

# Leaps and Bounds is available in a variety of formats to suit your needs!

## Print Teacher's Resource includes:

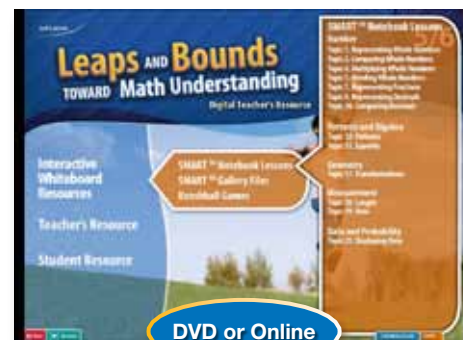
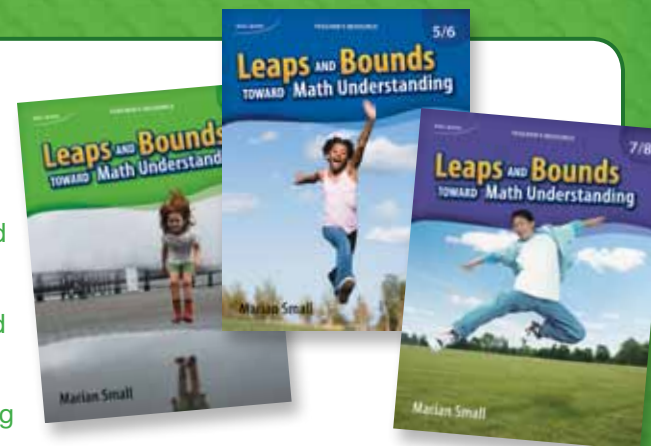
- Diagnostic assessment tools and Blackline Masters to precisely identify gaps in students' understanding
- Background information on why students might struggle and what misconceptions are revealed by the diagnostic tool
- Pathways providing open-ended intervention and more guided intervention for each student or group of students
- Teaching notes to support differentiated instruction, including good questions

## Digital Teacher's Resource includes:

- Complete Teacher's Resource in PDF format
- SMART™-certified Interactive Whiteboard activities providing extra practice and additional instructional support
- Interactive Whiteboard Kooshball games for extra practice
- PowerPoint versions of each of the Interactive Whiteboard files
- Illustrations from the Student Resource

## Student Resource includes:

- Intervention activities for topics in every strand to support students who are working as many as 3 levels below grade
- Built-in tips and visuals to support student understanding
- Simple, clear language accessible to ELL learners
- CD-ROM version is text-modifiable



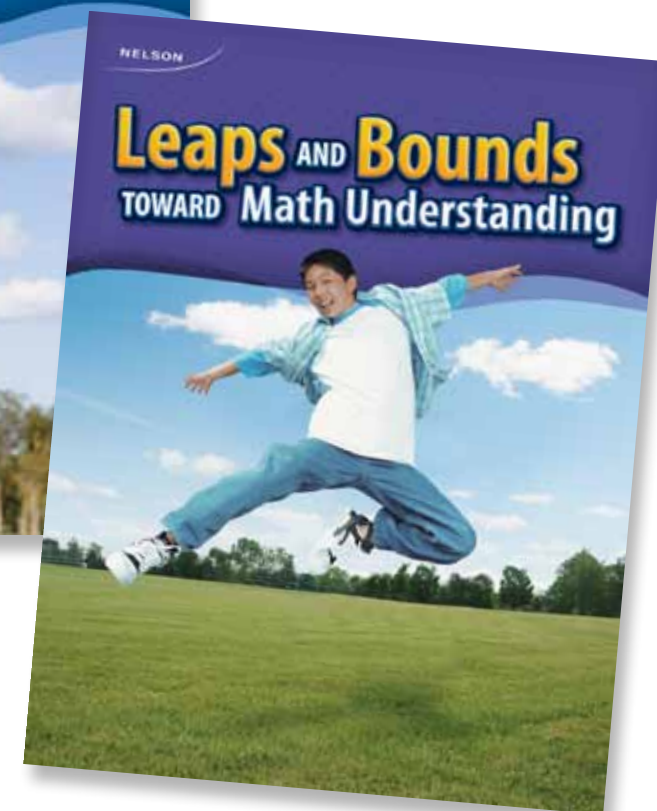
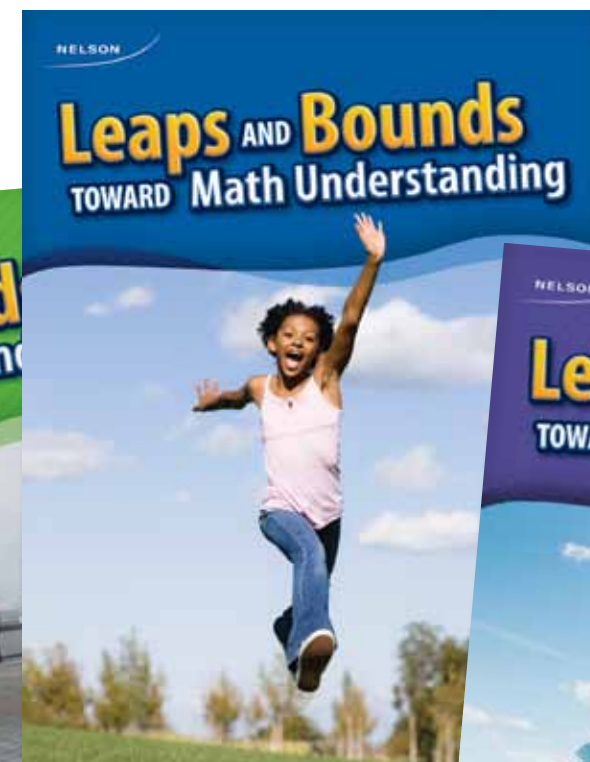
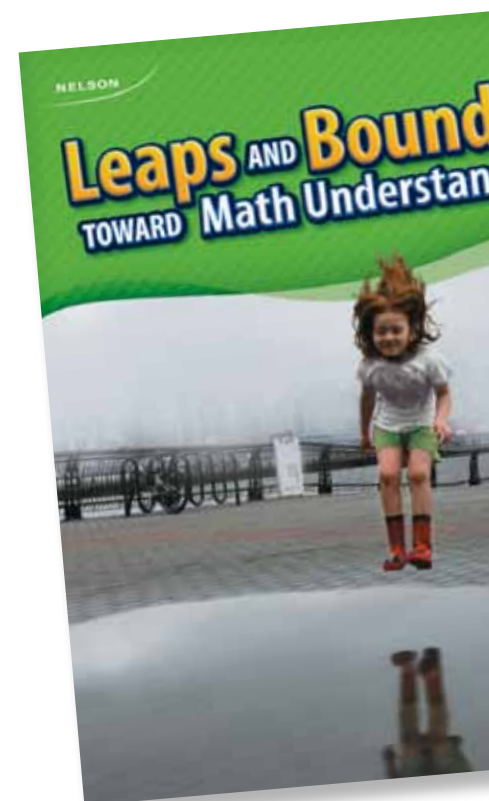
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# Leaps AND Bounds TOWARD Math Understanding

# New intervention for Grades 3–8 mathematics!



For more information, pricing, and sample lessons visit: [www.nelson.com/leapsandbounds](http://www.nelson.com/leapsandbounds)



# With Leaps and Bounds, mathematics intervention is as easy as 1, 2, 3!

Leaps and Bounds Toward Math Understanding is carefully developed to help teachers support students who are struggling in mathematics with:

- Easy-to-use student and teacher resources to support students working as many as 3 levels below grade
- Diagnostic assessment for every topic to precisely pinpoint significant gaps in students’ understanding
- Strategic lessons and questions for differentiating instruction that enable teachers to build on students’ knowledge and close critical gaps in understanding
- A research-based intervention approach that is founded on how students learn math developmentally, based on the research of Dr. Marian Small

Step 3: Choose an open-ended intervention or guided intervention based on your students’ learning preferences or your instructional situation

Representing Whole Numbers

Diagnostic Tool

1. Find 2 descriptions in the chart that match each number. Write the 2 letters for the matching descriptions in the blanks.

a) 13

b) 18

c) 24

d) 36

e) 42

f) 63

g) 103

h) 313

i) 330

j) 331

A 30 + 6

B 3 hundreds + 13 ones

C 20 + 4

D 4 tens + 2 ones

E 1 ten + 3 ones

F 3 hundreds + 3 tens + 1

G 10 + 8

H 3 hundreds + 3 tens

I 6 tens + 3 ones

J 100 + 3

K eighteen

L twenty-four

M forty-two

N sixty-three

O three hundred thirteen

P three hundred thirty

Q thirty-six

2. Write each amount using numbers (e.g., 412).

a) five

b) seventeen

c) fifty-four

d) seventy-one

e) one hundred seventeen

f) seven hundred one

3. Write a number to match each model.

a)

b)

c)

d)

4. Do the two 5s in the number 55 have the same value? Explain your thinking.

5. Write a number to match each description.

a) 3 in the tens place

b) 3 in the tens place, 2 in the ones place

c) 2 in the tens place, 1 in the hundreds place

d) 3 in the hundreds place, 4 in the ones place

6. Fill in the blank to make each statement true.

a) 20 is \_\_\_\_ tens.

b) 37 is 2 tens and \_\_\_\_ ones.

c) 46 is \_\_\_\_ tens and 16 ones.

d) 143 is 13 tens and \_\_\_\_ ones.

e) 510 is \_\_\_\_ tens.

f) 200 is \_\_\_\_ hundreds or \_\_\_\_ tens.

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Number: Representing Whole Numbers

Leaps and Bounds 3/4

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Step 1: Administer the diagnostic assessment

Why might students struggle with representing whole numbers?

Students might struggle with representing whole numbers for any of the following reasons:

- Written conventions for numbers are based on place value.
- It is not intuitively obvious why the value of a digit changes depending on its place in a numeral. For example, the value of the 3 in 302 is different from the value of 3 in 203.
- The digit 0 has no value but can be used as a place holder in numerals.
- A variety of representations may have the same value.

Diagnostic Tool: Representing Whole Numbers

Use the diagnostic tool to determine the most suitable intervention for representing numbers. Provide Diagnostic Tool: Representing Whole Numbers, Teacher’s Resource pages xx and xx, and have students complete it in writing or orally. Have place value materials available for students to use (e.g., base ten blocks, 10-frames, place value charts).

See solutions on Teacher’s Resource pages xx and xx.

Intervention Pathways

The purpose of the intervention pathways is to help students represent two-digit or three-digit numbers in a variety of ways so that ultimately they can do the same with four-digit numbers. There are 3 pathways:

- Pathway 1: Representing Numbers to 1000
- Pathway 2: Representing Numbers to 100
- Pathway 3: Representing Numbers to 20

Use the chart below (or the Key to Pathways on Teacher’s Resource pages xx to xx) to determine which pathway is most suitable for each student or group of students.

Diagnostic Tool Results	Intervention Pathway
If students struggle with Questions 1g–j, 2e–f, 3d, 4, 5d, 6d–f, 7e–f, 8d–e	use Pathway 1: Representing Numbers to 1000 Teacher’s Resource pages xx–xx Student Resource pages xx–xx
If students struggle with Questions 1c–f, 2c–d, 3c, 4, 5b–c, 6b–c, 7c–d, 8b–c	use Pathway 2: Representing Numbers to 100 Teacher’s Resource pages xi–xx Student Resource pages xi–xx
If students struggle with Questions 1a–b, 2a–b, 3a–b, 4, 5a, 6a, 7a–b, 8a	use Pathway 3: Representing Numbers to 20 Teacher’s Resource pages xi–xx Student Resource pages xi–xx

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Number: Representing Whole Numbers

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Representing Numbers to 1000

Pathway 1  
OPEN-ENDED

Kristen sold 305 tickets to the concert. Aki sold 530.

You will need

- base ten blocks
- a place value chart

How are 305 and 530 alike?

How are 305 and 530 different?

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Number: Representing Whole Numbers

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Representing Numbers to 1000

Pathway 1  
GUIDED

A number like 402 might tell how many students are in a school. You can model and show 402 in many ways.

Standard Form

402 is 4 hundreds + 2 ones

Expanded Form

402 is 4 hundreds + 2 ones

• Make a model.

Hundreds	Tens	Ones

• Sketch the model.

You will need

- base ten blocks
- a place value chart

Remember

- 1 ten is 10 ones.
- 1 hundred is 10 tens.
- You add the hundreds, tens, and ones parts of the number to know the size of the number. e.g., 402 = 4 hundreds + 2 ones
- In 402 there are 3 digits: 4, 0, and 2.

standard form the usual way we write numbers e.g., 231

Try These

1. Write each number in standard form.

a) 1 hundred + 1 one =

b) 2 hundreds + 2 tens =

c) 9 hundreds + 9 ones =

d) 6 hundreds =

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Number: Representing Whole Numbers

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2. a) Model 501 using 6 base ten blocks. Sketch your model.

Hundreds	Tens	Ones

Write the expanded form:  
\_\_\_\_ hundreds + \_\_\_\_ tens + \_\_\_\_ ones

b) Model 150 using 6 base ten blocks. Sketch your model.

Hundreds	Tens	Ones

Write the expanded form:  
\_\_\_\_\_

c) Model 132 using 6 base ten blocks. Sketch your model.

Hundreds	Tens	Ones

Write the expanded form:  
\_\_\_\_\_

d) Model 132 using 15 base ten blocks. Sketch your model.

Hundreds	Tens	Ones

Write the expanded form:  
\_\_\_\_\_

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Number: Representing Whole Numbers

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Student Resource

Dr. Marian Small

Senior Author of Leaps and Bounds Toward Math Understanding

“Research has shown that underachieving students improve both in settings that emphasize explicit instruction and modelling, and in settings where students tackle more challenging problems in their own ways. In Leaps and Bounds, we recognize the value of both approaches—marrying conceptually-clear modelling and practice with open questions that allow students to think more broadly, so that every student has an opportunity to achieve success.”



Each pathway precisely targets the pre-requisite learning students have missed which is causing gaps in their understanding!

Step 2: Select the intervention pathway

Teacher’s Resource