

# How Chocolate is Made



## Pre-reading activities: Comprehension strategy – Scanning

- 1 Scan through the text and pictures. Who will be the first pupil to find the answers to the following questions:
  - (a) What are midges?
  - (b) How are the beans dried?
  - (c) Where are the beans roasted?
  - (d) What is a conche?

## Think, Pair, Share: Comprehension strategy – Synthesising

- 2
  - (a) What do you know about chocolate?
  - (b) What information would you like to have about chocolate?

## During reading: Comprehension strategy – Synthesising

- 3
  - (a) What interesting words did you learn as you read the piece?
  - (b) Put these words into sentences to show what they mean.



Many people love chocolate. We use it to make hot chocolate drinks. It is also used to make bars, sweets and cakes. Chocolate comes from the **cacao** or **cocoa** tree.



Cocoa trees need a warm **climate** in order to grow. These evergreen trees grow in the **rainforests** of South America and on farms in Africa and other warm **countries**. Nearly three quarters of the cocoa beans used in making chocolate come from Africa.

The cocoa tree can grow up to 15 metres high. White flowers grow on these trees. Small insects called **midges** (flies) carry **pollen** (powder) from flower to flower.

This helps spread the seeds. Brightly coloured fruit, called **Pods**, grow along the tree trunk and **branches**. These pods can be red, yellow, orange and green, when they are ripe. These pods are shaped like a rugby ball. Inside these pods are 20–50 cocoa seeds or cocoa beans.



Harvesting

### Step 1 – Harvesting

After six months of growing, the cocoa pods are ripe and ready to be harvested. **Harvesting** happens twice a year. Farmers cut these pods open using a large knife called a **machete**. The pods are placed in baskets. A skilled worker can open up to 500 pods in one hour!

### Step 2 – Fermentation

The cocoa beans are put into wooden **containers** to **ferment**. This means that the seeds heat up in such a way that their look and flavour change. After about a week, the seeds turn a rich dark brown colour and taste like bitter chocolate.







Drying and shipping

### Step 3 – Drying and shipping

The next step is to dry the fermented beans in the sun. Once the beans are dried, they are put into sacks. The sacks are taken to shipping centres and loaded on to **cargo** ships. These ships **deliver** the sacks to the United States or Europe. The beans are then **poured** into steel trucks or railcars and brought to a chocolate maker.

### Step 4 – Roasting

The chocolate maker roasts the beans in big ovens. This can take up to 2 hours. The **temperature** at which they are roasted and the **length** of time they are roasted for is part of the chocolate maker's secret!

### Step 5 – Winnowing

The roasting **process** makes the cocoa bean shells **brittle** (weak). The beans are put in a machine called a **winnow**er. This machine causes the beans to crack open. Fans blow away the lighter shells, leaving behind pure cocoa known as **nibs**. These nibs are sorted **according** to size.



Winnowing



Grinding

### Step 6 – Grinding

The nibs are brought to a mill and put into a grinder. A thick paste called *chocolate liquor* is **formed**. Despite the name, there is no **alcohol** in this liquor. Some of the chocolate liquor is pressed to make cocoa butter or cocoa powder.



### Step 7 – Mixing

The rest of the chocolate **liquor** is added to **condensed** milk, sugar, cocoa butter and **flavourings**. A machine mixes all these **ingredients**. After a few hours of mixing, it becomes a brown **dough** called **crumb**.



Conching

### Step 8 – Conching

The crumb is placed in a conche. This crumb is rolled many times until it is **smooth**.

### Step 9 – Moulding and packaging

The **tasty** chocolate is then poured into moulds and left to set. It is then put in **packages** and sent to shops to be sold.

#### Post-reading activity: Comprehension strategy – Recall/sequencing

Describe the process of making chocolate, from start to finish.



## ACTIVITIES

### How Chocolate is Made

#### A A Little Light Thinking

1. What do cocoa beans need to grow?
2. What carries the pollen from flower to flower?
3. How many times a year does harvesting take place?
4. Why are cocoa beans put into wooden containers?
5. Explain what nibs are.
6. What is mixed with the chocolate liquor to make crumb?



#### C Vocabulary Work

Rewrite the following sentences using words from the word box.

smooth	midges	United	pollen	harvested	climate
containers	cocoa	roasts	winnower	nibs	oven

1. Cocoa trees need a warm \_\_\_\_\_ to grow.
2. Small insects called \_\_\_\_\_ carry \_\_\_\_\_ from flower to flower.
3. After six months, the pods are ready to be \_\_\_\_\_.
4. The cocoa beans are put into wooden \_\_\_\_\_ to ferment.
5. The ships deliver the sacks to the \_\_\_\_\_ States or Europe.
6. The chocolate maker \_\_\_\_\_ the beans in a big \_\_\_\_\_.
7. A machine called a \_\_\_\_\_ causes the beans to crack open.
8. Fans blow away the shells leaving behind pure cocoa known as \_\_\_\_\_.
9. Chocolate liquor is pressed to make \_\_\_\_\_ butter.
10. A conche rolls the crumb until it is \_\_\_\_\_.



# 17 Salann ar an mBord



1. Granny and Granddad were in the garden. Granddad was playing with the children

2. Hollaí and Ollaí had a water pool. Granddad had a bucket of water. Alí was splashing. She was nervous.



2 Bhi balúin uisce ag Hollaí agus Ollaí. Bhi buicéad uisce ag Daideo. Bhi Alí ag lapadail. Bhi sceitimíní orthu.



3 Bhi Daidí agus Learaí Óg sa chistin. Bhi ispiní ar an mbord.

3. Dad and Learaí were in the kitchen. There was sausages on the table.



4 Chuala Daidí Alí ag screadaíl. Amach leis sa ghairdín. Isteach le Salann sa chistin. Léim sé ar an mbord. Thosaigh sé ag ithe.

4. Dad heard Alí screaming. Out he went into the garden. In went Salt(dog) to the kitchen. He jumped on the table. He started to eat.

5. Out went Leoraí to the garden.

"Salt is on the table."

"Leoraí is speaking. Salt and pepper are on the table. Good boy"



6. "Salt is on the table! Salt is on the table!"

"Good boy, Leoraí. Pepper is on the table too."

7. Leoraí started screaming and crying.

"Sausages! Sausages! Bold Salt!"

7 Thosaigh Leoraí Óg ag screadail agus ag caoineadh.



8. Ollaí looked in the kitchen. Dad went in as quick as the wind. Out went Salt and the sausages in his mouth.

"Ahhhh! Salt, the DOG is on the table."

9. Ollaí grabbed the brush. He brushed Salt into the kennel.

"Salt, you are very bold. I am angry>"



10. Oh woe to me!



## C



## Le foghlaim



1. Tá beacán sa chiseán.



2.

sa

3.

sa



4.

sa

5.

sa



6.

sa

## F



## Briathra

Opened

Got

Gave

Called

Saw

Did/Made

D'oscail

Fuair

Thug

Ghlaoigh

Chonaic

Rinne

1. \_\_\_\_\_ Beití na páistí ag súgradh sa chlós.
2. \_\_\_\_\_ Ollaí rothar nua.
3. \_\_\_\_\_ Sathbh an bronntanas.
4. \_\_\_\_\_ an múinteoir obair bhaile do na páistí.
5. \_\_\_\_\_ na páistí an obair bhaile.
6. \_\_\_\_\_ an múinteoir ar Mhamai Hollaí.

1. Beití \_\_\_\_\_ the children playing on the yard.
2. Ollaí \_\_\_\_\_ a new bike.
3. Sathbh \_\_\_\_\_ an bronntanas.
4. The teacher \_\_\_\_\_ homework to the children.
5. The children \_\_\_\_\_ the homework.
6. The teacher \_\_\_\_\_ Holly's mom.



# Chapter 20: Decimals

This straw is cut into 10 equal pieces. Each piece is  $\frac{1}{10}$  of the straw.

$1 + \frac{2}{10} = 1\frac{2}{10} = 1\frac{2}{10}$

To separate the units from the fractions, we use a point!

We call the point a **decimal point**.

We call the part after the decimal point a **decimal fraction**.

1.4 is called a **decimal number**.

1. Colour the correct **decimal fraction** in these shapes.

(a) (b) (c) 
  
 0.4      0.7      0.3

2. (a) (b) (c) (d) 
  
 0.5      0.2      0.9      0.8

3. Write the following numbers using a decimal point.

(a) → → 1.

(b) → → .

(c) → → .

(d) → → .

(e) → → .

(f) → → .

## Connecting fractions and decimals

Complete this table.

	Fraction	Decimal	Word form	Picture
(a)	$\frac{1}{10}$	0.1	zero point one	
(b)	$\frac{4}{10}$			
(c)		0.7		
(d)	$\frac{13}{10}$	1.3	one point three	
(e)		2.5		
(f)				
(g)			two point nine	
(h)				
(i)	$3\frac{3}{10}$			
(j)		3.8		
(k)	$\frac{10}{10}$			
(l)			one point seven	
(m)			two point eight	
(n)				

### Challenge

$\frac{1}{2}$			
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# Monday

- $3 \times 9 =$
- 40cm plus 35cm =
- 58 minus 20 =
- Round 452 to the nearest 100.
- $\frac{3}{4}$  hour =  minutes

June						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

- How many Fridays in June?
- What day is the 12th?
- Tom's birthday is the 3rd Sunday in June. What date is this?
- What day is the 1st July?
- $$\begin{array}{r} 25 \\ \times 6 \\ \hline \end{array}$$

- $47 \div 5 =$   R
- 2l 860ml - 1l 670ml =

- I have 32 marbles.  
To how many children can I give 4 marbles each?
- A train leaves at **4:15**. It is now **3:35**. How many minutes before the train departs?
- If 45 people check in every hour, how many people will check in over 5 hours?
- 3 bottles of orange can be bought for €1.50. How many bottles can be bought for €3.00?

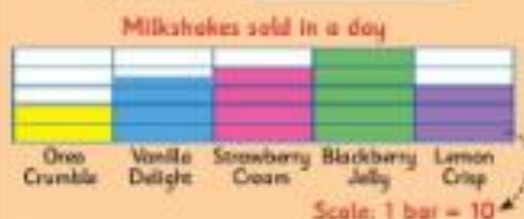
# Tuesday

- Represent 469 on the notation board.
- $\frac{1}{4}$  of 24 =
- $6 \times 3 =$
- Write the next 3 numbers in this sequence: 150, 154, 158, , , .
- Draw hands on the clock to show **1:25**.
- A pyramid has  faces.
- $44 \div 7 =$   R
- $0.3 = \frac{6}{10}$ . True or false?
- $9 \times$   = 63
- $\frac{1}{8}$  of a number is 7.  
What is the number?

h	t	u




- Look at the bar chart below.  
Which flavoured milkshake was most popular?




- Which flavoured milkshake was the least popular?
- Which flavour added to the Lemon Crisp equalled the Blackberry Jelly?
- How many Vanilla Delights and Strawberry Creams were sold?
- What was the total of the two least popular flavours?
- How many milkshakes altogether were sold on this day?

## Wednesday

- $8 \times 8 =$
- $958\text{c} = \text{€}$
- Write this digital time in analogue form: **10:50**
- $\frac{1}{8}$  of 40 =
- $\frac{1}{4}$  of a number is 4.  
What is the number?
- Draw a line perpendicular to this line. 
- How many edges has a cuboid?
- $\frac{30}{3} =$
- Write the next 3 terms in this sequence: 4,  $3\frac{1}{4}$ ,  $3\frac{1}{2}$ ,  $3\frac{1}{4}$ , , ,
- $$\begin{array}{r} 53 \\ \times 6 \\ \hline \end{array}$$
- $$\begin{array}{r} 5 \overline{) 37} \\ \underline{\phantom{00}} \\ \text{R } \phantom{00} \end{array}$$
- $$\begin{array}{r} 3\text{m } 87\text{cm} \\ + 5\text{m } 39\text{cm} \\ \hline \end{array}$$
- $\frac{1}{8}$  of the children in a camp wear glasses. If 7 children wear glasses, how many children are in the camp?
- There are 35 lollipops in a jar. How many lollipops in 6 jars?
- When the trainer divided the children into 5 equal groups, there were 3 children left over. If there were 38 children, how many were in each group?
- Cora had €3.45, Jake had €1.78 and Sally had €3.08. How much money had the children altogether?

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## Thursday

- 1 hour 40 minutes =  minutes
- $$\begin{array}{r} \text{h t u} \\ 679 \\ + 245 \\ \hline \end{array}$$
- $760 - 300 =$
- $5 \times 9 =$
- $\frac{1}{4}$  of 28 =
- Mark the right angles in this shape. 
- How many faces and edges has a cone?  face(s)  edge(s)
- How many minutes are there from **2:10** to **2:55**?
- $$\begin{array}{r} 55 \\ \times 7 \\ \hline \end{array}$$
- $$\begin{array}{r} 4 \overline{) 96} \\ \underline{\phantom{00}} \end{array}$$
- $$\begin{array}{r} 8\text{kg } 630\text{g} \\ - 5\text{kg } 270\text{g} \\ \hline \end{array}$$
- $(4 \times 5) = ( \phantom{00} \times 10)$

In the post office



a = 3kg 240g



b = 5kg 840g



c = 2kg 590g



d = 3kg 650g

- What is the total weight of the 2 heaviest parcels?
- What is the total weight of the 2 lightest parcels?
- What is the difference in weight between the heaviest and lightest parcel?
- What is the difference in weight between the 2 heaviest and 2 lightest parcels?

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## Treasure to ship

There are **2 pirates** and **4 treasure chests** on an island. The pirates have 1 small boat to take the treasure to their ship. The boat can take 2 pirates or 1 pirate and 1 chest of treasure.

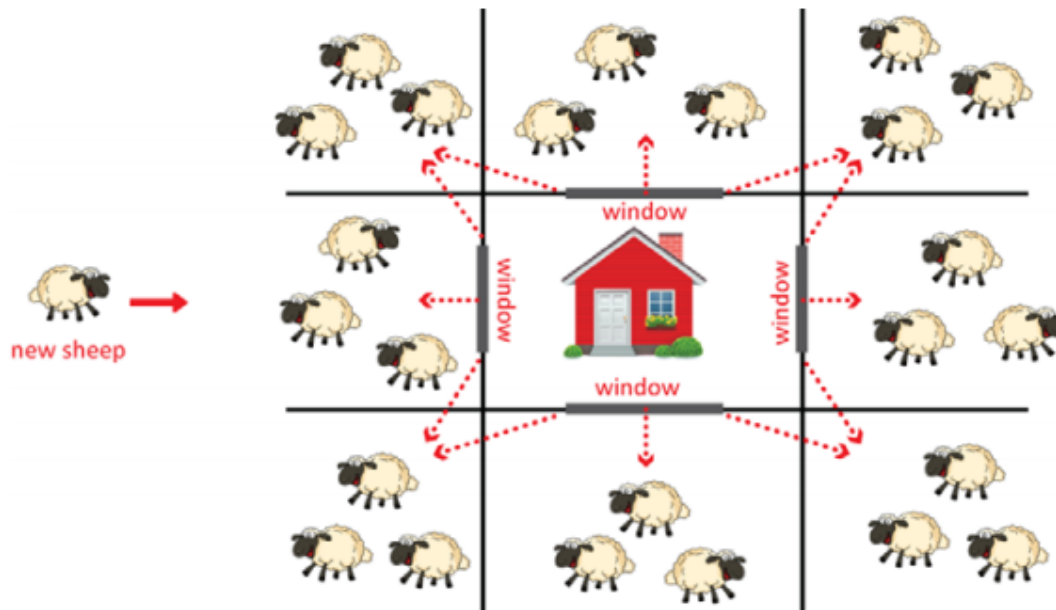
How many trips do the pirates have to take to get all the treasure and both pirates onto the ship?



## The farmer's sheep

A farmer can see nine sheep if he looks out of any of his four windows. His wife buys him a new sheep.

Which paddocks can he put the new sheep in so that he can still see nine sheep from each of the four windows?



In how many ways can the farmer put his 25 sheep so that he can see 9 sheep through each window? (Every paddock is to have at least one sheep.)



# Questions

1. How long does Ramadan last for?

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2. Match the names of the five pillars of Islam with their meaning.

Shahada

prayer

Salat

faith

Zakat

fasting

Sawm

charity

Hajj

pilgrimage

3. Name two things that Muslims do during Ramadan.

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4. What is a pilgrimage?

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5. What is the name of the Muslim holy book?

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6. Do you think fasting would be difficult? Why?

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# What Happens during Ramadan?

During Ramadan what different things might a Muslim do?



Some Muslims, including children, fast during Ramadan. If Muslims are fasting, what does this mean they are doing?



How do you think you would feel if you fasted and could not eat during the day?

