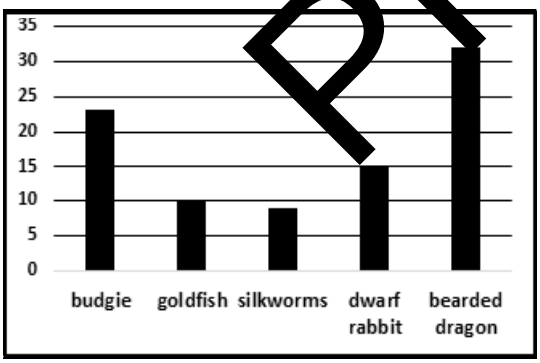
**1**



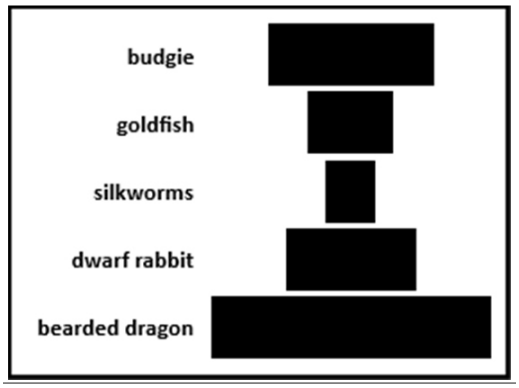

**2**




**3**




**4**




Preview

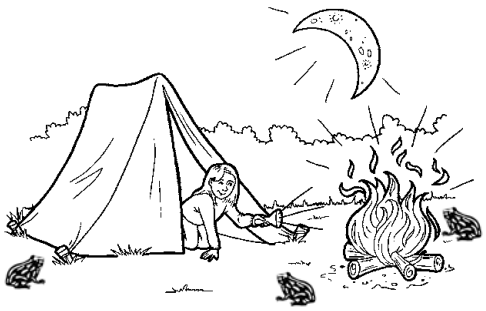


Curriculum Link:

# Frog census

**Fiona is mad about frogs. She's just spent a week camping out in the bush to complete a frog census. This is the data in pictogram form that she collated.**

= 2 frogs



| FROG CENSUS | |
|---|---|
| Monday | |
| Tuesday | |
| Wednesday | |
| Thursday | |
| Friday | |
| Saturday | |
| Sunday | |

**Present the data in the pictogram as a bar graph.**

FROG CENSUS

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Mon | Tues | Wed | Thurs | Fri | Sat | Sun |

Preview



Curriculum Link: 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 (ACMSP096)

# On the data trail

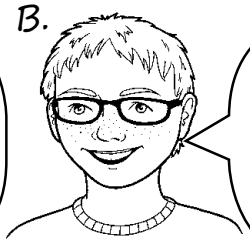
**These curious children want to know more about their classmates. Read the questions these children would like answered.**

A.

Who's the tallest in the class?

– Meena

B.



How many children were born in March?

– Carl

C.

How do you get to school every day?

– Keira

D.

Who can go the longest without blinking?

– Lachlan

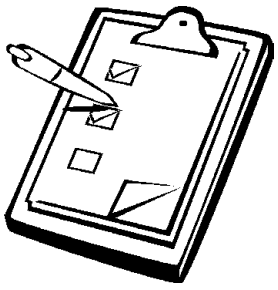
Preview

**1.** Match the collected data to the children's investigation questions. Draw lines to do this.

| | |
|---|---|
| a. Who's the tallest? | 1. Children's dates of birth. |
| b. Who was born in June? | 2. Timing eye movement. |
| c. How do you get to school every day? | 3. Heights of children in class. |
| d. Who can go the longest without blinking? | 4. Ways of travelling to school. |

**2.** Help one of the children plan their investigation. What does he/she need to organise to collect the data? Use the back of the sheet if you need to.

MY SUGGESTIONS TO _____





Curriculum Link: Select and trial methods for data collection, including survey questions and recording sheets (ACMSP095)

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# Planning an investigation

**Work in a pair or small group.**

**1.** Discuss what you want to investigate.

OUR SUGGESTIONS:

**2.** Agree as a group on an investigation question.

OUR INVESTIGATION QUESTION IS:

**3.** Predict the results of your investigation.

OUR PREDICTION:

WE THINK THIS BECAUSE:

Preview

**4.** It's time to think about how you are going to collect your data. Look at your question. Shade in the method/s of collecting data that would suit your question.

ASKING PEERS TO FILL OUT A SURVEY.

ASKING QUESTIONS FACE-TO-FACE AND RECORDING ANSWERS.

RECORDING RESULTS WITH A STOPWATCH, RULER, ETC. IN A TABLE.

TAKING A CLASS POLL.

# Recording data

**Now you're ready to collect and record your data. Before you create your data sheet in the space below, here are a few things to consider:**

- How many children will take part in your investigation?
- Have you got enough space to record the answers to your survey?
- Do you need to make copies of your survey questions to hand out?
- Do you need any equipment (metre-ruler, stopwatch, etc.)?
- How will you label your table/tally sheet?

Preview

# Answers

**Page 4**
sea urchin 2; pebble 5; pipi 5; scallop shell 7; starfish 6; coral 6

**Page 5**
1) Because it is comparing the abilities of three participants in a survey. 2) The ticks indicate that the participants have those abilities/behaviours. The crosses indicate that the participants can't do certain things.
3) They can count in Japanese.
4) They all like to get up to mischief.

**Page 6**
Student's survey.

**Page 7**
Marine mammals: dolphin; Reef fish: blue spotted ray, butterfly fish, lemon shark; Marine reptiles: sea snake, green turtle; Marine molluscs: blue clam, nautilus, cuttlefish

**Page 8**
1)

| MARINE CREATURE | TALLY |
|---|---|
| green turtle | II |
| butterfly fish | 𝍸 𝍸 |
| snubfin dolphin | I |
| sea snake | I |
| blue-spotted ray | III |
| blue clam | 𝍸 I |
| lemon shark | I |
| cuttlefish | III |
| nautilus | 𝍸 II |

**Page 9**
**1)**82
**2)**19
**3)a.**22 **b.**26
**4)**25
**5)**Which animal would you like for a class pet?
**6)**The survey chose "The Top 5 Pet Choices" so the omission of the other results would be acceptable

**Page 10**
**1)**Data graph matches survey results in tally
**2)**The graph shows the data in the correct proportions, i.e., bearded dragon greatest proportion, silkworms the least
**3)**Data for budgies and silkworms is not correct
**4)**Proportions for choices are correct and matches tally table

**Page 11**
Students should record the following results: Monday 8, Tuesday 10, Wednesday 6, Thursday 14, Friday 4, Saturday 12, Sunday 8. Note y-axis should be marked in intervals of 2

**Page 12**
**1)**a = 3 b = 1 c = 4 d = 2
Suggestions should take into account the purpose of the survey, e.g. the need for measuring equipment, the method of data collection

**Page 13**
Students' responses

**Page 14**
Students' reflection on the process of data collection

Preview