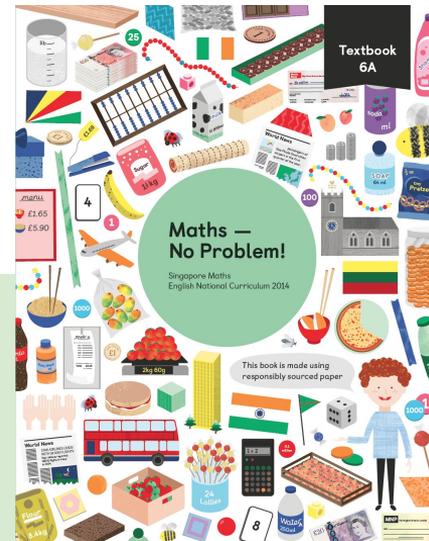


# SINGAPORE MATHS

**MATHS**  
NO PROBLEM!



# STRUCTURE OF A SINGAPORE MATHS LESSON

## ANCHOR TASK:

- EXPLORATION
- JOURNAL
- REFLECTION (LET'S LEARN)
  
- GUIDED PRACTICE
  
- INDEPENDENT WORKING

# STRUCTURE OF A SINGAPORE MATHS LESSON

## EXPLORE

THE CHILDREN ARE PRESENTED WITH A PROBLEM AND GIVEN TIME TO EXPLORE. THEY WOULD HAVE ACCESS TO RESOURCES THAT MAY HELP THEM TO SOLVE THE PROBLEM AND THEY ARE ENCOURAGED TO WORK WITH THEIR PARTNER.

## Multiplying by Two-Digit Numbers

### In Focus

How much apple juice is there in 20 bottles like this one?



Lesson  
3

# STRUCTURE OF A SINGAPORE MATHS LESSON

DURING THIS TIME THE TEACHER WILL CIRCULATE AROUND THE CLASSROOM AND IDENTIFY DIFFERENT METHODS THAT ARE BEING USED BY THE CHILDREN. IF A CHILD HAS SUCCESSFULLY SOLVED THE PROBLEM THEY ARE ENCOURAGED TO FIND A DIFFERENT WAY TO SOLVE IT.

## Multiplying by Two-Digit Numbers

### In Focus

How much apple juice is there in 20 bottles like this one?



Lesson  
3

# STRUCTURE OF A SINGAPORE MATHS LESSON

*USING CHILDREN'S WORK AS  
EXAMPLES, THE TEACHER THEN  
WORKS THROUGH THE PROBLEM  
WITH THE CHILDREN.*

## Multiplying by Two-Digit Numbers

### In Focus

How much apple juice is  
there in 20 bottles like this one?



Lesson  
3

# STRUCTURE OF A SINGAPORE MATHS LESSON

## JOURNALLING

THE CHILDREN THEN RECORD THEIR FINDINGS IN THEIR JOURNALS. THIS MAY INVOLVE FINDING AND RECORDING MORE THAN ONE METHOD OF SOLVING WITH A WRITTEN EXPLANATION.

THE TEACHER MAY GIVE THE CHILDREN ONE METHOD THAT THEY WANT THEM TO RECORD AS THIS MAY BE THE METHOD THAT THEY ARE WORKING TOWARDS.

## Multiplying by Two-Digit Numbers

### In Focus

How much apple juice is  
there in 20 bottles like this one?



Lesson  
3

# STRUCTURE OF A SINGAPORE MATHS LESSON

23/9/16  
Chapter 2 - Lesson 3

Multiplying by Two-Digit Numbers

How much apple juice in 20 bottles?



1)  $414 + 414 = 828$   
 $828 \times 10 = 8280$

2)  $414 \times 2 \times 10 = 8280$   
 $828 \times 10 = 8280$

3)  $4 \times 2 = 8$   
 $400 \times 20 = 8000$   
 $10 \times 20 = 200$   
 $4 \times 20 = 80$   
 $8280$

Handwritten notes and diagrams:  
- A speech bubble next to method 1 says: "Add this because you double it for the 2 in 20 and then  $\times 10$  because  $2 \times 10 = 20$ ."  
- A speech bubble next to method 2 says: "This is an expansion that shows how you could partition 20 into an expansion."  
- A speech bubble next to method 3 says: "This partitions the numbers to show the individual steps."

**A REASONING CHALLENGE SHOULD BE GIVEN TO THE CHILDREN TO DEEPEN THEIR UNDERSTANDING.**

**E.G. IF THE NUMBER OF BOTTLES CHANGED TO 40, HOW WOULD DOUBLING HELP ME? CAN YOU EXPLAIN WHY THIS WORKS? IF I DOUBLED THE ANSWER AGAIN, WOULD THIS GIVE ME THE ANSWER FOR X60? WHY?**

# STRUCTURE OF A SINGAPORE MATHS LESSON

## LET'S LEARN

AFTER THE CHILDREN  
HAVE JOURNALLED, THE  
TEACHER WILL GO  
THROUGH THE PROBLEM  
WHICH OFTEN MOVES  
THROUGH THE PICTORIAL  
TO THE ABSTRACT.

### Let's Learn

1  $414 \times 10 =$

$100$   $100$   $100$   $100$  becomes  $1000$   $1000$   $1000$   $1000$

$10$  becomes  $100$

$1$   $1$   $1$   $1$  becomes  $10$   $10$   $10$   $10$

$$\begin{aligned} 414 \times 10 &= 4000 + 100 + 40 \\ &= 4140 \end{aligned}$$



414 tens = 4140

# STRUCTURE OF A SINGAPORE MATHS LESSON

2

$414 \times 20 =$

Method 1

$414 \times 10 = 4140$

$$\begin{aligned} 414 \times 20 &= 4140 + 4140 \\ &= 8280 \end{aligned}$$

Method 2

$$\begin{aligned} 414 \times 20 &= 414 \times 2 \times 10 \\ &= 828 \times 10 \\ &= 8280 \end{aligned}$$

# STRUCTURE OF A SINGAPORE MATHS LESSON

## LET'S LEARN

THE FINAL EXAMPLE MAY BE SLIGHTLY DIFFERENT TO THE INITIAL PROBLEM BUT WILL BE BASED ON IT.

THIS HELPS TO DEEPEN THE CHILDREN'S UNDERSTANDING.

3

$$1414 \times 20 = \square$$

Method 1

$$\begin{aligned} 1414 \times 20 &= 20\,000 + 8280 \\ &= 28\,280 \end{aligned}$$

Method 2

$$\begin{aligned} 1414 \times 10 &= 14\,140 \\ 1414 \times 20 &= 14\,140 \times 2 \\ &= 28\,280 \end{aligned}$$

Method 3

$$\begin{aligned} 1414 \times 20 &= 1414 \times 2 \times 10 \\ &= 2828 \times 10 \\ &= 28\,280 \end{aligned}$$

$$1000 \times 20 = \square$$



$$414 \times 20 = 8280$$

# STRUCTURE OF A SINGAPORE MATHS LESSON

## GUIDED PRACTICE

THE CHILDREN WORK THROUGH THE GUIDED PRACTICE WITH THEIR PARTNERS. THE QUESTIONS GIVEN LINK TO EACH OTHER AND GUIDE THE CHILDREN'S THINKING.

FOR THESE QUESTIONS, CONCRETE MATERIALS ARE AVAILABLE.

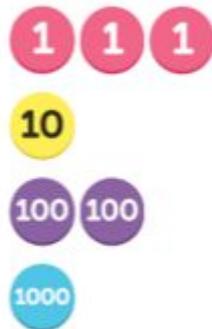
## Guided Practice

1 Find the value of each.

(a)  $213 \times 10$

(b)  $213 \times 30$

(c)  $1213 \times 30$



# STRUCTURE OF A SINGAPORE MATHS LESSON

## GUIDED PRACTICE

THE QUESTIONS BECOME MORE ABSTRACT BUT STILL GUIDE THE CHILDREN TO THE MOST EFFICIENT METHOD OF WORKING.

2

Find the product of 2102 and 40.

$2102 \times 4 = \square$

$2102 \times 40 = \square$

$2102 \times 10 = \square$

$2102 \times 40 = \square$



# STRUCTURE OF A SINGAPORE MATHS LESSON

## INDEPENDENT PRACTICE

THIS IS COMPLETED IN A  
WORKBOOK. EACH  
QUESTION INCREASES IN  
DIFFICULTY.

Complete Worksheet 3 – Page 21 - 22

### Multiplying by Two-Digit Numbers

1 This is how Sam multiplies a number by a two-digit number.

$$\begin{aligned}432 \times 30 \\&= 432 \times 3 \times 10 \\&= 1296 \times 10 \\&= \square\end{aligned}$$



Multiply using Sam's method.

$$\begin{aligned}\text{(a)} \quad 243 \times 20 &= \square \times \square \times \square \\&= \square \times \square \\&= \square\end{aligned}$$

$$\text{(b)} \quad 1243 \times 20 =$$

$$\text{(c)} \quad 3221 \times 40 =$$

2 Charles multiplies using this method:

$$134 \times 20 = \square ?$$

$$134 \times 10 = 1340$$

$$134 \times 20 = 1340 + 1340$$

$$= \square$$



Use Charles' method to find the product of the following:

$$\text{(a)} \quad 243 \times 20 = \square ?$$

$$243 \times 10 = \square$$

$$243 \times 20 = \square + \square = \square$$

$$\text{(b)} \quad 2324 \times 20 = \square$$

$$\text{(c)} \quad 1234 \times 30 = \square$$