Years 1-6
P2-P7

INSPIRE MATHS

Selected by the DfE and NCETM

Oxford brings you the UK edition of Singapore's #1 maths series

OXFORD

What is *Inspire Maths?*

- Combines the very best of Singapore's pedagogy with leading UK expertise in teaching and learning mathematics and world-class professional development from Oxford
- Based on the #1 Singapore Maths series *My Pals are Here*, used by 100% of Singapore's state primary schools
- Developed with leading UK educational experts and correlated to the new National Curriculum
- A high-quality textbook programme for the whole-school that helps every child to achieve maths mastery

> "This approach has had an impact with our children already and we are looking forward to measuring the impact as our children move through our school."

Ros Hutchinson,
Browney Academy

Why does *Inspire Maths* work?

Inspire Maths is built on the proven approach to teaching maths in Singapore, recognised globally as one of the most impactful ways to teach and learn maths.*

- Selected by the Department for Education and NCETM for the national textbook research project with Maths Hubs
- High-quality pupil textbooks introduce concepts in a highly scaffolded way, enabling all children to become confident mathematicians
- The concrete – pictorial – abstract approach ensures deep understanding of mathematical concepts
- Carefully-designed spiral progression builds up knowledge over time

> “On observing the Year 1 class, I was impressed by the level of questioning and children’s use of language and explanations, as well as the engagement of the pupils of all abilities.”

Sarah Bishop,
Parkland Primary School

*Singapore’s students have consistently been top performers in international assessments Trends in International Mathematics and Science Studies (TIMSS) and OECD Programme for International Student Assessment (PISA).

Meet the experts

Our team of experts have a wealth of experience in UK classrooms. As teachers and educational consultants trained in the Singapore approach to teaching mathematics, they understand the needs of UK teachers and how to support the implementation of *Inspire Maths* through the resources and online support material.

SERIES CONSULTANT AND AUTHOR

Dr Fong Ho Kheong

Dr Fong is currently a senior Mathematics Specialist with the Regional Centre for Education in Science and Mathematics (RECSAM) in Penang, Malaysia. He has published more than 100 journal articles, research reports, and primary and secondary mathematics books, and his research work includes diagnosing children with mathematical difficulties and teaching thinking skills to solve mathematical problems.

PROFESSIONAL DEVELOPMENT LEADER

Sue Lowndes

Sue Lowndes, PD leader and a UK expert in the Singapore approach to teaching mathematics, has taught the full age range from primary to graduate level alongside working as a consultant, editor and author over a 30-year career. She has worked throughout the world, most recently in Singapore and the USA, and is committed to raising mathematical achievement for all.

UK EXPERTS

Simon d'Angelo

Simon has a lifelong passion for mathematics and for mathematics teaching. Having had a long career teaching in schools across UK, USA and New Zealand, Simon now spends his time as an author, consultant and trainer both nationally and internationally.

Elizabeth Gibbs

Elizabeth is an independent national and international mathematics consultant. She has a wealth of teaching experience from Nursery to Year 8. She is a published author and active member of the mathematics community.

Carole Skinner

Carole is a former teacher, university lecturer, advisor and author. She has lead a research team looking at the impact of home learning and implemented maths curriculum development projects both nationally and internationally.

Inspire Maths School Improvement

Inspire Maths School Improvement ensures effective and consistent implementation of *Inspire Maths* throughout your school. Led by a team of UK experts in the Singapore approach to teaching and learning mathematics, the high-quality, face-to-face professional development helps to deliver sustained improvement in your school through deepening subject knowledge, helping you to:

- implement a transformational approach
- feel confident in leading and delivering the Singapore Maths approach
- become familiar with the new National Curriculum
- teach maths effectively, to get the best from the Singapore Maths pedagogy

To find out more about the *Inspire Maths* School Improvement packages, see page 11.

> "From day one on the training, we felt 'inspired' by a completely new way of delivering whole class maths."

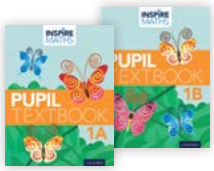
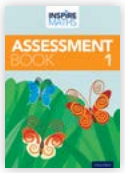
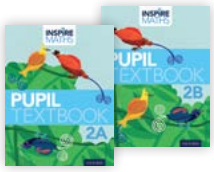
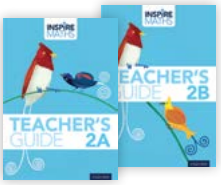
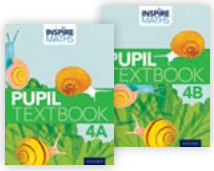
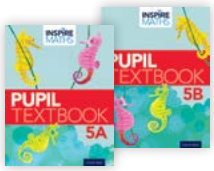
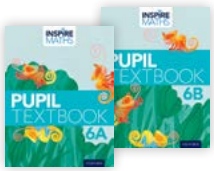
Katie Pitts,
Lofthouse Gate Primary School

> "Our knowledge of mathematical principles has vastly improved. We now feel more confident in explaining strategies to our children."

Orrell Newfold Primary School

Inspire Maths overview

The resources include a combination of **Pupil Textbooks**, **Practice Books**, **Assessment Books** and **Teacher's Guides** to provide structured support in teaching and mastering mathematical concepts.

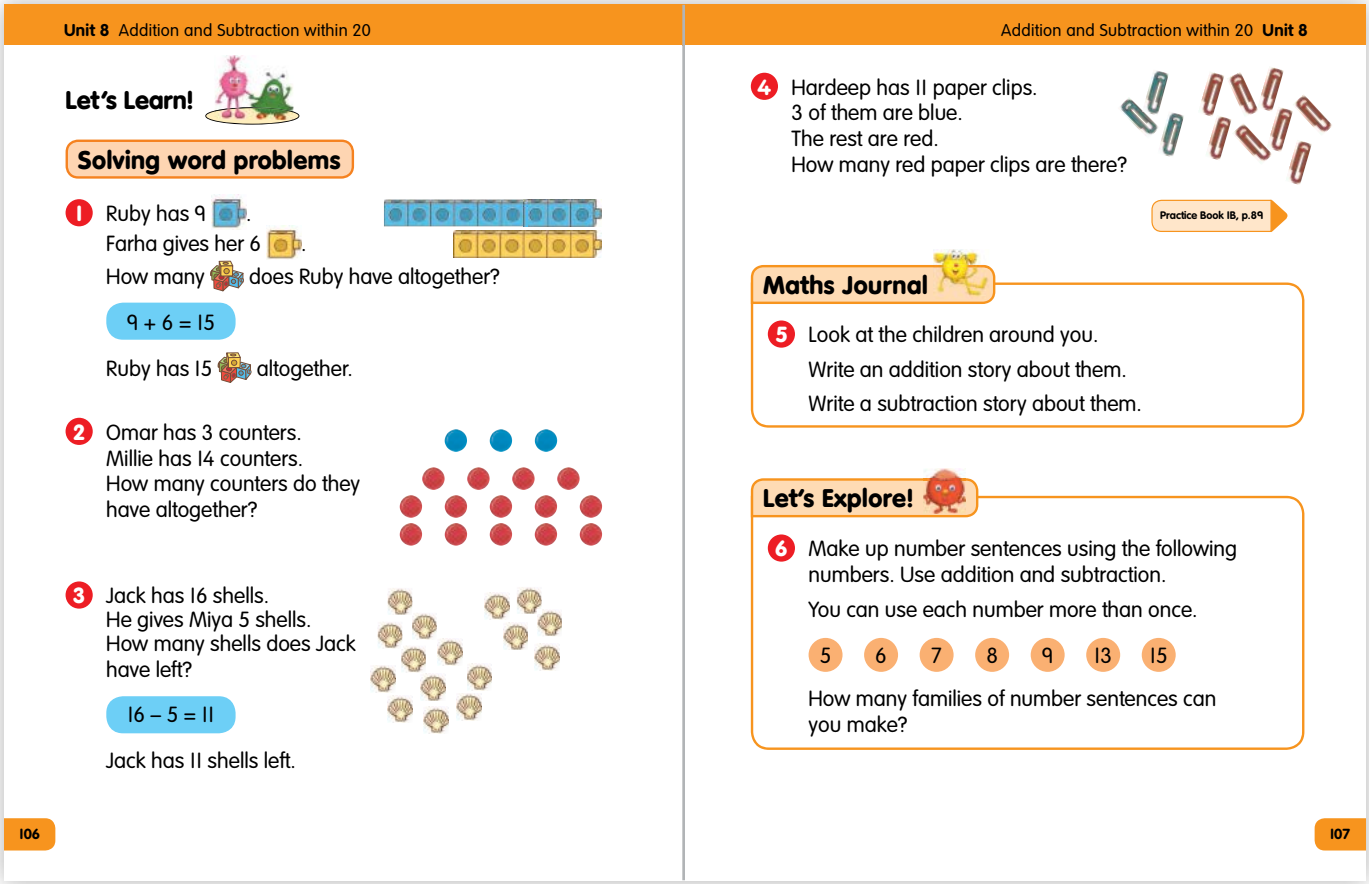
YEAR GROUP	PUPIL SUPPORT			TEACHING SUPPORT	ONLINE SUPPORT
Y1-P2	 2 Pupil Textbooks	4 Practice Books	 1 Assessment Book	2 Teacher's Guides	Inspire Maths Digital Resources
Y2-P3	 2 Pupil Textbooks	4 Practice Books	1 Assessment Book	 2 Teacher's Guides	
Y3-P4	2 Pupil Textbooks	4 Practice Books	1 Assessment Book	2 Teacher's Guides	
Y4-P5	 2 Pupil Textbooks	2 Practice Books	1 Assessment Book	2 Teacher's Guides	
Y5-P6	 2 Pupil Textbooks	2 Practice Books	1 Assessment Book	2 Teacher's Guides	
Y6-P7	 2 Pupil Textbooks	2 Practice Books	1Assessment Book	2 Teacher's Guides	

Inspire Maths resources

Pupil Textbook

The **Pupil Textbooks** introduce concepts and skills in a highly structured way, helping children to make meaningful connections between mathematical ideas.

- Provides a clear, scaffolded introduction to concepts
- Guided practice activities promote discussion and exploration
- Includes games and activities for further practice, and suggestions for how parents may support learning at home
- Each unit references the corresponding **Practice Book** pages for independent practice



Unit 8 Addition and Subtraction within 20

Let's Learn!

Solving word problems

1 Ruby has 9 .
Farha gives her 6 .
How many does Ruby have altogether?

9 + 6 = 15

Ruby has 15 altogether.

2 Omar has 3 counters.
Millie has 14 counters.
How many counters do they have altogether?

3 Jack has 16 shells.
He gives Miya 5 shells.
How many shells does Jack have left?

16 – 5 = 11

Jack has 11 shells left.

106

Addition and Subtraction within 20 **Unit 8**

4 Hardeep has 11 paper clips.
3 of them are blue.
The rest are red.
How many red paper clips are there?

Practice Book 1B, p.89

Maths Journal

5 Look at the children around you.
Write an addition story about them.
Write a subtraction story about them.

Let's Explore!

6 Make up number sentences using the following numbers. Use addition and subtraction.
You can use each number more than once.

5 6 7 8 9 13 15

How many families of number sentences can you make?

107

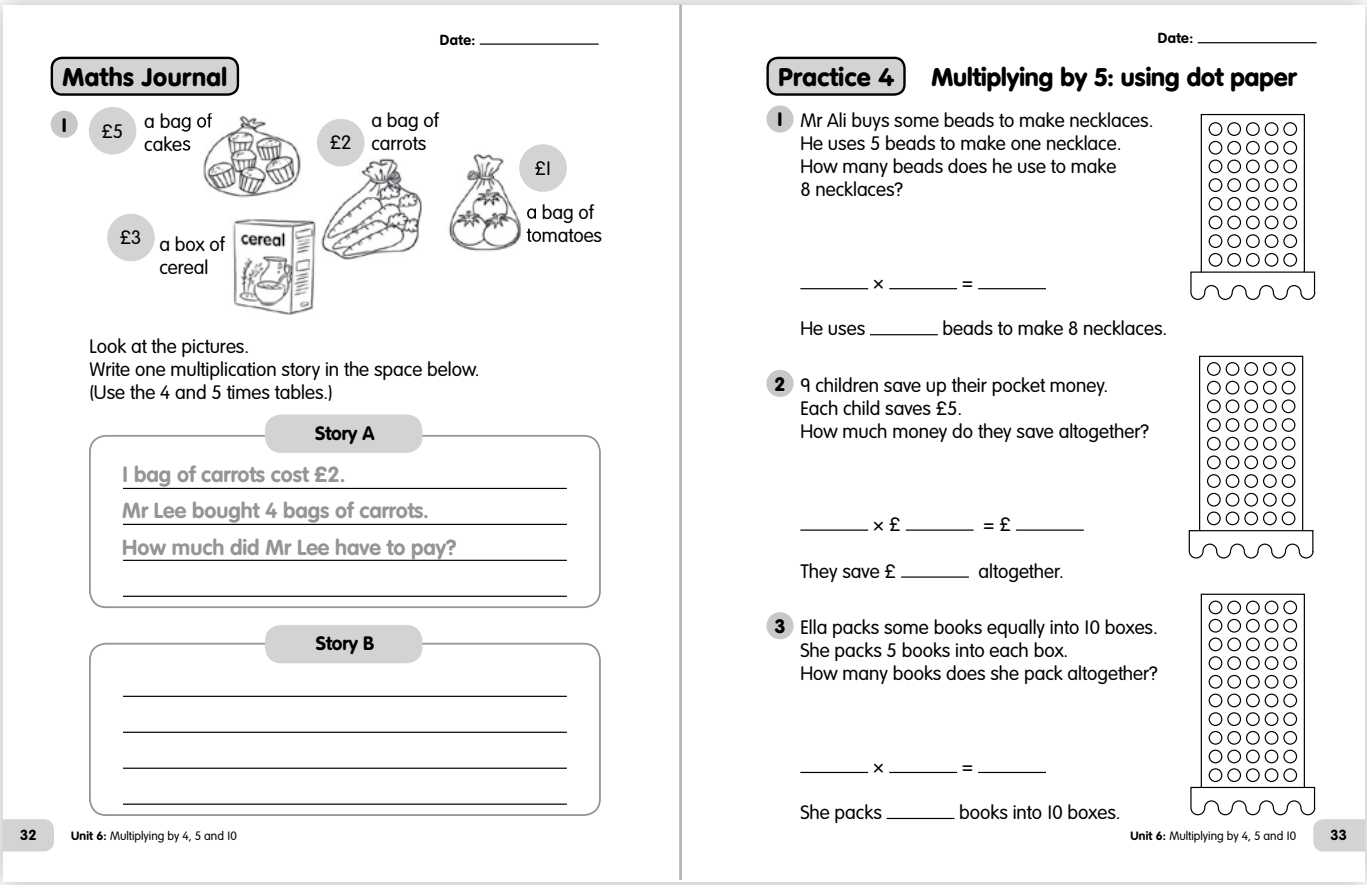
Pupil Textbook 1A

Practice Book

The **Practice Books** encourage extensive practice, building fluency and leading to mastery so that every child can succeed.

- Each **Practice Book** reinforces concepts introduced in the **Pupil Textbooks**
- Provides frequent and varied practice leading towards mastery of concepts
- Includes a variety of questions and word problems for consolidation, and challenging questions
- Comprehensive reviews provide consolidation after every two or three units

> "The children love the Practice Books and the practical hands-on activities."
>
> ***Sandra Cowley,***
> *St Bede's Catholic Academy*



Date: _____

Maths Journal

1 £5 a bag of cakes

£2 a bag of carrots

£1 a bag of tomatoes

£3 a box of cereal

Look at the pictures.
Write one multiplication story in the space below.
(Use the 4 and 5 times tables.)

Story A

I bag of carrots cost £2.
Mr Lee bought 4 bags of carrots.
How much did Mr Lee have to pay?

Story B

32 **Unit 6:** Multiplying by 4, 5 and 10

Date: _____

Practice 4 **Multiplying by 5: using dot paper**

1 Mr Ali buys some beads to make necklaces.
He uses 5 beads to make one necklace.
How many beads does he use to make 8 necklaces?

_____ × _____ = _____

He uses _____ beads to make 8 necklaces.

2 9 children save up their pocket money.
Each child saves £5.
How much money do they save altogether?

_____ × £ _____ = £ _____

They save £ _____ altogether.

3 Ella packs some books equally into 10 boxes.
She packs 5 books into each box.
How many books does she pack altogether?

_____ × _____ = _____

She packs _____ books into 10 boxes.

Unit 6: Multiplying by 4, 5 and 10 33

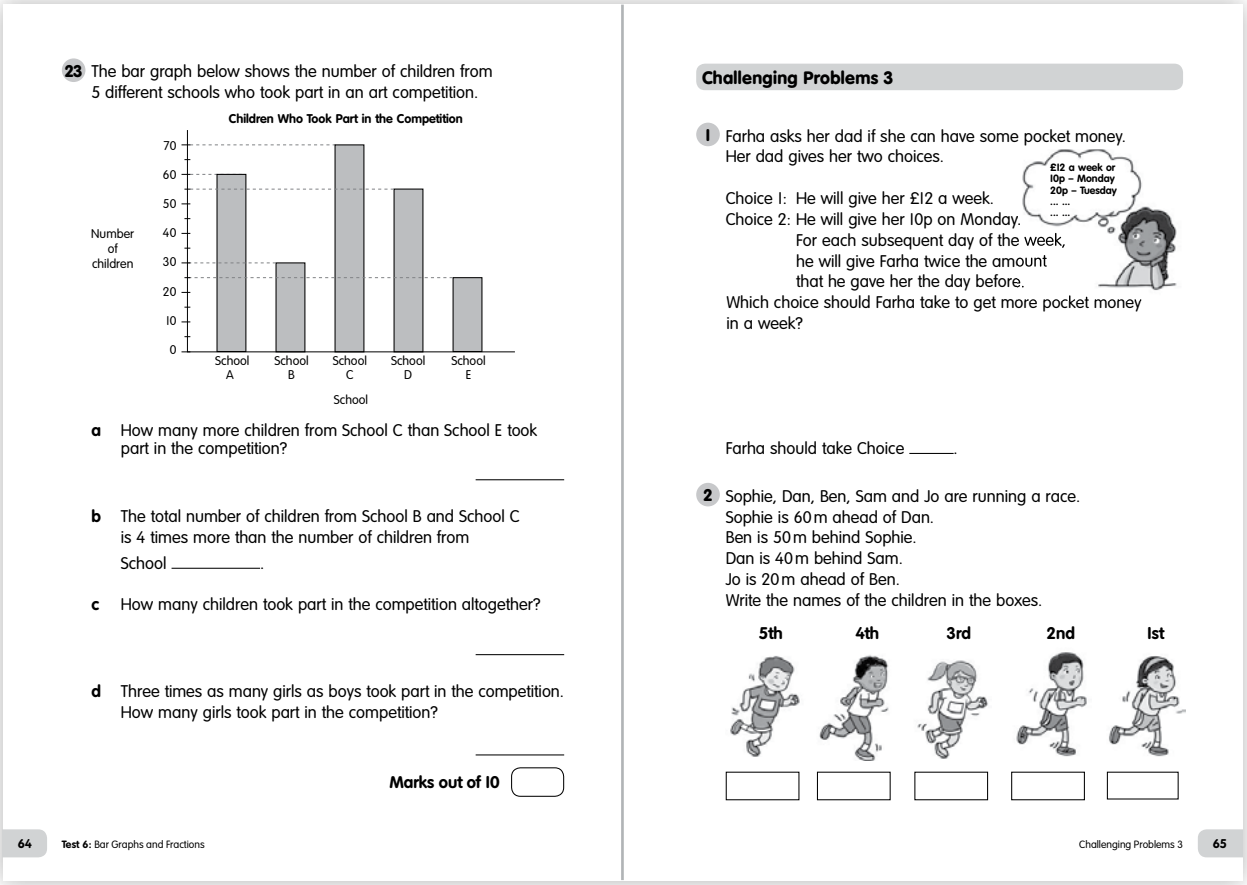
Practice Book 2B

Assessment Book

The **Assessment Books** form a comprehensive, rigorous assessment tool.

- Support you to assess children's mastery of concepts and create a record of individual progress
- Provides a range of summative assessments that can be used after teaching 2-3 units, mid-term or termly
- Assessments quickly identify gaps in learning for immediate intervention and opportunities for further practice, challenge or enrichment
- Provides an opportunity for children to self-reflect, celebrate success and build confidence

> "We have been able to assess thoroughly for any gaps in understanding."
>
> *Orrell Newfold Primary School*



23 The bar graph below shows the number of children from 5 different schools who took part in an art competition.

a How many more children from School C than School E took part in the competition?

b The total number of children from School B and School C is 4 times more than the number of children from School _____.

c How many children took part in the competition altogether?

d Three times as many girls as boys took part in the competition. How many girls took part in the competition?

Marks out of 10

Challenging Problems 3

1 Farha asks her dad if she can have some pocket money. Her dad gives her two choices.

Choice 1: He will give her £12 a week.
Choice 2: He will give her 10p on Monday. For each subsequent day of the week, he will give Farha twice the amount that he gave her the day before.

Which choice should Farha take to get more pocket money in a week?

Farha should take Choice _____.

2 Sophie, Dan, Ben, Sam and Jo are running a race.
Sophie is 60 m ahead of Dan.
Ben is 50 m behind Sophie.
Dan is 40 m behind Sam.
Jo is 20 m ahead of Ben.
Write the names of the children in the boxes.

5th	4th	3rd	2nd	1st

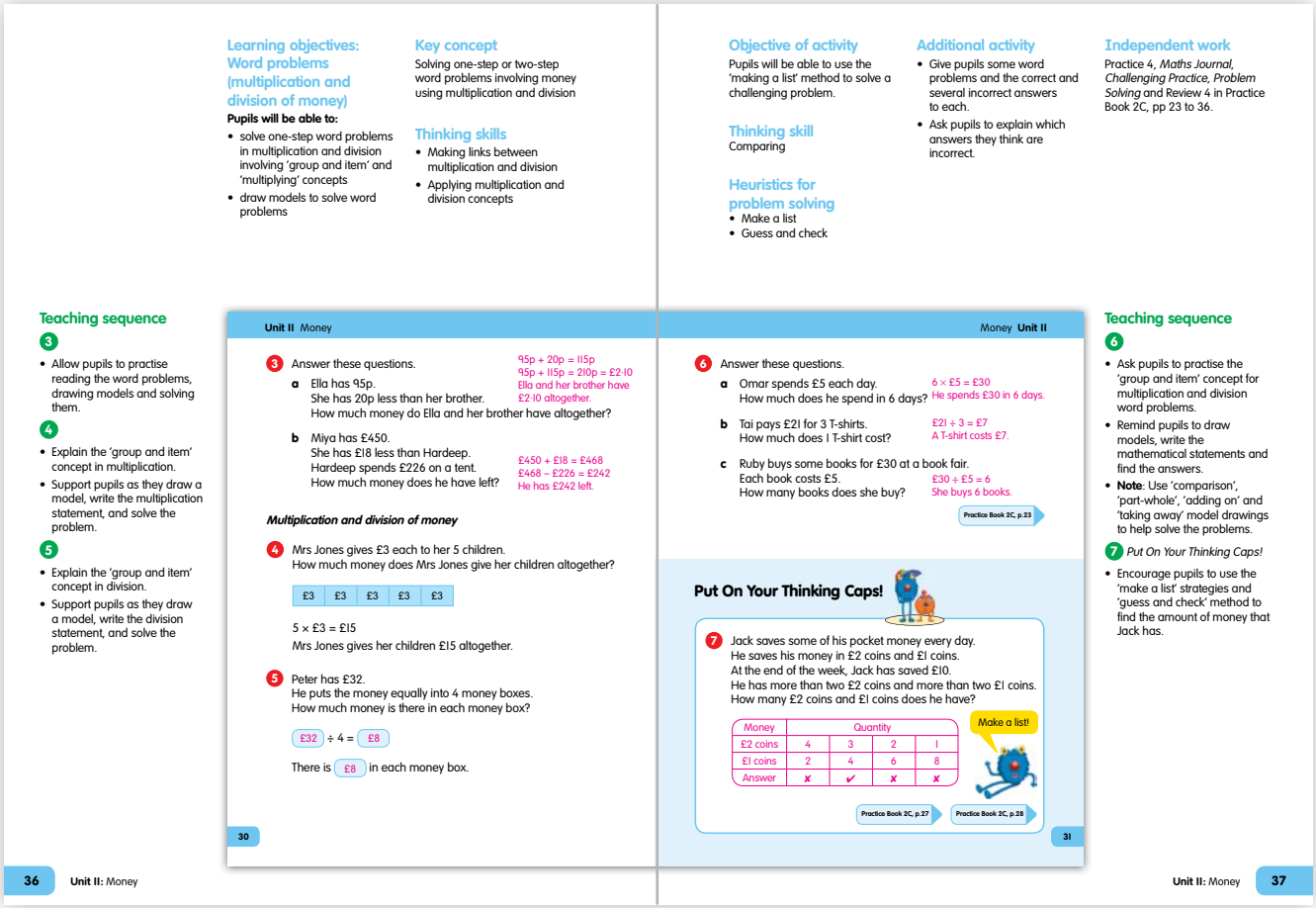
Assessment Book 3

Teacher's Guide

The **Teacher's Guides** provide a clear pathway to quickly identify gaps for immediate intervention and opportunities for further practice or enrichment.

- Provides a step-by-step teaching sequence for each unit
- Includes long and medium term planning guidance
- Contains photocopy masters for games and activities

> "The Teacher's Guide is excellent and it allows more time to prepare for the lessons as the planning is already done."
>
> *St Mary's RC Primary School*



Learning objectives: Word problems (multiplication and division of money)

Pupils will be able to:

- solve one-step word problems in multiplication and division involving 'group and item' and 'multiplying' concepts
- draw models to solve word problems

Key concept

Solving one-step or two-step word problems involving money using multiplication and division

Thinking skills

- Making links between multiplication and division
- Applying multiplication and division concepts

Objective of activity

Pupils will be able to use the 'making a list' method to solve a challenging problem.

Thinking skill

Comparing

Heuristics for problem solving

- Make a list
- Guess and check

Additional activity

- Give pupils some word problems and the correct and several incorrect answers to each.
- Ask pupils to explain which answers they think are incorrect.

Independent work

Practice 4, *Maths Journal*, *Challenging Practice*, *Problem Solving* and Review 4 in Practice Book 2C, pp 23 to 36.

Teaching sequence

3
- Allow pupils to practise reading the word problems, drawing models and solving them.

4
- Explain the 'group and item' concept in multiplication.
- Support pupils as they draw a model, write the multiplication statement, and solve the problem.

5
- Explain the 'group and item' concept in division.
- Support pupils as they draw a model, write the division statement, and solve the problem.

Unit II Money

3 Answer these questions.

a Ella has 95p. She has 20p less than her brother. How much money do Ella and her brother have altogether?
95p + 20p = 115p
95p + 115p = 210p = £2.10
Ella and her brother have £2.10 altogether.

b Miya has £450. She has £18 less than Hardeep. Hardeep spends £226 on a tent. How much money does he have left?
£450 + £18 = £468
£468 − £226 = £242
He has £242 left.

Multiplication and division of money

4 Mrs Jones gives £3 each to her 5 children. How much money does Mrs Jones give her children altogether?

£3	£3	£3	£3	£3

5 × £3 = £15

Mrs Jones gives her children £15 altogether.

5 Peter has £32. He puts the money equally into 4 money boxes. How much money is there in each money box?

£32 ÷ 4 = £8

There is £8 in each money box.

30

Money Unit II

6 Answer these questions.

a Omar spends £5 each day. How much does he spend in 6 days?
6 × £5 = £30
He spends £30 in 6 days.

b Tai pays £21 for 3 T-shirts. How much does 1 T-shirt cost?
£21 ÷ 3 = £7
A T-shirt costs £7.

c Ruby buys some books for £30 at a book fair. Each book costs £5. How many books does she buy?
£30 ÷ £5 = 6
She buys 6 books.

Practice Book 2C, p.23

Put On Your Thinking Caps!

7 Jack saves some of his pocket money every day. He saves his money in £2 coins and £1 coins. At the end of the week, Jack has saved £10. He has more than two £2 coins and more than two £1 coins. How many £2 coins and £1 coins does he have?

Money	Quantity			
£2 coins	4	3	2	1
£1 coins	2	4	6	8
Answer	✘	✔	✘	✘

Make a list!

Practice Book 2C, p.27 Practice Book 2C, p.28

31

Teaching sequence

6
- Ask pupils to practise the 'group and item' concept for multiplication and division word problems.
- Remind pupils to draw models, write the mathematical statements and find the answers.
- **Note**: Use 'comparison', 'part-whole', 'adding on' and 'taking away' model drawings to help solve the problems.

7 *Put On Your Thinking Caps!*
- Encourage pupils to use the 'make a list' strategies and 'guess and check' method to find the amount of money that Jack has.

36 Unit II: Money

Unit II: Money 37

Online Resources

The **Online Resources** provide support to introduce and implement *Inspire Maths* in your school. Find editable planning documents and curriculum matching charts to support your teaching.

Visit **www.oxfordowl.co.uk**

INSPIRE MATHS
SCHOOL IMPROVEMENT

Central and INSET programme

Five days of intensive support, delivered over two and a half terms, are available as central training for the Maths Coordinator and a member of the Senior Leadership team, or as whole-school INSET training for individual schools or groups of schools.

Teachers will understand the key principles of the Singapore approach to teaching mathematics and have increased confidence in teaching to mastery to develop secure learners with deep conceptual understanding.

Led by Sue Lowndes and her team of UK Singapore maths experts, the *Inspire Maths* School Improvement implementation programme builds a professional learning community to support school leaders in implementing the programme for sustained school improvement in mathematics teaching and learning.

Days 1 & 2

- Teaching *Inspire Maths* through a spiral approach leading to mastery

Inspire Maths approach to…

- problem-solving
- developing fluency and flexibility in number
- bar modelling and CPA approach
- understanding the four operations

Planning for school implementation

Day 3

- Working as a professional learning community
- Sharing good practice

Inspire Maths approach to …

- multiplying and dividing
- data handling

Planning for the school based task

Days 4 & 5

- Planning for sustained implementation to transform the teaching and learning of mathematics

Inspire Maths approach to…

- teaching fractions, leading to ratio and percentages
- shape and measure
- supporting procedural rules

Book your place today at **www.oxfordprimary.co.uk/inspiremaths**

INSPIRE MATHS

Your next steps

- Visit our website **www.oxfordprimary.co.uk** to:
  - Book onto your local free taster event to find out more about how *Inspire Maths* can make a difference in your school
  - Find out more about the research behind Singapore Maths
  - Take a closer look at the *Inspire Maths* resources and professional development
- Arrange an appointment with one of our expert Local Maths Educational Consultants. Call **01536 452772** or visit **www.oxfordprimary.co.uk**
- To place an order, contact us on **01536 452610** or visit **www.oxfordprimary.co.uk**

Oxford OWL

Essential support for school improvement

1. Lead effective improvements in maths with the four-step *Pathways* system
2. Keep up-to-date with reports on current maths issues from leading experts
3. Discover expert videos and resources on the mastery approach to teaching mathematics
4. Improve teaching and learning in number and calculation
5. Find out how parents can be actively engaged to support children's attainment

Go to **www.oxfordowl.co.uk** to get more support!

Oxford School Improvement

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