Part E

Chapter 3
Assessment Tasks – Section 3
Read *Bush Pond* and answer Questions 15, 16 and 17.

**BUSH POND**

The picture shows animals and plants that live in or around a bush pond. The tiny animals and plants have been shown in close-up.

Here are some facts about the food eaten by the animals in this pond.

<table>
<thead>
<tr>
<th>Food</th>
<th>snake</th>
<th>frog</th>
<th>tadpole</th>
<th>mosquito</th>
<th>cricket</th>
<th>fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>tiny pond plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>some animals but not insects or tadpoles</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>animal material but animal is not killed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>tadpoles</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>insects</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>large pond plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
Producers are living things that make their own food. Consumers get their food by eating other living things.

Q15 Which of the following lists only consumers?
- tadpole, water weed, fish
- frog, cricket, snake
- algae, fish, mosquito
- snake, frog, water weed

Q16 Complete this food web for the pond life. Fill in the blank spaces.

```
<table>
<thead>
<tr>
<th>Means 'is eaten by'</th>
</tr>
</thead>
</table>
```

Q17 If mosquitoes, crickets and algae disappeared, name all the animals that would have less food.

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13
Read Wood Burning and answer Questions 18 and 19.

WOOD BURNING

Some students are on a school camp. They collect dry wood for a campfire. Before dinner, they heat water in a metal can to make soup. The metal can has a wooden handle.

Q18 Why is it better for the metal can to have a wooden handle?


Back at school, students want to find out whether redgum or pine burns better. They have the following pieces of wood:

- small dry pine
- large dry pine
- small dry redgum
- small wet pine
- large wet redgum

Q19 Which two pieces should the students test to compare redgum and pine?

- [ ] small dry pine and small dry redgum
- [ ] small dry pine and small wet redgum
- [ ] large dry pine and large wet redgum
- [ ] large wet redgum and small wet pine
Read *Sandpaper* and answer Questions 20 and 21.

**SANDPAPER**

Sandpaper is used to smooth wooden surfaces. There are different types of sandpaper. Sandpaper can be 'heavy duty' for very rough surfaces. 'Heavy duty' sandpaper has larger grains on its surface. Sandpaper can also be 'light' for surfaces that need very fine smoothing. 'Light' sandpaper has very small grains.

Q20 Imagine you brushed your hand across the surface of each type of sandpaper. Which would feel rougher?

```
O O O O
M 0 1
```

Q21 You are helping to make a wooden garden seat. It needs to be very smooth. You decide to use the 'heavy duty' sandpaper to start smoothing the wood and you then finish with the 'light' sandpaper. Why is this the better choice?

```
O O O O
M 0 1 2
```
Read *Toy Train* and answer Questions 22, 23, 24 and 25.

**TOY TRAIN**

Jillian has a battery-operated, electric train set.

The train suddenly stopped while the switch was 'on'. The train was still on the tracks.

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**Q22** What could Jillian have done to find out if the battery was flat?

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**Q23** Jillian tested the battery and found it was not flat. Name one other thing that Jillian should check.

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Jillian fixed the problem. She started the train and then kept it running. She wanted to find out how long it would take for the train to complete one lap. She timed the train on every tenth (10th) lap.

<table>
<thead>
<tr>
<th>Lap Number from start</th>
<th>Time for lap (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td>20</td>
<td>43</td>
</tr>
<tr>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>50</td>
<td>52</td>
</tr>
</tbody>
</table>
Q24  What do the results in the table show?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Q25  Suggest a reason for your answer to Question 24.
PART B: PRACTICAL

PRACTICE QUESTIONS

There are three types of questions in the Science Practical Task.

Type 1
Complete a results table.

Q1 Sam measured the height of three students.

<table>
<thead>
<tr>
<th>Person</th>
<th>Height (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>150 cm</td>
</tr>
<tr>
<td>Tran</td>
<td>160 cm</td>
</tr>
<tr>
<td>Marika</td>
<td>170 cm</td>
</tr>
</tbody>
</table>

Put this information into this table.

Type 2
Look at the information table to answer the question.

Q2 100 m race

<table>
<thead>
<tr>
<th>100 m race</th>
<th>Time (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>20</td>
</tr>
<tr>
<td>Tran</td>
<td>25</td>
</tr>
<tr>
<td>Marika</td>
<td>30</td>
</tr>
</tbody>
</table>

Kim was the fastest. What was his time? _________________ seconds

Type 3 is a Long Answer.
You may need to write two or three lines or sentences to give the best answer. For example:

Q3 What happens to a balloon when you blow it up? Explain.

__________________________________________________________________________
CRATERS

Introduction:
Have you seen pictures of craters on the Moon? What caused these craters? What makes them the size and shape that they are?
This experiment will help you understand how craters are formed. You will create craters by dropping marbles from different heights into small pans of flour.

What to do:
Complete Part A of the activity in your group. Answer the questions as you go.
Complete the Part B questions by yourself.
You must hand in your booklet at the end.

What you will need per group of 3 students:
- a sheet of newspaper
- a 30 cm ruler
- 4 large round patty pans (about 6-8 cm diameter)
- 4 marbles (‘normal’ 1 cm diameter size)
- 1 plastic spoon
- 1 empty plastic cup
- 1 cup flour

Teacher needs:
- 1 sieve for the class
- ¼ cup powdered drinking chocolate for each group of students (about 3 cups in total)
Practical Task A: Group work (work as part of a group of 3 students).

Setting up the patty pans
1. Place the newspaper flat on your work area.
2. Collect flour from your teacher in your plastic cup.
3. Place the 4 patty pans on the newspaper. They should be at least 10 cm apart. Make sure the patty pans are as round as possible.
4. ¾ fill each patty pan with flour.
5. Gently shake the patty pans to make the flour level. Do not push down on the flour. Do not touch the flour after it is level.
6. Check that the patty pans are still round. Do not move the patty pans.

Dropping the marble
7. One person holds a ruler just inside one of the patty pans. The bottom of the ruler should be at the top of the flour surface. A second person holds a marble over the centre of the patty pan. Look down from above the marble to make sure it will fall into the patty pan. The third person makes sure the bottom of the marble is next to the 10 cm mark on the ruler.
8 Drop the marble. Practise this again with the same patty pan until you can get the marble into the patty pan nearly every time.

9 Get your teacher to use a sieve to add a layer of chocolate powder to just cover the flour in each of the other three patty pans.

10 Drop a marble from the 10 cm mark on the ruler onto the chocolate surface. Leave the marble where it falls.

11 Take another marble, another patty pan and the ruler. Drop the marble from the 20 cm mark on the ruler. Leave the marble where it falls.

12 Take another marble, another patty pan and the ruler. Repeat the procedure, this time dropping the marble from the 30 cm mark. Again, leave the marble where it falls.

13 Look at all of the patty pans but do not move them. You should see something like this.

Measure the width of each crater (the white section) and complete the table.

<table>
<thead>
<tr>
<th>Drop height</th>
<th>Crater width</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 cm</td>
<td></td>
</tr>
<tr>
<td>20 cm</td>
<td></td>
</tr>
<tr>
<td>30 cm</td>
<td></td>
</tr>
</tbody>
</table>

14 Look at how far the marble sinks into the flour each time.
Practical Task B: Individual work (Answer these questions by yourself).

QP1 What effect did drop height have on how far the marble sank into the flour?

QP2 What effect did drop height have on the width of the crater?

QP3 Why should the bottom of each marble be lined up carefully with the 10, 20 and 30 cm marks before it is dropped?

QP4 Craters have been formed by asteroids and meteors (large rocks) hitting the moon’s surface.

Why are the craters of different widths and depths?

Hand your booklet to your teacher at the end of this activity.