Mathseeds Testing, Assessment and Reporting

Assessment is necessary to monitor progress, to identify strengths and weaknesses, and to inform further instruction. As an interactive online program, **Mathseeds** incorporates a range of assessment tools both embedded into lesson progress and in more formal testing scenarios. These assessment opportunities enable teachers to make a balanced judgment on the achievement levels of students across key mathematical skills and standards. These assessments present students with multiple avenues to show their knowledge and have distinct structures to cater for a wide range of students. Using a suite of assessment tasks provides teachers with the necessary tools they need to track student progress and to inform their teaching.

Placement Test

At the commencement of the program students can complete the **Mathseeds** Placement Test to ensure they begin the program at a level that matches their ability. The placement test is progressive in difficulty level with students only needing to complete the number of questions that are within their existing skill level.

Mathseeds Placement Test screen

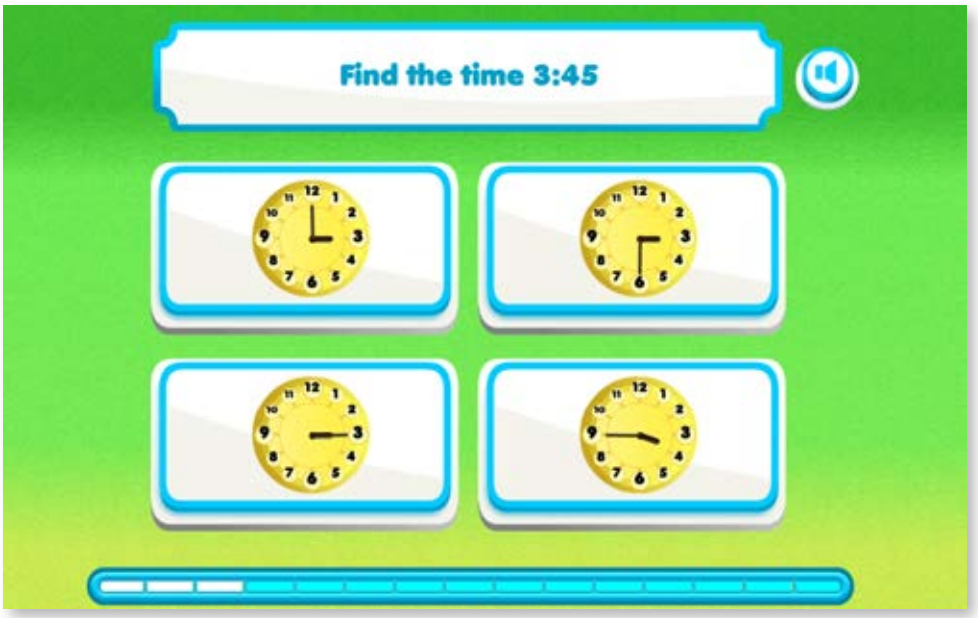
Once placed, teachers can see each student's starting point and how this matches to progress within the grade level. Continuing student progress can be seen in your Teacher Dashboard on the Student Charts Progress Screen.

Teachers can also choose to manually place their students at a specific starting point within the **Mathseeds** program.

End of Map Assessments

The **Mathseeds** program is divided into a series of maps, each containing five lessons. At the end of each map, students complete an assessment quiz. The 15 questions in each quiz assess the student's mastery of the skills and content covered in the previous five lessons. Students must pass these tests to proceed to the next set of lessons. The pass mark for an end of map quiz is 10 out of 15. This allows students to show their level of attainment in the concepts and skills learned in the lessons. The results provide valuable data for both teachers and students about concept development, understanding, fluency, and problem-solving skills.

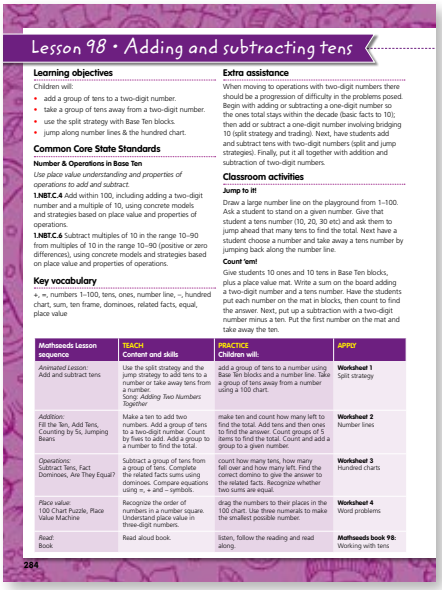
End of Map Quiz question screen



Students are awarded Merit certificates based on their quiz scores. These reward sustained effort and promote high achievement levels. A score of 14 or 15 earns a gold certificate; 12 or 13 a silver award; and 10 or 11, a bronze certificate. Pedagogical research informs us that such rewards help to maintain student interest and motivation. Students can redo the end of map assessments to try to improve their score.

Formative Assessment

Teachers can access lesson plans for every **Mathseeds** lesson. These include four worksheets for students to complete offline. Teachers can use these to check individual student progress, and to identify and address areas that require further development. Each lesson plan includes the Common Core State Standards addressed in the lesson.



Lesson 98 • Adding and subtracting tens

Learning objectives

Children will:

- add a group of tens to a two-digit number.
- take a group of tens away from a two-digit number.
- use the split strategy with Base Ten blocks.
- jump along number lines & the hundred chart.

Common Core State Standards

Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

1.NBT.C.4 Add within 100, including adding a two-digit number and a multiple of 10, using concrete models and strategies based on place value and properties of operations.

1.NBT.C.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models and strategies based on place value and properties of operations.

Key vocabulary

+, =, numbers 1–100, tens, ones, number line, ○, hundred chart, sum, ten frame, dominoes, related facts, equal, place value

Extra assistance

When moving to operations with two-digit numbers there should be a progression of difficulty in the problems posed. Begin with adding or subtracting a one-digit number so the ones total stays within the decade (basic facts to 10); then add or subtract a one-digit number involving bridging 10 (split strategy and trading). Next, have students add and subtract tens with two-digit numbers (split and jump strategies). Finally, put it all together with addition and subtraction of two-digit numbers.

Classroom activities

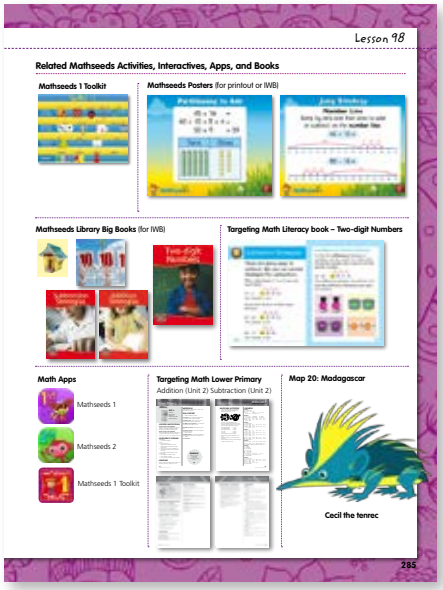
Jump to it!

Draw a large number line on the playground from 1–100. Ask a student to stand on a given number. Give that student a tens number (10, 20, 30 etc) and ask them to jump ahead that many tens to find the total. Next have a student choose a number and take away a tens number by jumping back along the number line.

Count 'em!

Give students 10 ones and 10 tens in Base Ten blocks, plus a place value mat. Write a sum on the board adding a two-digit number and a tens number. Have the students put each number on the mat in blocks, then count to find the answer. Next, put up a subtraction with a two-digit number minus a ten. Put the first number on the mat and take away the ten.

Mathseeds Lesson sequence	TEACH Content and skills	PRACTICE Children will:	APPLY
Animated Lesson: Add and subtract tens	Use the split strategy and the jump strategy to add tens to a number or take away tens from a number. Song: *Adding Two Numbers Together*	add a group of tens to a number using Base Ten blocks and a number line. Take a group of tens away from a number using a 100 chart.	**Worksheet 1** Split strategy
Addition: Fill the Ten, Add Tens, Counting by 5s, Jumping Beans	Make a ten to add two numbers. Add a group of tens to a two-digit number. Count by fives to add. Add a group to a number to find the total.	make ten and count how many left to find the total. Add tens and then ones to find the answer. Count groups of 5 items to find the total. Count and add a group to a given number.	**Worksheet 2** Number lines
Operations: Subtract Tens, Fact Dominoes, Are They Equal?	Subtract a group of tens from a group of tens. Complete the related facts sums using dominoes. Compare equations using =, + and – symbols.	count how many tens, how many fell over and how many left. Find the correct domino to give the answer to the related facts. Recognize whether two sums are equal.	**Worksheet 3** Hundred charts
Place value: 100 Chart Puzzle, Place Value Machine	Recognize the order of numbers in a number square. Understand place value in three-digit numbers.	drag the numbers to their places in the 100 chart. Use three numerals to make the smallest possible number.	**Worksheet 4** Word problems
Read: Book	Read aloud book.	listen, follow the reading and read along.	**Mathseeds book 98:** Working with tens



Related Mathseeds Activities, Interactives, Apps, and Books

Mathseeds 1 Toolkit

Mathseeds Posters (for printout or IWB)

Mathseeds Library Big Books (for IWB)

Targeting Math Literacy book – Two-digit Numbers

Math Apps

Mathseeds 1

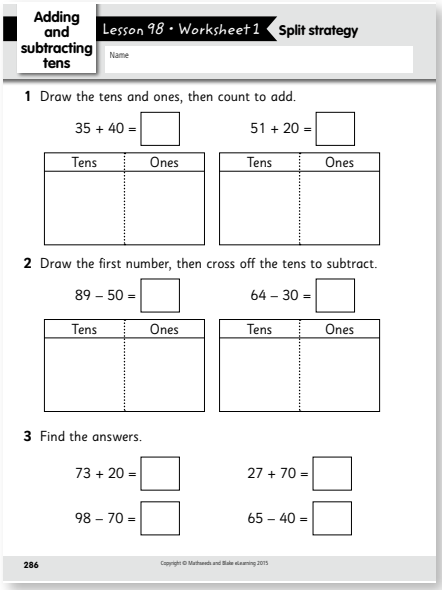
Mathseeds 2

Mathseeds 1 Toolkit

Targeting Math Lower Primary
Addition (Unit 2) Subtraction (Unit 2)

Map 20: Madagascar

Cecil the tenrec



Adding and subtracting tens

Lesson 98 • Worksheet 1 Split strategy

Name

1 Draw the tens and ones, then count to add.

35 + 40 = ☐ 51 + 20 = ☐

Tens	Ones

Tens	Ones

2 Draw the first number, then cross off the tens to subtract.

89 – 50 = ☐ 64 – 30 = ☐

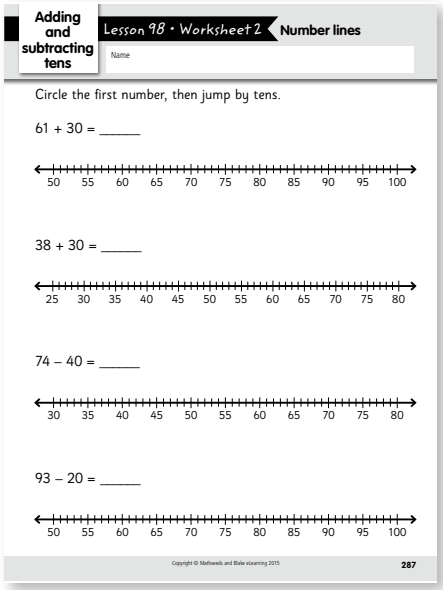
Tens	Ones

Tens	Ones

3 Find the answers.

73 + 20 = ☐ 27 + 70 = ☐

98 – 70 = ☐ 65 – 40 = ☐



Adding and subtracting tens

Lesson 98 • Worksheet 2 Number lines

Name

Circle the first number, then jump by tens.

61 + 30 = _____

50 55 60 65 70 75 80 85 90 95 100

38 + 30 = _____

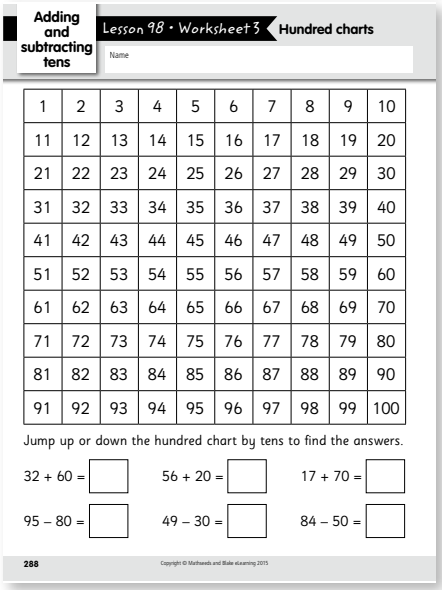
25 30 35 40 45 50 55 60 65 70 75 80

74 – 40 = _____

30 35 40 45 50 55 60 65 70 75 80

93 – 20 = _____

50 55 60 65 70 75 80 85 90 95 100



Adding and subtracting tens

Lesson 98 • Worksheet 3 Hundred charts

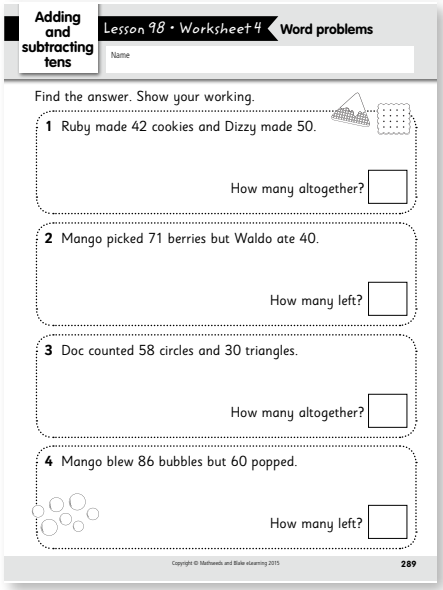
Name

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
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Jump up or down the hundred chart by tens to find the answers.

32 + 60 = ☐ 56 + 20 = ☐ 17 + 70 = ☐

95 – 80 = ☐ 49 – 30 = ☐ 84 – 50 = ☐



Adding and subtracting tens

Lesson 98 • Worksheet 4 Word problems

Name

Find the answer. Show your working.

1 Ruby made 42 cookies and Dizzy made 50.

How many altogether? ☐

2 Mango picked 71 berries but Waldo ate 40.

How many left? ☐

3 Doc counted 58 circles and 30 triangles.

How many altogether? ☐

4 Mango blew 86 bubbles but 60 popped.

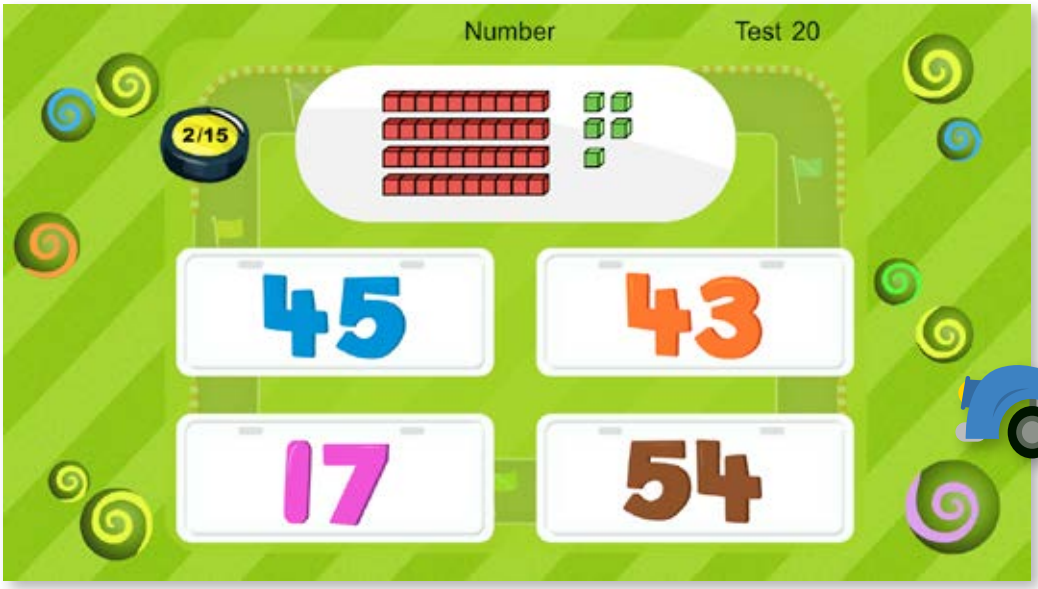
How many left? ☐

Driving Tests

These quick but comprehensive tests assess student knowledge in essential mathematical skills. The Driving Tests are organized into six content areas: Number, Operations, Patterns and Fractions, Measurement, Geometry, and Data. Within these content areas, each skill is covered by a unique test. As students complete the tests, they progress through levels of attainment to mastery in the content area. The aim is to build towards thorough knowledge of each of the grade level Common Core State Standards for mathematics.

These assessments include responsive feedback that requires students to redo questions they get wrong. This allows students to critically evaluate incorrect responses to reinforce correct mathematical thinking. The pass mark for each Driving Test is 100% as the aim is to prove the student's mastery of each particular skill before they move on to the next test. Teachers receive detailed feedback on all attempts at each test, which provides valuable information to help assess a student's mathematical reasoning and fluency.

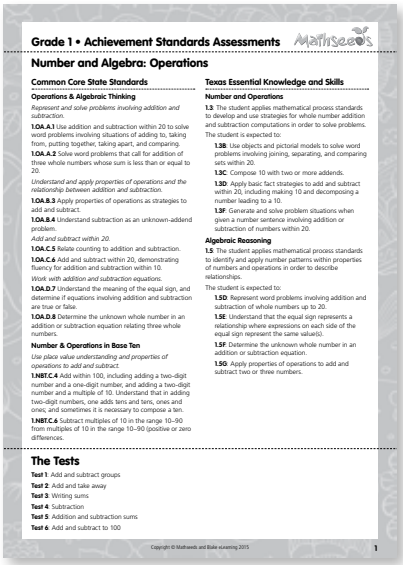
Driving Test question screen



Achievement Standards Assessments

Domain-based Written Tests

The **Mathseeds** Teaching Resources section provides a number of paper-based assessments for students to complete offline. The Achievement Standards Assessments are sets of printable tests organized by Domain. They test skills and knowledge in a specific domain with a series of progressively more difficult 2-page tests. The mix of multiple choice and short answer assessments provide variety and useful practice for many standardized state and national tests.


Grade 1 • Achievement Standards Assessments

Number and Algebra: Operations

Common Core State Standards

Operations & Algebraic Thinking

Represent and solve problems involving addition and subtraction.

1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing.

1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.

Understand and apply properties of operations and the relationship between addition and subtraction.

1.OA.B.3 Apply properties of operations as strategies to add and subtract.

1.OA.B.4 Understand subtraction as an unknown-addend problem.

Add and subtract within 20.

1.OA.C.5 Relate counting to addition and subtraction.

1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.

Work with addition and subtraction equations.

1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.C.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences.

Texas Essential Knowledge and Skills

Number and Operations

1.3 The student applies mathematical process standards to develop and use strategies for whole number addition and subtraction computations in order to solve problems. The student is expected to:

1.3B Use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20.

1.3C Compose 10 with two or more addends.

1.3D Apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10.

1.3F Generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

Algebraic Reasoning

1.5 The student applies mathematical process standards to identify and apply number patterns within properties of numbers and operations in order to describe relationships.

The student is expected to:

1.5D Represent word problems involving addition and subtraction of whole numbers up to 20.

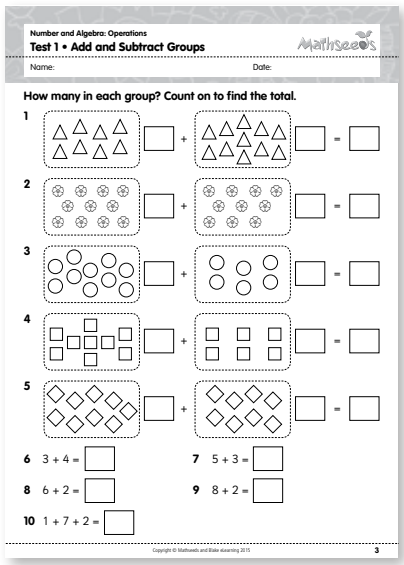
1.5E Understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s).

1.5F Determine the unknown whole number in an addition or subtraction equation.

1.5G Apply properties of operations to add and subtract two or three numbers.

The Tests

Test 1 Add and subtract groups
Test 2 Add and take away
Test 3 Writing sums
Test 4 Subtraction
Test 5 Addition and subtraction sums
Test 6 Add and subtract to 100


Number and Algebra: Operations

Test 1 • Add and Subtract Groups

Name: Date:

How many in each group? Count on to find the total.

1 2 3 4 5

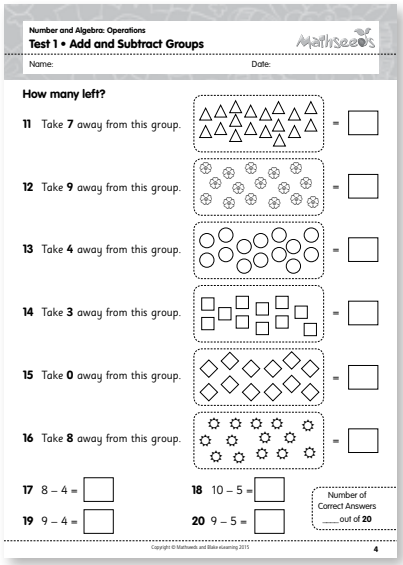
6 3 + 4 = ☐

7 5 + 3 = ☐

8 6 + 2 = ☐

9 8 + 2 = ☐

10 1 + 7 + 2 = ☐


Number and Algebra: Operations

Test 1 • Add and Subtract Groups

Name: Date:

How many left?

11 Take 7 away from this group.

12 Take 9 away from this group.

13 Take 4 away from this group.

14 Take 3 away from this group.

15 Take 0 away from this group.

16 Take 8 away from this group.

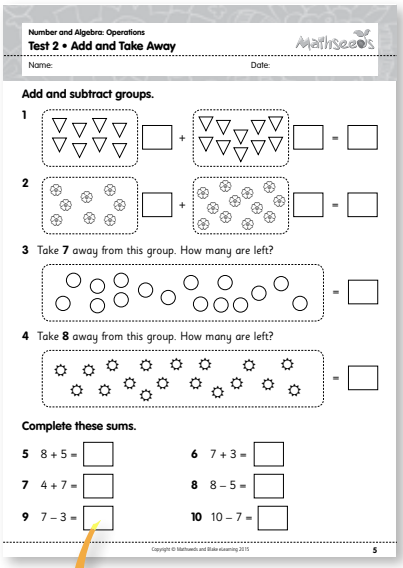
17 8 – 4 = ☐

18 10 – 5 = ☐

19 9 – 4 = ☐

20 9 – 5 = ☐

Number of Correct Answers ____ out of 20


Number and Algebra: Operations

Test 2 • Add and Take Away

Name: Date:

Add and subtract groups.

1 2

3 Take 7 away from this group. How many are left?

4 Take 8 away from this group. How many are left?

Complete these sums.

5 8 + 5 = ☐

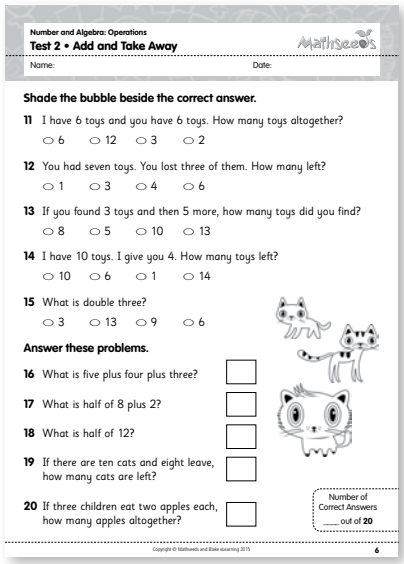
6 7 + 3 = ☐

7 4 + 7 = ☐

8 8 – 5 = ☐

9 7 – 3 = ☐

10 10 – 7 = ☐


Number and Algebra: Operations

Test 2 • Add and Take Away

Name: Date:

Shade the bubble beside the correct answer.

11 I have 6 toys and you have 6 toys. How many toys altogether?
○ 6 ○ 12 ○ 3 ○ 2

12 You had seven toys. You lost three of them. How many left?
○ 1 ○ 3 ○ 4 ○ 6

13 If you found 3 toys and then 5 more, how many toys did you find?
○ 8 ○ 5 ○ 10 ○ 13

14 I have 10 toys. I give you 4. How many toys left?
○ 10 ○ 6 ○ 1 ○ 14

15 What is double three?
○ 3 ○ 13 ○ 9 ○ 6

Answer these problems.

16 What is five plus four plus three? ☐

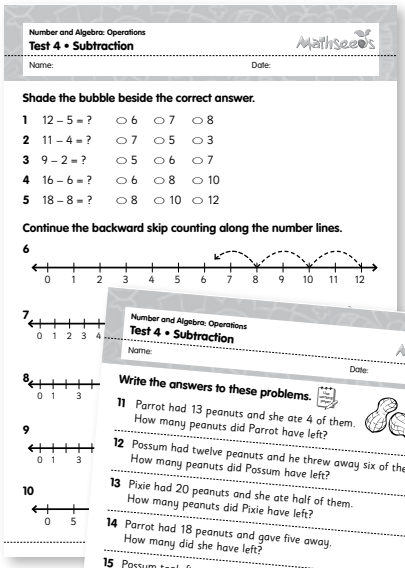
17 What is half of 8 plus 2? ☐

18 What is half of 12? ☐

19 If there are ten cats and eight leave, how many cats are left? ☐

20 If three children eat two apples each, how many apples altogether? ☐

Number of Correct Answers ____ out of 20


Number and Algebra: Operations

Test 4 • Subtraction

Name: Date:

Shade the bubble beside the correct answer.

1 12 – 5 = ? ○ 6 ○ 7 ○ 8

2 11 – 4 = ? ○ 7 ○ 5 ○ 3

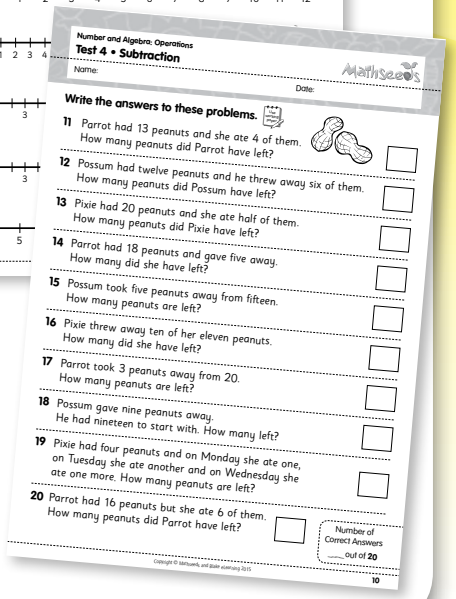
3 9 – 2 = ? ○ 5 ○ 6 ○ 7

4 16 – 6 = ? ○ 6 ○ 8 ○ 10

5 18 – 8 = ? ○ 8 ○ 10 ○ 12

Continue the backward skip counting along the number lines.

6 7 8 9 10


Number and Algebra: Operations

Test 4 • Subtraction

Name: Date:

Write the answers to these problems.

11 Parrot had 13 peanuts and she ate 4 of them. How many peanuts did Parrot have left?

12 Possum had twelve peanuts and he threw away six of them. How many peanuts did Possum have left?

13 Pixie had 20 peanuts and she ate half of them. How many peanuts did Pixie have left?

14 Parrot had 18 peanuts and gave five away. How many did she have left?

15 Possum took five peanuts away from fifteen. How many peanuts are left?

16 Pixie threw away ten of her eleven peanuts. How many did she have left?

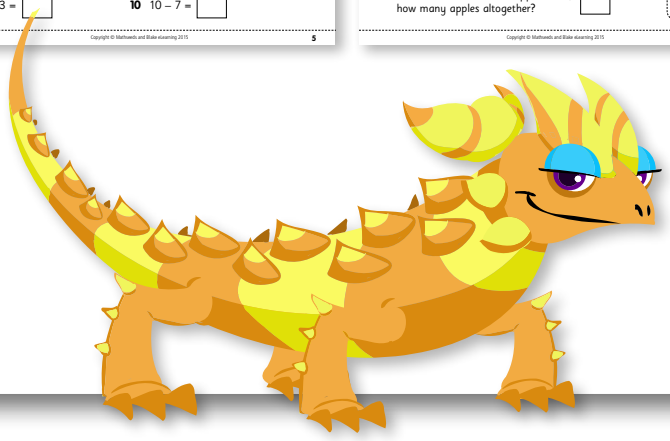
17 Parrot took 3 peanuts away from 20. How many peanuts are left?

18 Possum gave nine peanuts away. He had nineteen to start with. How many left?

19 Pixie had four peanuts and on Monday she ate one, on Tuesday she ate another and on Wednesday she ate one more. How many peanuts are left?

20 Parrot had 16 peanuts but she ate 6 of them. How many peanuts did Parrot have left?

Number of Correct Answers ____ out of 20



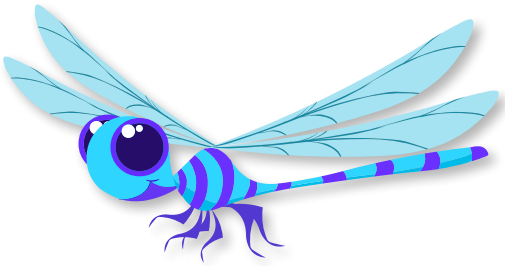
Assessment Data

Mathseeds provides teachers with comprehensive reports that track student progress through the program and show growth over time. Results for the end of map quizzes provide valuable data for both teachers and students about concept development, understanding, fluency, and problem-solving skills. Driving Test Reports track student progress through individual standards with comprehensive coverage of Grades K, 1 and 2 standards.

All data is made available via the teacher dashboard and reports can be downloaded, saved or printed. This data can be used to inform small group instruction and reveal areas where students can be extended beyond the grade's standards. The aim is to make assessment data accessible to ensure it informs the teaching and learning process.

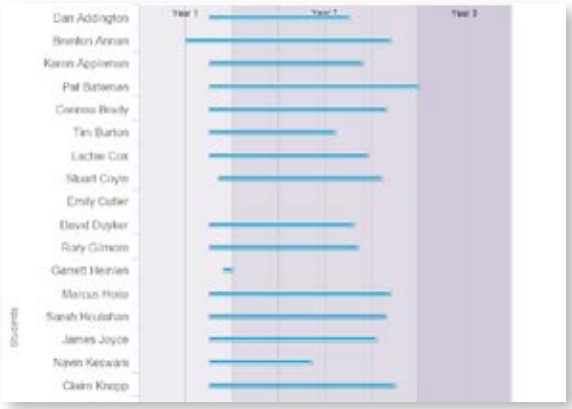
Mathseeds Class Ranking Screen

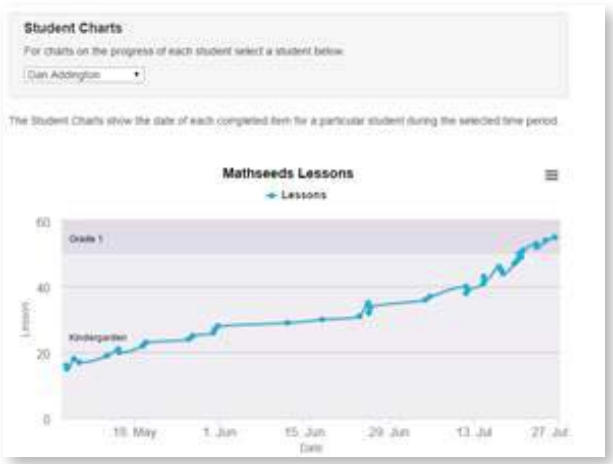
The Class Ranking chart shows the relative performance of students in the class. The graph shows the level of the highest completed lesson of each student.



Mathseeds Class Progress Screen

The Class Progress chart shows the range of student progress in their lessons over the selected time period. Teachers can clearly see how students are performing in relation to grade level expectations and how they compare to their peers.





Mathseeds Student Progress

The Student Charts show the date of each completed event for a particular student during the selected time period. Teachers can clearly see how students are performing in relation to grade level expectations.