

Collins

ARE YOU THINKING ABOUT MASTERY?

FIND OUT HOW
BUSY ANT MATHS CAN
SUPPORT A MASTERY
APPROACH IN YOUR SCHOOL

WWW.COLLINS.CO.UK/BUSYANTMATHS

Busy Ant Maths



CONFIDENCE FROM THE START

ORDER WITH
**25%
OFF**



HOW BUSY ANT MATHS CAN SUPPORT A MASTERY APPROACH IN YOUR SCHOOL

In October 2014 the [National Centre for Excellence in the Teaching of Mathematics \(NCEM\)](#) published 'Mastery approaches to mathematics and the new national curriculum'.

In this document they helpfully outlined 5 principles and features that characterise a mastery approach.

Find out how these characteristics are embedded throughout the entire [Busy Ant Maths](#) scheme!



NCEM's 'principles and features that characterise a mastery approach'

Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.

The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.

Busy Ant Maths

A philosophy of equal opportunity means that [Busy Ant Maths](#) has been designed and written with the assumption that pupils are taught the same mathematics domain (topic), and the same National Curriculum Attainment Target (objective).

See page 4 for the [Activity](#) and [Pupil Books](#).

Although there is no differentiation in content taught, the questioning and scaffolding individual pupils receive does differ.

'Lower attainers' focus on developing deep understanding and secure fluency with facts and procedures, while 'higher attainers' are challenged through more demanding problems.

See page 9 for the [Progress Guides](#) and [Stretch & Challenge](#).

NCETM's 'principles and features that characterise a mastery approach'

Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge.

Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts in tandem.

Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up

Visit www.collins.co.uk/busyantmastery for more information.



Busy Ant Maths

An emphasis is given in Key Stage 1 and Lower Key Stage 2 to the knowledge and skills pupils need to achieve the level of mastery and fluency in number that is expected in the Programme of Study.

Using the online Planning Tool via Collins Connect, the Medium-term plans can be easily adapted to meet the specific needs of individual classrooms.

See page 5 for the [Teacher's Guides](#) and page 6 for [Collins Connect](#).

Practice and consolidation in every lesson consists of both written exercises and practical hands-on activities, and includes individual, paired and group tasks. As well as four specific detailed lesson plans, each week [Busy Ant Maths](#) provides a bank of four 'Learning activities' that teachers can offer pupils to further practise and consolidate their understanding.

See page 5 for the [Teacher's Guides](#).

Progress Check Questions assist teachers in checking pupils' understanding of the lesson objective(s). The Assessment Guides and Test Packs give you the support to assess pupils' mastery of specific targets and the programme of study for each year group.

See page 8 for the [Assessment Guides](#) and [Test Packs](#).

ALL PUPILS CAN ACHIEVE HIGH STANDARDS IN MATHEMATICS

ACTIVITY AND PUPIL BOOKS



Three levels of differentiated challenge ensure rapid progression

Unit 8, Week 1, Lesson 2

Multiplication HTO × 0 using partitioning and the grid method

Use the grid method to calculate HTO × 0

Challenge 1 Write the multiples of 100 that each of these numbers is between. Circle the multiple of 100 it is closest to.

Example
 $300 < 386 < 400$

a 476 b 753 c 138 d 832 e 216
 f 911 g 694 h 374 i 585 j 647

Challenge 2 Choose a flower pot and a flower and multiply the numbers together. Estimate your answer first, then use the grid method to work out the answer. Make six calculations. Choose different numbers each time.

Example
 $625 \times 8 \rightarrow 600 \times 8 = 4800$
 $\begin{array}{r} \times 600 \ 20 \ 5 \\ 8 \ 4800 \ 160 \ 40 \\ \hline 5000 \end{array}$

Challenge 3 One of these calculations is different to the others. Can you find out why?

468 × 4 624 × 3 234 × 8 732 × 2

45

Pupils of all abilities work on the same mathematics domain

Examples, models and images clearly illustrate mathematical concepts

TEACHING UNDERPINNED BY CAREFULLY CRAFTED LESSONS

TEACHER'S GUIDES

Progressive, step-by-step programmes designed to ensure key concepts are reviewed and practised regularly.

All teaching is whole-class, keeping all children together

The overcoming barriers section will help you to ascertain where any misunderstandings may have occurred, and suggest ways to deal with any confusions the pupils have.

Year 3, Unit 12, Week 2, Lesson 2

Division $10 \div 0$: Using the expanded written method

National curriculum attainment target

- Use and calculate mathematical statements for division using the multiplication tables that they know, using mental and progressing to formal written methods.

Lesson objectives

- Use the expanded written method to calculate $10 \div 0$
- Estimate and check the answer to a calculation

Previous related lesson
Unit 12, Week 2, Lesson 1

Pupils need to:

- recall all the multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables
- understand the effect of multiplying and dividing a number by 10
- subtract using the formal written method of column subtraction

Vocabulary
multiple, key fact, divide, division, divisor, divisible by, estimate, partition, times, ones (unit)

Future related lessons
Unit 12, Week 2, Lesson 3; Unit 12, Week 2, Lesson 4

Supporting notes:
Pupils can:

- make a reasonable estimate for the answer to a calculation
- partition two-digit numbers into tens and ones
- divide a multiple of 10 by a one-digit number
- use the expanded written method to calculate division of $10 \div 0$

Getting Started

- Choose an activity from *Number – Multiplication and division*.
- Choose an activity from *Fluency in Number Facts: 12/14 – Multiplication and division*.

Teach

- Begin by counting in multiples of 4. Write the multiples of 4 on the board. Continue by counting in multiples of 40. Write these under the multiples of 4 on the board.
4 8 12 16 20 24 28 32 36 40
40 80 120 160 200 240 280 320 360 400
- Ask: How many fours are there in 8? (2) How many fours are there in 80? (20) Continue with other examples.
- Write on the whiteboard: $92 \div 4 =$. Ask: How many fours are there in 92?
- Ask: Explain to your partner how you would work out the answer to this calculation.
- Ask pairs to share their explanations with the class.
- Say: Today we are going to learn a written method of recording the answer to division calculations. This method is called the expanded written method and is useful when we are dividing using larger numbers.
- Say: We can work out what the approximate answer would be by seeing how many groups of five times four can be made.
- Say: Can 10 groups of 4 be made from 92? (yes) Can 20 groups of 4 be made from 92? (yes). Can 30 groups of 4 be made from 92? (no) Ask: Is 92 closer to 80 or 120? (80)
- Say: So the answer will be approximately 20.

Collins Connect
Year 3, Unit 12, Week 2

Individualised Learning

Refer to Activity 1, 2, 3 and 4 from the Learning activities on pages 456–457

Pupil Book 3C – Page 45: Division using the expanded written method

Plenary

Resources
Whiteboard, pen and eraser (per child)

- Reinforce the expanded written method of division taught in the lesson. Write values $10 \div 0$ calculations on the board and ask children to write the approximate answer on their mini whiteboard, e.g. $72 \div 3$ (24); $84 \div 2$ (42); $84 \div 4$ (21). Display when indicated.
- Ask: How did you work out the approximate answer?
- Choose one of the calculations for children to find the answer.
- Ask: Explain to your partner how you would work out the answer to this question using the expanded method of division on your mini whiteboard.
- Ask: Can you explain your method of working out the answer to the class?
- Repeat with other examples.

Overcoming Barriers

- Children who do not have instant recall of the multiplication facts will find division difficult. Ensure children can also relate multiplication and division through finding the answer to missing number problems in multiplication number sentences, e.g. $5 \times \square = 35$.

Unit 12: Number – Multiplication and division

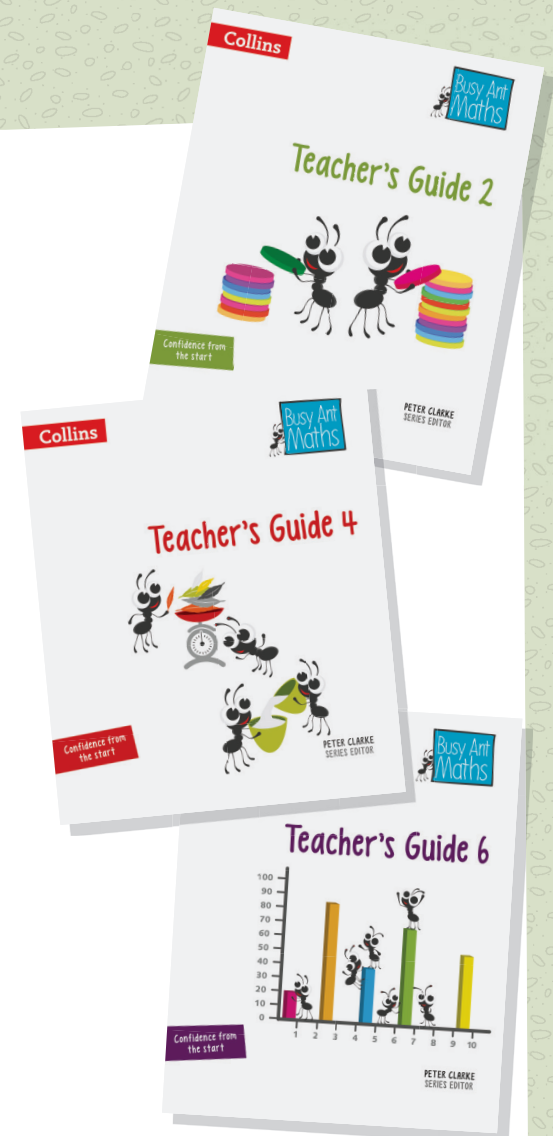
Demonstrate on the board how to use the expanded written method of division to calculate $92 \div 4$.

$$\begin{array}{r} 23 \\ 4 \overline{) 92} \\ \underline{80} \\ 120 \\ \underline{120} \\ 0 \end{array}$$

20 \times 4

3 \times 4

- Say and record the working: Is it possible to make 10 groups of four? (yes, $4 \times 10 = 40$) Is it possible to make 20 groups of 4? (yes) Is it possible to make 30 groups of 4? (no) Say: We started with 92, we subtracted the 20 groups of four, which makes 80. Ask: How many are left? (12)
- Say: We can check our answer by using the inverse of division, multiplication. Ask: What is 23 multiplied by 4? (92)
- Compare the answer with the estimate.
- Repeat with other numbers using multiples of 2, 3, 4, 5 and 8 where it is possible to make 10, 20 or 30 times the divisor, e.g. $65 \div 5$; $45 \div 3$; $66 \div 4$; $96 \div 8$; $75 \div 3$; $54 \div 2$.
- For various questions ask the children: What is the approximate answer? How did you work it out?
- Ask children to explain to their partner how they would work out the answer to given division calculations.



Keep track of your pupils' understanding throughout the lesson with helpful progress check questions.



MEET THE SPECIFIC NEEDS OF YOUR CLASSROOM

Collins Connect

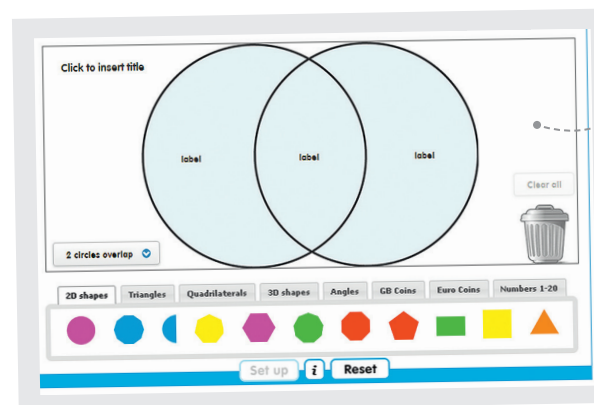
Collins Connect is an innovative online learning platform that supports both teachers and pupils by providing a wealth of content and digital resources.

Ideal as a front-of-class teaching and learning tool.

Collins Connect also facilitates independent learning and supports you in keeping parents up-to-date with current teaching.



The medium-term plans can be adapted using the online Planning Tool



Flexible tools and teaching slides allow you to use the representations that are most appropriate for your pupils.

Everything you need to teach a week of maths is located together on one page

SIGN UP FOR A FREE 14 DAY TRIAL OF COLLINS CONNECT TODAY VISIT CONNECT.COLLINS.CO.UK FOR MORE INFORMATION

The Domain view allows you to plan, teach and assess children's mastery of attainment targets by domain.

Home • Busy Ant Maths • Teach • Busy Ant Year Three

Foundation Year 1 Year 2 Year 3 Year 4 Year 5 Year 6

Change the order of weeks by dragging and dropping

- Number - Number and place value
- Number - Addition and subtraction
- Geometry - Properties of shape

Unit 1: Week 3: Geometry - Properties of shapes

Unit 3: Week 3: Geometry - Properties of shapes

Unit 5: Week 3: Geometry - Properties of shapes

Unit 9: Week 3: Geometry - Properties of shapes

- Number - Multiplication and division
- Number - Fractions
- Measurement (mass)
- Measurement (time)

Maths games can be played at different levels, timed or untimed, to develop mathematical fluency

Collins Connect

Busy Ant Maths

Pupil records by domain

Group: Class 3 Ravenclaw
Domain: Measurement

Date recorded for 4 of 8 attainment targets

Name	Mastery	Comments	Date
Peter Clarke	●	Covered in Year 3, Unit 4, Week 1	25/10/14
	●	Covered in Year 3, Unit 4, Week 1	10/10/14
	●	Cannot tell the time from an analogue clock. Support activity set	02/10/14
	●	Click Mastery Indicator to add entry	
Lee Newman	●	Covered in Year 3, Unit 4, Week 1	25/10/14
Fiona McGlade	●	Covered in Year 3, Unit 4, Week 1	25/10/14
Tom Jackson	●	Having trouble measuring the perimeter of shapes	25/10/14
Mike Murphy	●	Covered in Year 3, Unit 4, Week 1	25/10/14

Export data

Supports assessment with an easy-to-use online Record-Keeping Tool. Simply drag-and-drop pupils into the relevant mastery level:

green = mastery achieved and exceeded

amber = mastery achieved

red = mastery not yet achieved



3 × 8 = Go!

LEVEL 2

Score: ●●●●○●○●○●○●○●○

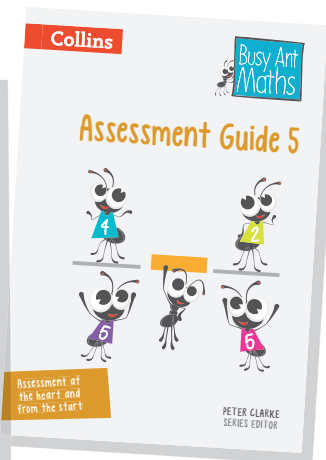
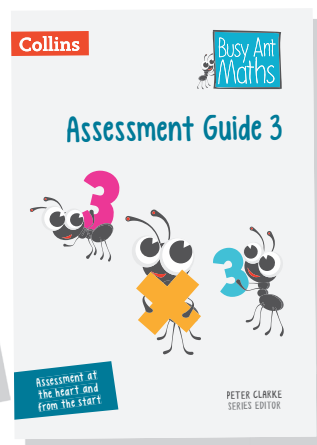
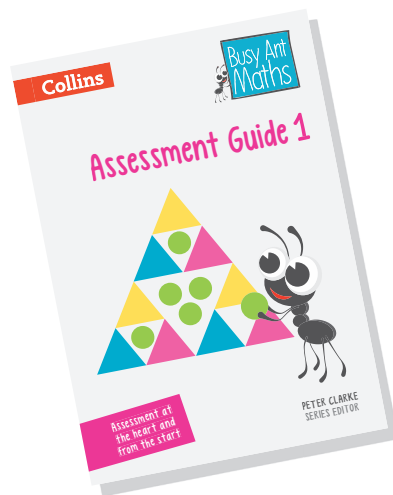
Stop game

REGULARLY ASSESS CONCEPTUAL AND PROCEDURAL KNOWLEDGE

ASSESSMENT GUIDES

These provide diagnostic, formative and summative assessment to assess individual pupils' level of mastery and identify their strengths and weaknesses in a specific National Curriculum Attainment Target (NC AT):

- Provide guidance about what to do for those pupils who are achieving above or below expectations
- Inform future planning and teaching of individual pupils and the class as a whole



TEST PACKS

These photocopiable packs, contain a practice test that will support you in making a decision as to whether or not an individual child has achieved mastery of the programme of study for each year group.

You can use the tests alongside the [Busy Ant Maths Assessment Guides](#), or by themselves.

INDIVIDUAL SUPPORT AND INTERVENTION

PROGRESS GUIDES

These provide support and extension activities, to raise pupil attainment and ensure rapid progression for children who need extra practice to gain mastery of lesson objectives.























STRETCH AND CHALLENGE

Challenge your more able pupils with resources for each year designed to broaden and deepen their mathematical understanding.

- Self-contained activity booklets (issues) promote interdependent thinking and develop children's problem-solving skills.
- Accompanying teacher's notes for each issue provide guidance, support and next steps.

HOW IS BUSY ANT MATHS STRUCTURED?

Busy Ant Maths is also available in Euro editions, to find out more go to collins.co.uk/BusyAntMaths

COMPONENT / YEAR LEVEL	Foundation	Year 1	Year 2
COLLINS CONNECT ONLINE PLATFORM			
TEACHER'S GUIDE			
PUPIL BOOKS & ACTIVITY BOOKS			
ASSESSMENT GUIDE			
PROGRESS GUIDE			
HOMEWORK GUIDE			
TEST PACK			
STRETCH & CHALLENGE			

KEY:



COLLINS CONNECT
ONLINE PLATFORM



RING BINDER



SPIRAL BOUND A4



PUPIL BOOK



TABLET



ACTIVITY BOOK



TEST PACK



STRETCH & CHALLENGE

Year 3

Year 3 resource grid:

- Row 1: Collins Connect Online Platform, Tablet
- Row 2: Ring Binder, Collins Connect Online Platform, Tablet
- Row 3: Pupil Book, Pupil Book, Pupil Book
- Row 4: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 5: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 6: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 7: Test Pack
- Row 8: Stretch & Challenge, Collins Connect Online Platform, Tablet

Year 4

Year 4 resource grid:

- Row 1: Collins Connect Online Platform, Tablet
- Row 2: Ring Binder, Collins Connect Online Platform, Tablet
- Row 3: Pupil Book, Pupil Book, Pupil Book
- Row 4: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 5: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 6: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 7: Test Pack
- Row 8: Stretch & Challenge, Collins Connect Online Platform, Tablet

Year 5

Year 5 resource grid:

- Row 1: Collins Connect Online Platform, Tablet
- Row 2: Ring Binder, Collins Connect Online Platform, Tablet
- Row 3: Pupil Book, Pupil Book, Pupil Book
- Row 4: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 5: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 6: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 7: Test Pack
- Row 8: Stretch & Challenge, Collins Connect Online Platform, Tablet

Year 6

Year 6 resource grid:

- Row 1: Collins Connect Online Platform, Tablet
- Row 2: Ring Binder, Collins Connect Online Platform, Tablet
- Row 3: Pupil Book, Pupil Book, Pupil Book
- Row 4: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 5: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 6: Spiral Bound A4, Tablet, Collins Connect Online Platform
- Row 7: Test Pack
- Row 8: Stretch & Challenge, Collins Connect Online Platform, Tablet

Collins

ORDER WITH
25% OFF

PRICING

The 25% offer is for UK schools only and is available until 30th November 2016.

The prices shown here are for each individual component, and for subscriptions to Busy Ant Maths on Collins Connect. If you are a small school, or in a group of schools looking to resource collectively we can discuss a package and price that suits your requirements.

(Small school = 100 pupils or fewer)

Title	ISBN	Price	Discounted Price	Qty
Foundation				
Foundation Teacher's Guide	9780008124625	£100.00	£75.00	
Foundation Activity Book	9780008124649	£3.15	£2.36	
Foundation Homework Guide	9780008124632	£45.00	£33.75	
1 year subscription to Collins Connect - Foundation	9780008124656	£200.00 (+VAT)	£150.00 (+VAT)	
3 year subscription to Collins Connect - Foundation	9780008125219	£500.00 (+VAT)	£375.00 (+VAT)	
Year 1				
Year 1 Teacher's Guide	9780007568178	£100.00	£75.00	
1 Year subscription to Collins Connect - Year 1	9780007574773	£200.00 (+VAT)	£150.00 (+VAT)	
3 year subscription to Collins Connect - Year 1	9780007574834	£500.00 (+VAT)	£375.00 (+VAT)	
Year 1 Activity Book 1A	9780007568192	£3.15	£2.36	
Year 1 Activity Book 1B	9780007568208	£3.15	£2.36	
Year 1 Activity Book 1C	9780007568215	£3.15	£2.36	
Year 1 Progress Guide	9780007568253	£50.00	£37.50	
Year 1 Homework Guide	9780007568277	£45.00	£33.75	
Year 1 Assessment Guide	9780007568154	£75.00	£56.25	
Year 1 Test Pack	9780008167363	£59.99	£44.99	
Year 1 Stretch and Challenge	9780008167301	£75.00	£56.25	
Year 2				
Year 2 Teacher's Guide	9780007568185	£100.00	£75.00	
1 Year subscription to Collins Connect - Year 2	9780007574780	£200.00 (+VAT)	£150.00 (+VAT)	
3 Year subscription to Collins Connect - Year 2	9780007574841	£500.00 (+VAT)	£375.00 (+VAT)	
Year 2 Activity Book 2A	9780007568222	£3.15	£2.36	
Year 2 Activity Book 2B	9780007568239	£3.15	£2.36	
Year 2 Activity Book 2C	9780007568246	£3.15	£2.36	
Year 2 Progress Guide	9780007568260	£50.00	£37.50	
Year 2 Homework Guide	9780007568284	£45.00	£33.75	
Year 2 Assessment Guide	9780007568161	£75.00	£56.25	
Year 2 Test Pack	9780008167370	£59.99	£44.99	
Year 2 Stretch and Challenge	9780008167318	£75.00	£56.25	

YOUR DETAILS:

Name:

Position:

School Name and address:

Postcode: Town: Country:

Telephone:

Email:

Terms and Conditions:

Evaluation copies are available for UK Educational Establishments to look at without charge for 30 days. After 30 days you can either purchase the product or return it in a resalable condition. All school returns must be booked through the new returns system at: www.collins.co.uk/returns

Prices:

Prices are correct at the time of going to press. Collins reserves the right to change these prices without further notification. Offers are for UK schools only and are not available in conjunction with any other offer and while stocks last. Prices listed are without VAT. VAT is applicable to software and digital subscription products and is applied at the current rate. There is no VAT on books.

Postage and Packing:

Evaluation Copies are supplied free of charge. Firm Orders: UK Postage: £4.95

Year 3				
Year 3 Teacher's Guide	9780007562350	£100.00	£75.00	
1 Year subscription to Collins Connect - Year 3	9780007574797	£200.00 (+VAT)	£150.00 (+VAT)	
3 Year subscription to Collins Connect - Year 3	9780007574858	£500.00 (+VAT)	£375.00 (+VAT)	
Year 3 Pupil Book 3A	9780007562374	£7.15	£5.36	
Year 3 Pupil Book 3B	9780007562381	£7.15	£5.36	
Year 3 Pupil Book 3C	9780007562398	£7.15	£5.36	
Year 3 Progress Guide	9780007562435	£50.00	£37.50	
Year 3 Homework Guide	9780007562459	£45.00	£33.75	
Year 3 Assessment Guide	9780007562336	£75.00	£56.25	
Year 3 Test Pack	9780008167387	£59.99	£44.99	
Year 3 Stretch and Challenge	9780008167325	£75.00	£56.25	
Year 4				
Year 4 Teacher's Guide	9780007562367	£100.00	£75.00	
1 Year subscription to Collins Connect - Year 4	9780007574803	£200.00 (+VAT)	£150.00 (+VAT)	
3 Year subscription to Collins Connect - Year 4	9780007574865	£500.00 (+VAT)	£375.00 (+VAT)	
Year 4 Pupil Book 4A	9780007562404	£7.15	£5.36	
Year 4 Pupil Book 4B	9780007562411	£7.15	£5.36	
Year 4 Pupil Book 4C	9780007562428	£7.15	£5.36	
Year 4 Progress Guide	9780007562442	£50.00	£37.50	
Year 4 Homework Guide	9780007562466	£45.00	£33.75	
Year 4 Assessment Guide	9780007562343	£75.00	£56.25	
Year 4 Test Pack	9780008167394	£59.99	£44.99	
Year 4 Stretch and Challenge	9780008167332	£75.00	£56.25	

HOW DO I FIND OUT MORE?



CONTACT THE SPECIAL BUSY ANT CONSULTANT IN YOUR AREA:

www.collins.co.uk/findyourrep

KEEP UP-TO-DATE WITH BUSY ANT MATHS AT:

www.collins.co.uk/busyantmaths

INTERNATIONAL SCHOOLS:

email collins.international@harpercollins.co.uk

RETURN THIS FORM TO:

Collins, FREEPOST RTKB-SGZT-ZYJL,
Honley, HD9 6QZ

Email: education.marketing@harpercollins.co.uk
with your order, quoting BAM1701

Year 5				
Year 5 Teacher's Guide	9780007568314	£100.00	£75.00	
1 Year subscription to Collins Connect - Year 5	9780007574810	£200.00 (+VAT)	£150.00 (+VAT)	
3 Year subscription to Collins Connect - Year 5	9780007574872	£500.00 (+VAT)	£375.00 (+VAT)	
Year 5 Pupil Book 5A	9780007568338	£8.15	£6.11	
Year 5 Pupil Book 5B	9780007568345	£8.15	£6.11	
Year 5 Pupil Book 5C	9780007568352	£8.15	£6.11	
Year 5 Progress Guide	9780007568254	£50.00	£37.50	
Year 5 Homework Guide	9780007568680	£45.00	£33.75	
Year 5 Assessment Guide	9780007568291	£75.00	£56.25	
Year 5 Test Pack	9780008167400	£59.99	£44.99	
Year 5 Stretch and Challenge	9780008167349	£75.00	£56.25	
Year 6				
Year 6 Teacher's Guide	9780007568321	£100.00	£75.00	
1 Year subscription to Collins Connect - Year 6	9780007574827	£200.00 (+VAT)	£150.00 (+VAT)	
3 Year subscription to Collins Connect - Year 6	9780007574889	£500.00 (+VAT)	£375.00 (+VAT)	
Year 6 Pupil Book 6A	9780007568369	£8.15	£6.11	
Year 6 Pupil Book 6B	9780007568376	£8.15	£6.11	
Year 6 Pupil Book 6C	9780007568383	£8.15	£6.11	
Year 6 Progress Guide	9780007568390	£50.00	£37.50	
Year 6 Homework Guide	9780007568406	£45.00	£33.75	
Year 6 Assessment Guide	9780007568307	£75.00	£56.25	
Year 6 Test Pack	9780008167417	£59.99	£44.99	
Year 6 Stretch and Challenge	9780008167356	£75.00	£56.25	
P&P		£4.95		
Total		£		

Promotion Code: BAM1701