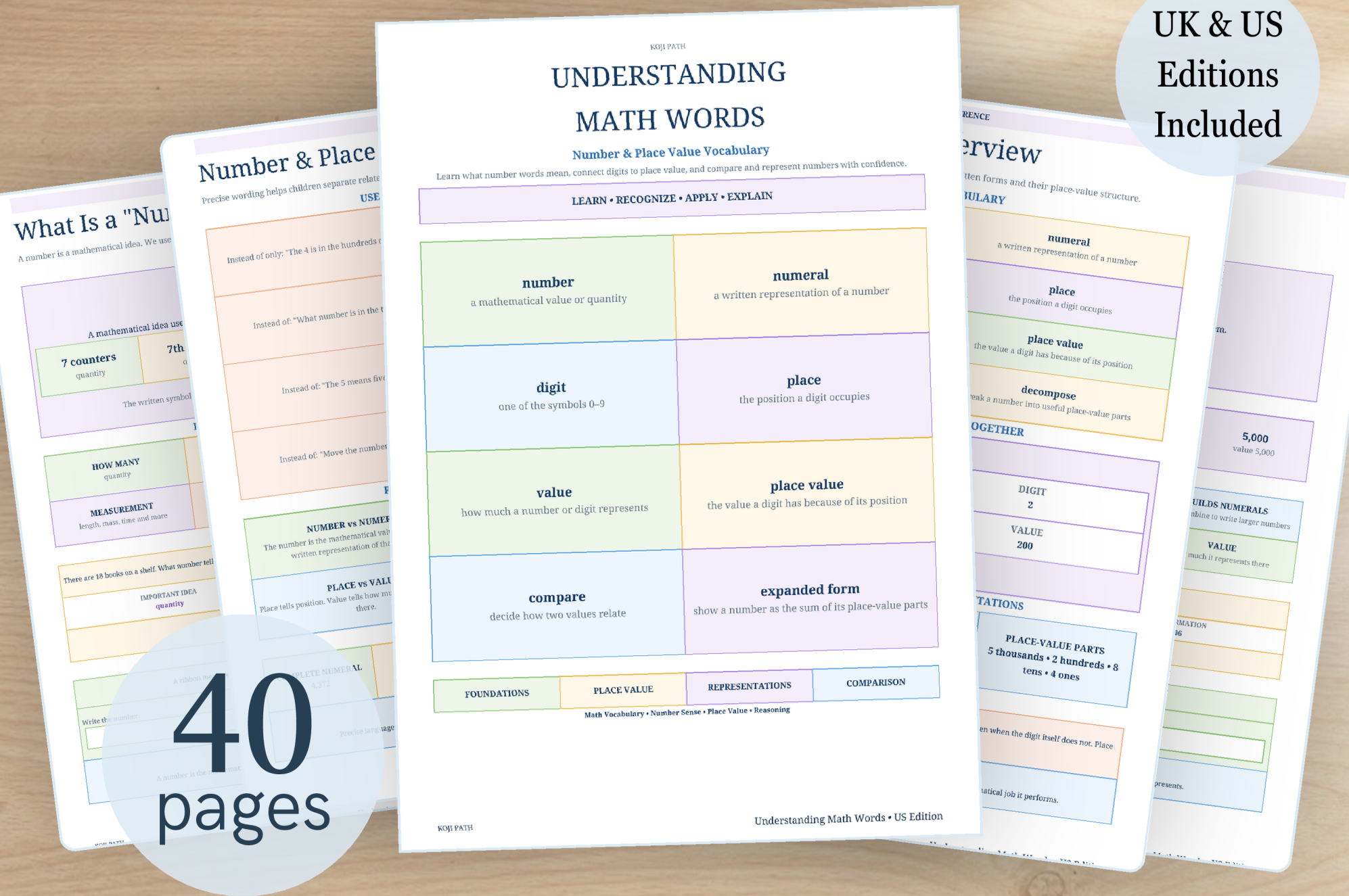


Understanding Math Words

Number & Place Value Vocabulary

Math vocabulary • Digits • Place value • Comparing • Rounding

UK & US
Editions
Included



Teach • Practice • Apply • Review • Answer Keys

What's Included

A look inside this 40-page resource

- Teaching Pages
- Practice Activities
- Number & Place Value Vocabulary
- Digits, Place & Value
- Number Forms & Place-Value Parts
- Compare, Order & Round
- Quick Reference Pages
- Answer Keys
- UK & US English Editions Included

LEARN

Number • Numeral • Digit

These words are related, but they do different mathematical jobs.

ONE EXAMPLE • THREE DIFFERENT IDEAS

NUMBER forty-two the mathematical value being represented	NUMERAL 42 the written representation of that number	DIGITS 4 and 2 the individual symbols used to build the numeral
---	--	---

COMPARE THE WORDS

NUMBER the mathematical idea or value	NUMERAL a written representation of a number	DIGIT one symbol from 0-9
A numeral can be long 5,284 uses four digits	The value stays the same 42 and forty-two represent the same number	Digits build numerals 4 and 2 build the numeral 42

TRY IT

Look at the numeral 306. How many digits does it contain?

Write the number of digits.

QUICK CHECK

NUMBER three hundred six	NUMERAL 306	DIGITS 3 • 0 • 6
------------------------------------	-----------------------	----------------------------

REMEMBER

Number = mathematical value. Numeral = written representation. Digit = one symbol used to build a numeral.

KOJI PATH Understanding Math Words • US Edition

GUIDE

About This Pack

Number and place-value ideas become clearer when children understand the language used to describe them.

WHY NUMBER & PLACE VALUE WORDS MATTER

PRECISE LANGUAGE BUILDS NUMBER SENSE

Children regularly meet words such as number, numeral, digit, place value and expanded form. These words describe related but different mathematical ideas. This pack covers the vocabulary to define numerals, place-value relationships, quantities and mathematical operations.

WHAT CHILDREN WILL LEARN

MEANING Explains important number words in clear mathematical language.	DIGITS & NUMERALS Distinguish a number, a numeral and a digit.	PLACE VALUE Connect a digit's position to the value it represents.
REPRESENTATIONS Move between standard, word and expanded forms.	COMPARISON Use value to compare and order numbers.	REASONING Explain how they know instead of relying on position tricks.

HOW TO USE THE PACK

TEACH THE WORD Introduce meaning before asking for practice.	SHOW THE NUMBER Connect vocabulary to numerals, words and quantities.
SAY IT ALOUD Encourage can place mathematical sentences.	REVISIT THE LANGUAGE Re-use the same vocabulary during ordinary math lessons.

GUIDE

Number & Place Value Language Guide

Precise wording helps children separate related ideas that are often blurred together.

USE PRECISE LANGUAGE

Instead of: "The 4 is in the hundreds column."	Prefer: "The digit 4 is in the hundreds place, so its value is 400."
Instead of: "What number is in the tens?"	Prefer: "Which digit is in the tens place?"
Instead of: "The 5 means five."	Prefer: "The digit 5 has a value of 5,000 because it is in the thousands place."
Instead of: "Move the number over."	Prefer: "Move the digit one place to the left, its value becomes ten times as great."

RELATED BUT NOT IDENTICAL

NUMBER vs NUMERAL The number is the mathematical value; a numeral is a written representation of that number. PLACE vs VALUE	NUMBER vs DIGIT A number may need several digits to write it as a numeral.
--	--

LEARN

What Is a "Number"?

A number is a mathematical idea. We use numerals, words and models to represent numbers.

DEFINITION

NUMBER

A mathematical idea used to describe quantity, value, order or measurement.

7 counters quantity	7th place order	7 cm measurement	point 7 value on a number line
-------------------------------	---------------------------	----------------------------	--

The written symbol 7 is a numeral used to represent the number seven.

LOOK FOR THESE CLUES

HOW MANY quantity	HOW MUCH amount or value	POSITION order
MEASUREMENT length, mass, time and more	NUMBER LINE an exact location	VALUE the mathematical amount represented

SEE IT IN A QUESTION

There are 18 books on a shelf. What number tells how many books there are?

IMPORTANT IDEA quantity	KEY INFORMATION 18 books
-----------------------------------	------------------------------------

LEARN

What Is a "Numeral"?

A numeral is a written representation used to show a number.

DEFINITION

NUMERAL

A written symbol or group of symbols used to represent a number.

24 digits	twenty-four number words	2 tens • 4 ones place-value rods
---------------------	------------------------------------	--

Different representations can describe the same number.

LOOK FOR THESE CLUES

WRITTEN FORM a way to record a number	DIGITS symbols 0-9	NUMBER WORDS written words can name the same value
REPRESENTATION shows the real mathematical number	SAME VALUE different forms can mean the same amount	NOT THE DIGIT a numeral can contain several digits

SEE IT IN A QUESTION

Which numeral represents the number forty-two?

IMPORTANT IDEA written representation	KEY INFORMATION 24 • 42 • 42
---	--

Teach the Meaning First

What Is a
"Digit"?

What Is
"Place Value"?

What Does
"Value" Mean?

LEARN

What Is a "Digit"?

Digits are the ten symbols we use to build written numerals.

DEFINITION

DIGIT

One of the ten symbols used in our base-ten number system.
0 • 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9
The numeral 3,284 is made from four digits: 5, 2, 8 and 4.

THE SAME DIGIT • DIFFERENT VALUE

5 value 5	50 value 50	500 value 500	5,000 value 5,000
---------------------	-----------------------	-------------------------	-----------------------------

LOOK FOR THESE CLUES

SYMBOLS 0-9 the ten digits	ONE SYMBOL a digit is a single numeral symbol	BUILDS NUMERALS digits combine to write larger numbers
POSITION a digit can move to another place	PLACE its location in the numeral	VALUE how much it represents there

SEE IT IN A QUESTION

Look at 7,306. Which digit is in the hundreds place?

IMPORTANT IDEA Identify one digit.	KEY INFORMATION 7,306
3	

TRY IT

Look at 4,582. Write the digit in the tens place.

Write the digit.

REMEMBER

The digit tells which symbol is being used. Its place determines the value it represents.

KOIP PATH Understanding Math Words • US Edition

LEARN

What Is "Place Value"?

Place value connects a digit's position to the amount it represents.

DEFINITION

PLACE VALUE

The value a digit has because of its position in a numeral. Our number system is base ten: moving one place left makes a digit worth ten times as much.

LOOK AT 3,333
3,000 • 300 • 30 • 3

SAME DIGIT • DIFFERENT PLACE VALUE

3,000 thousands value 3,000	300 hundreds value 300	30 tens value 30	3 ones value 3
--	-------------------------------------	-------------------------------	-----------------------------

THE BASE-TEN RELATIONSHIP

Each place to the left is worth ten times the place immediately to its right. Each place to the right is one tenth of the place immediately to its left.

TRY IT

In 6,462, what is the value of the digit 6 in the thousands place?

Write the value.

REMEMBER

Place value is not just a chart or a column name. It explains why a digit represents a particular amount.

KOIP PATH Understanding Math Words • US Edition

LEARN

What Does "Value" Mean?

Value tells us how much a number or digit represents.

DEFINITION

VALUE

The amount or quantity represented by a number or by a digit in a particular place.

LOOK AT 4,372
The digit 4 has a value of 4,000.

LOOK FOR THESE CLUES

HOW MUCH? the amount represented	DIGIT • PLACE together describe digit value	ZERO can represent no units in a place
TOTAL VALUE the complete number also has a value	COMPARE values can be greater or less	REPRESENTS ask what the symbol stands for

SEE IT IN A QUESTION

In 6,245, what is the value of the digit 2?

IMPORTANT IDEA 2 is in the hundreds place	KEY INFORMATION 6,245
The value is 200.	

TRY IT

In 8,731, what is the value of the digit 7?

Write the value.

REMEMBER

A digit and its value are not the same thing. The digit 7 can represent 7, 70, 700 or 7,000 depending on its place.

KOIP PATH Understanding Math Words • US Edition

Explicit teaching pages help children understand number language, place value and relationships — not just memorize column rules.

Practice & Apply

Represent • Compose • Decorate

Move between number forms and explain how place-value parts build the complete number.

SHOW THE NUMBER IN DIFFERENT WAYS

1) Write 47,305 in expanded form.

2) Write thirty-two thousand six hundred eight in standard form.

Represent • Compose • Decompose

Move between number forms and explain how place-value parts build the complete number.

SHOW THE NUMBER IN DIFFERENT WAYS

1) Write 47,305 in expanded form.

2) Write thirty-two thousand six hundred eight in standard form.

Match the Math Words

Write the matching letter in each answer box. The meaning of each word is listed on the right.

1) digit

3) expanded form

5) estimate

7) compose

A) put place-value parts together to make one number

C) the value a digit has because of its position

E) an approximate value based on mathematical reasoning

G) ordered from larger values to smaller values

Choose one word from the activity and explain its meaning.

Match the full mathematical meaning, not just the word.

Digit • Place • Value

Read each numeral carefully. Keep the digit, its position and the value it represents separate.

LOOK CLOSELY AT THE NUMERAL

1) In 58,204, which digit is in the thousands place?

2) In 58,204, what is the value of the digit 2?

3) In 58,204, what place does the digit 5 occupy?

4) In 58,204, what is the value of the digit 4?

SAME DIGIT • DIFFERENT VALUE

5) In 6,240, what value does the digit 6 have?

6) In 24,605, what value does the digit 6 have?

7) Which gives the digit 7 the greater value: 70,315 or 27,104?

8) In 34,582, complete: digit 5 • place ____ • value ____

EXPLAIN THE RELATIONSHIP

Why can the same digit represent different values in different numerals?

Place Value Words: Quick Reference

Define each word and the mathematical job each word performs.

CORE VOCABULARY

numeral	a written representation of a number
place	the position a digit occupies
place value	the value a digit has because of its position

Relationships: Quick Reference

Children reason about comparison, ordering, rounding and estimation.

PLACE-VALUE & COMPARISON RELATIONSHIPS

place left 10 times as great 600	Same digit its value can change when its place changes 6 in 6,240 ≠ 6 in 24,605
place value	Greatest / least compare complete numerical values 43,006 is greatest
total distance	Descending greatest to least 900 • 450 • 120
	Estimate use a reasoned approximate value for a purpose 399 • 205 ≈ 600

POSITION WORDS

AFTER in an ordered sequence	BETWEEN inside two boundary values
REMEMBER that the values mean and why the relationship is true.	

Recognize • Compare • Represent • Reason • Explain