Bright Path Sped

3 LEVELS

GRADES 2-4




# PLACE VALUE HOUSE

CUT AND GLUE CRAFT

# Start Here: Place Value House



Each child builds a paper **place value house**. The roof reads PLACE VALUE and every room is a place: ones, tens, hundreds, and on the higher levels thousands and ten thousands. The child cuts out a roof, walls and digit tiles and base ten blocks tiles (units, rods, flats, cubes and cube strips), glues each pair in the right room, then glues the walls and the roof on the house page, reads the number off the house and writes it in **standard form** (4,205), **expanded form** (4,000 + 200 + 5) and **word form** (four thousand, two hundred five).

## The three steps

1. **Prep.** For each house print the kit for the child's shape (page 7, 8 or 9), the house page and the tiles page after it. 2. **Build.** Read the five steps on page 4 together and show the finished house on page 5. The tiles come out of order on purpose, so the child counts and matches. 3. **Write.** The writing strip under the house, then the house street (page 31) and the check (page 32).

## What is inside

| Part | Pages | What it is |
|---|---|---|
| How to build, model, card | 4-6 | Five steps, a finished house to look at, three worked numbers. |
| House kits | 7-9 | One kit a level: roof, walls, chimney, door, windows. |
| Circle houses 1-3 | 11-16 | 3-digit numbers (hundreds). House page and tiles page each. |
| Square houses 1-3 | 17-22 | 4-digit numbers (thousands). House page and tiles page each. |
| Triangle houses 1-3 | 23-28 | 5-digit numbers (ten thousands). House page and tiles page each. |
| Blank house | 10 | A number of the child's own, blocks drawn. |
| Examples | 29-30 | Two houses completed by Sam, an invented student. |
| House street, house check | 31-32 | Write the numbers, put them in order, tick the list. |
| Answer key | 33 | Nine houses, the card, Sam's examples. |
| Family letter | 34 | A note home with a find-a-number challenge. |

## Three levels, marked with a shape

● **Circle**: 3-digit numbers (hundreds). ■ **Square**: 4-digit numbers (thousands). ▲ **Triangle**: 5-digit numbers (ten thousands).

The shape is the only mark of the level, so three children at one table can build three levels. 9 houses, 36 rooms, 72 cut tiles and 27 kit pieces in all; 6 rooms hold a zero. Nothing is scored. The circle level practices 2.NBT.A.1 and 2.NBT.A.3; the square and triangle levels carry the same ideas to thousands and ten thousands.

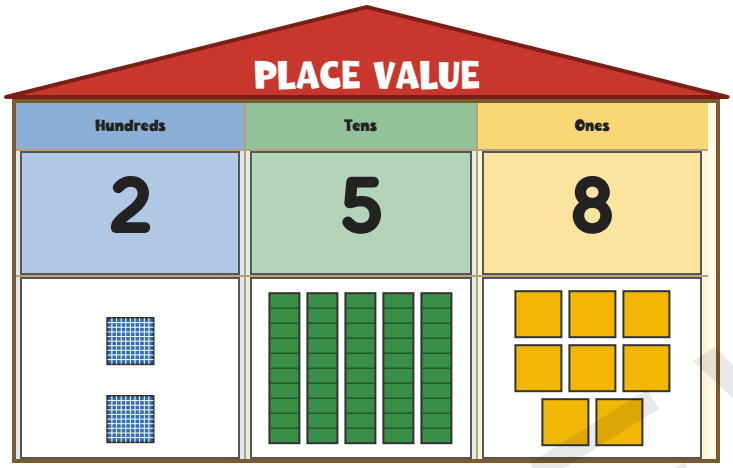
PREVIEW

My name _____

HERE IS HOW

# Build a Place Value House

Look at the finished house. Then follow the five steps.



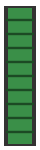

| | |
|---|---|
| Standard form | 258 |
| Expanded form | 200 + 50 + 8 |
| Word form | two hundred fifty-eight |

## Five steps

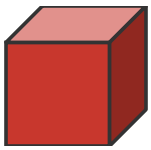
1. Snip the house kit and the tiles on the dashed lines.
2. Count the blocks. Find the digit tile that matches.
3. Glue both tiles in the wall for those blocks. Ones go on the right.
4. Glue the walls and roof on your house page. Add the door, windows and chimney.
5. Read the number in your house. Write it three ways.

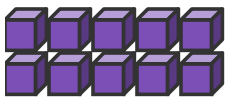
## Blocks I will see


unit
1


rod
10


flat
100

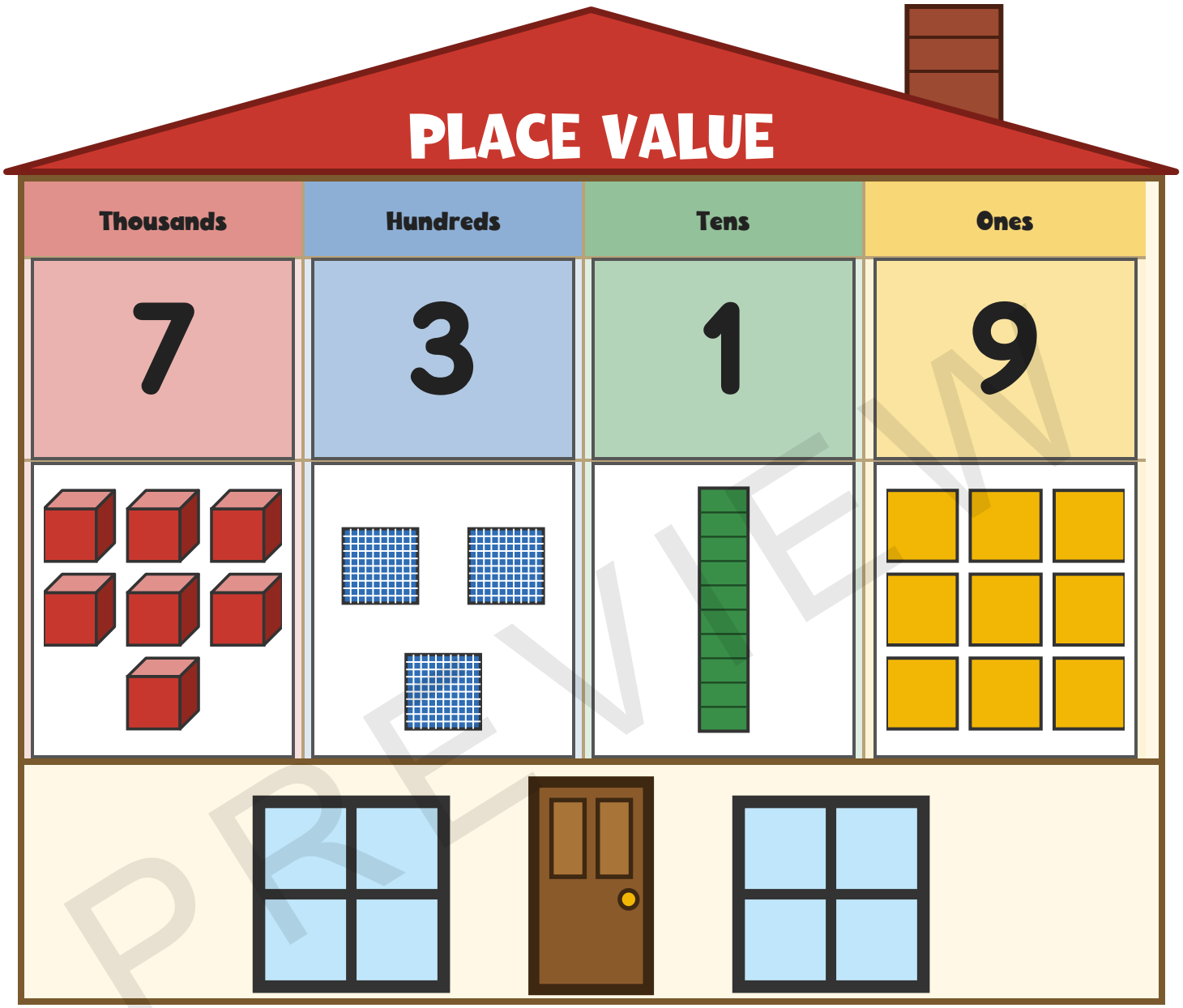

cube
1,000


cube strip
10,000

PREVIEW

My name _____ Model

Look at the finished house. Yours will look like this.




Standard form 7,319

Expanded form 7,000 + 300 + 10 + 9

Word form seven thousand, three hundred nineteen

**Build it check** ☑ The roof is on. ☑ Every wall has its tiles. ☑ I wrote the number three ways.

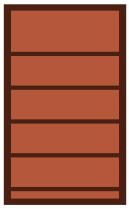
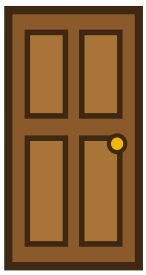
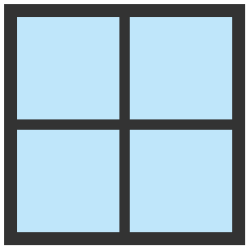
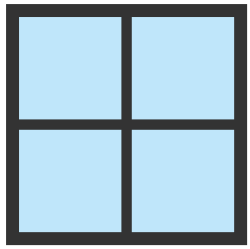
PREVIEW

My name _____ House kit

Cut apart the house pieces. Glue the tiles in the walls.

# PLACE VALUE

| Hundreds | Tens | Ones |
|---|---|---|
| digit | digit | digit |
| blocks | blocks | blocks |

PREVIEW

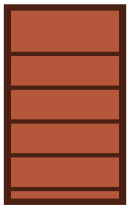
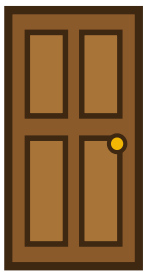
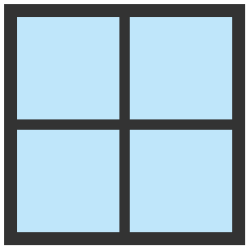
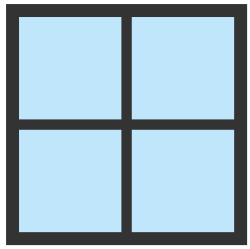
Preview - Bright Path Shed

My name _____ House kit

Cut apart the house pieces. Glue the tiles in the walls.

# PLACE VALUE

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| digit | digit | digit | digit | digit |
| blocks | blocks | blocks | blocks | blocks |

PREVIEW

**My name** _____ **House 1**

**Glue the roof and the walls here. Write the number three ways.**

glue the roof here

| Hundreds | Tens | Ones |
|---|---|---|
| digit | digit | digit |
| blocks | blocks | blocks |

PREVIEW

**Standard form** _____

**Expanded form** _____

**Word form** _____

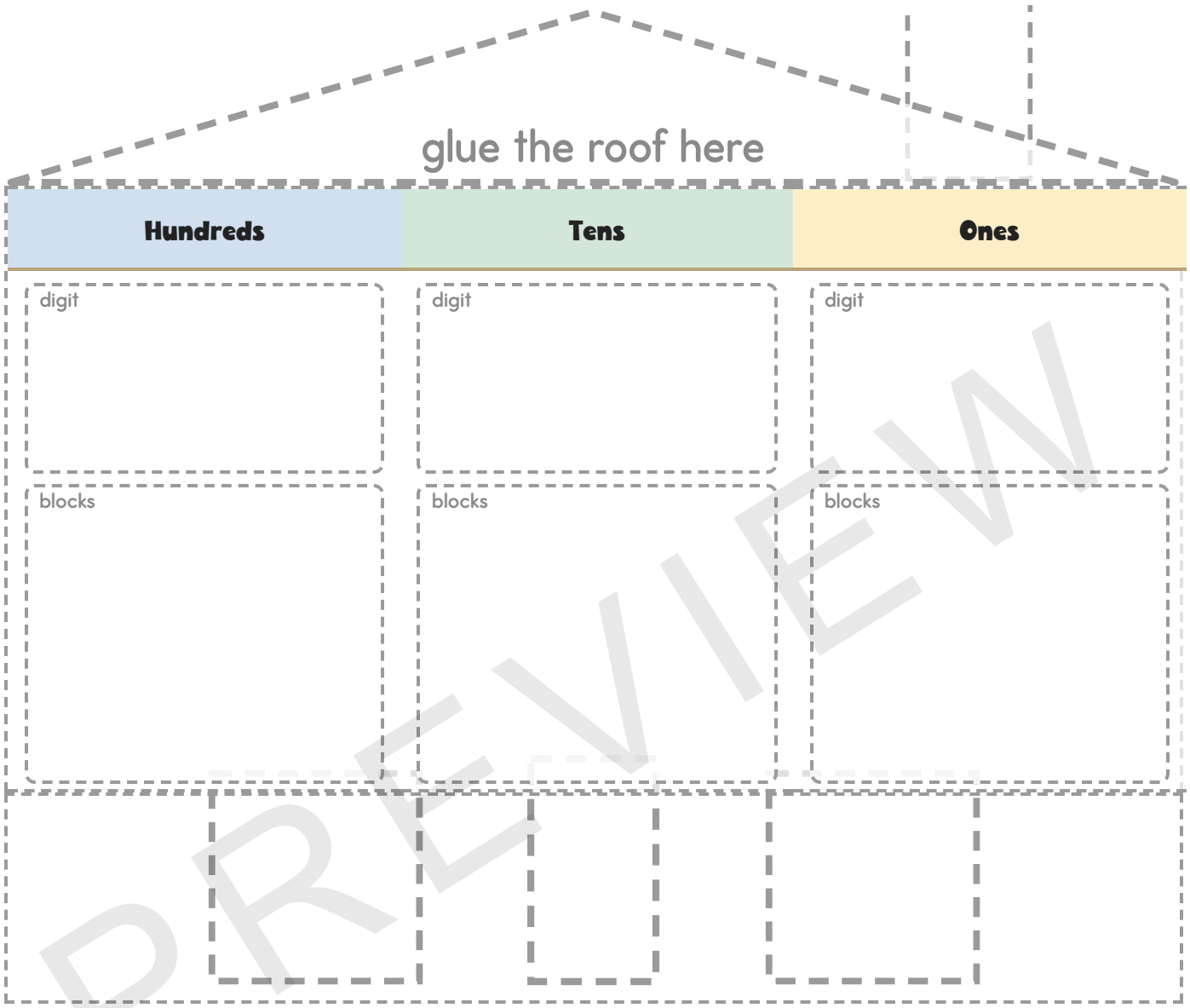
**My first digit is** _____ **. It is in the** _____ **place.**

**My number has** _____ **zero(s).**

**Build it check** ☐ **The roof is on.** ☐ **Every wall has its tiles.** ☐ **I wrote the number three ways.**

My name _____ House 2

Glue the roof and the walls here. Write the number three ways.




PREVIEW

Standard form _____

Expanded form _____

Word form _____

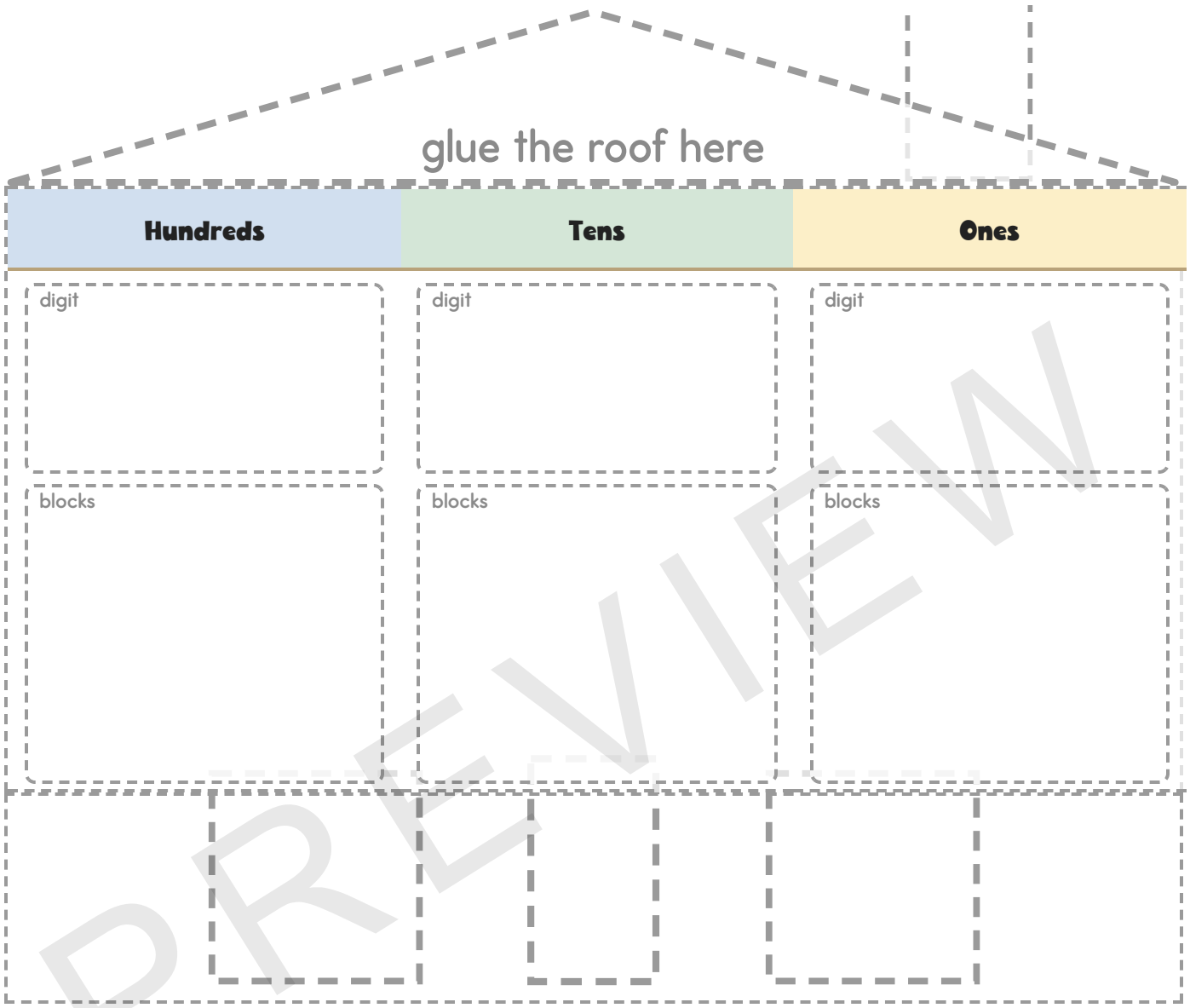
My first digit is _____ . It is in the _____ place.

My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

My name _____ House 3

Glue the roof and the walls here. Write the number three ways.




PREVIEW

Standard form _____

Expanded form _____

Word form _____

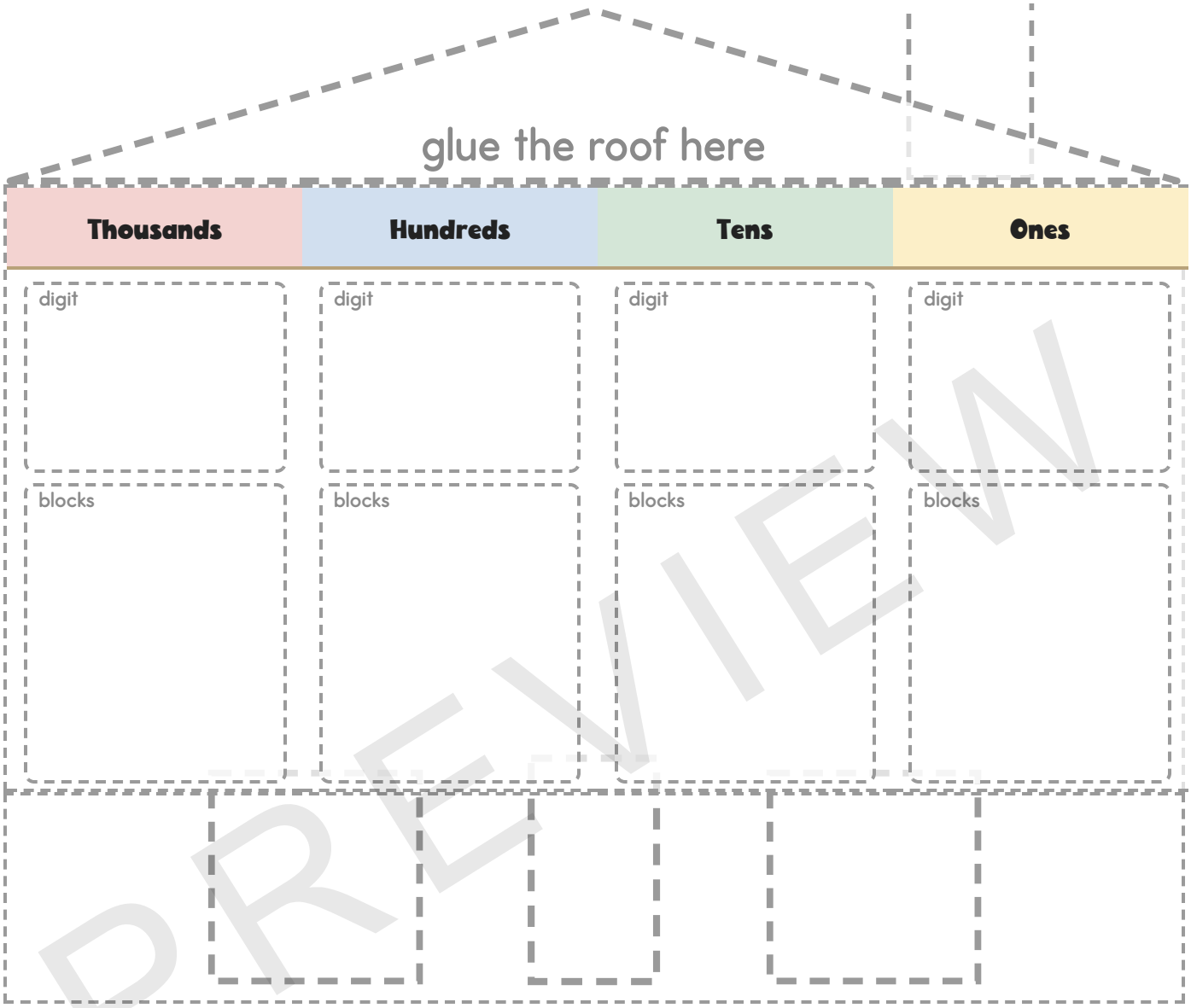
My first digit is _____ . It is in the _____ place.

My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

My name _____ House 1

Glue the roof and the walls here. Write the number three ways.




PREVIEW

Standard form _____

Expanded form _____

Word form _____

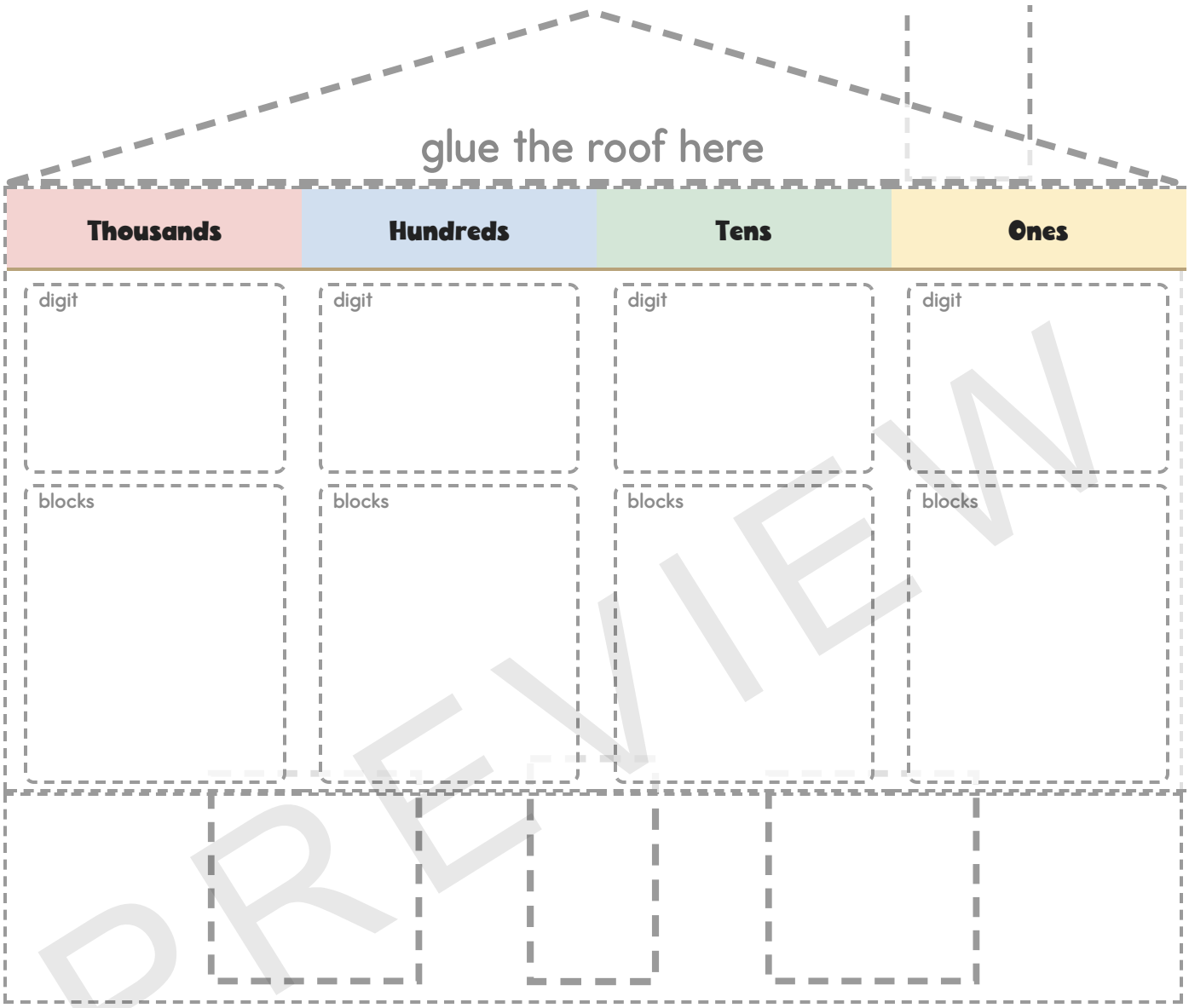
My first digit is _____ . It is in the _____ place.

My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

My name _____ House 2

Glue the roof and the walls here. Write the number three ways.




PREVIEW

Standard form _____

Expanded form _____

Word form _____

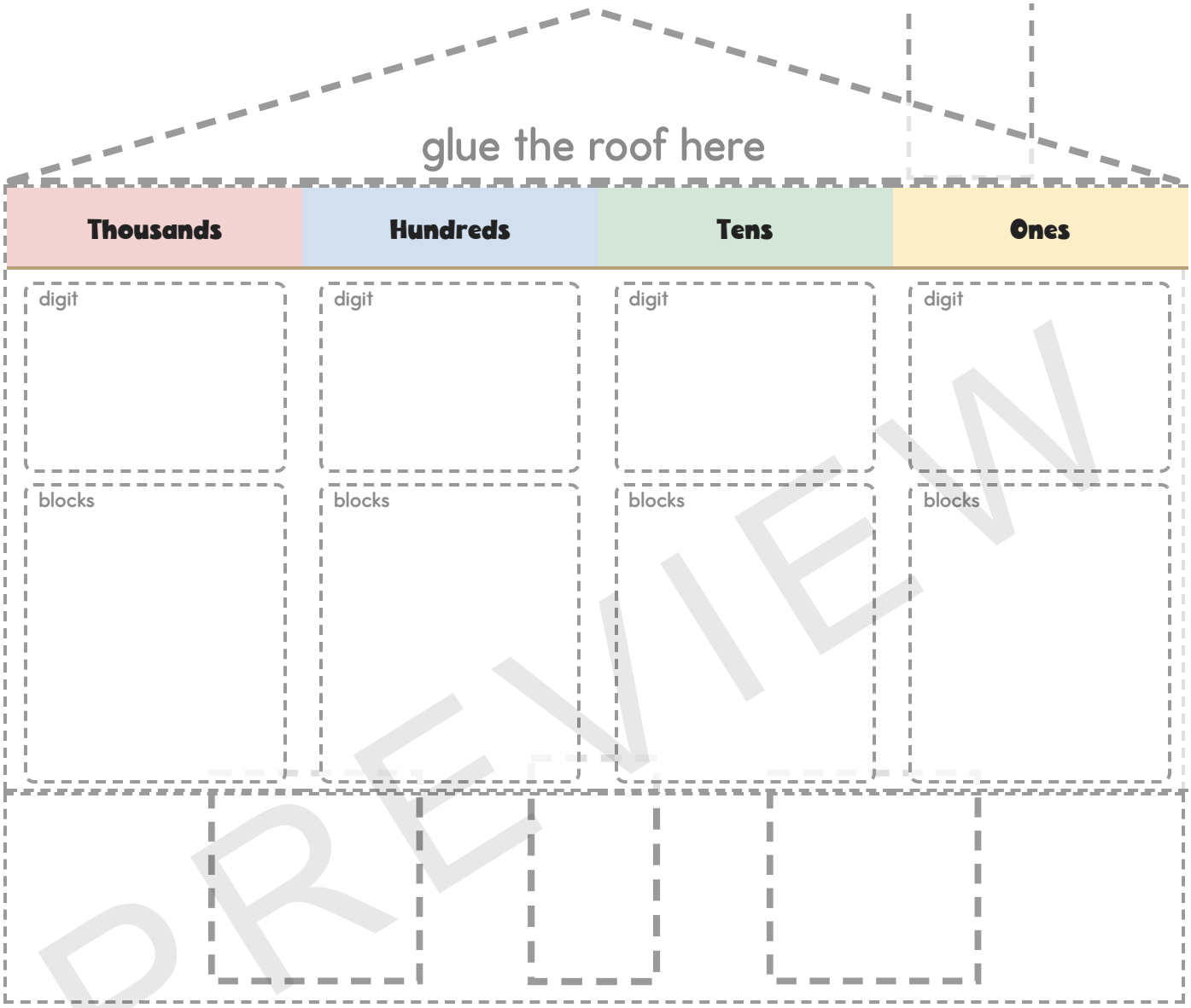
My first digit is _____ . It is in the _____ place.

My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

My name _____ House 3

Glue the roof and the walls here. Write the number three ways.




PREVIEW

Standard form _____

Expanded form _____

Word form _____

My first digit is _____ . It is in the _____ place.

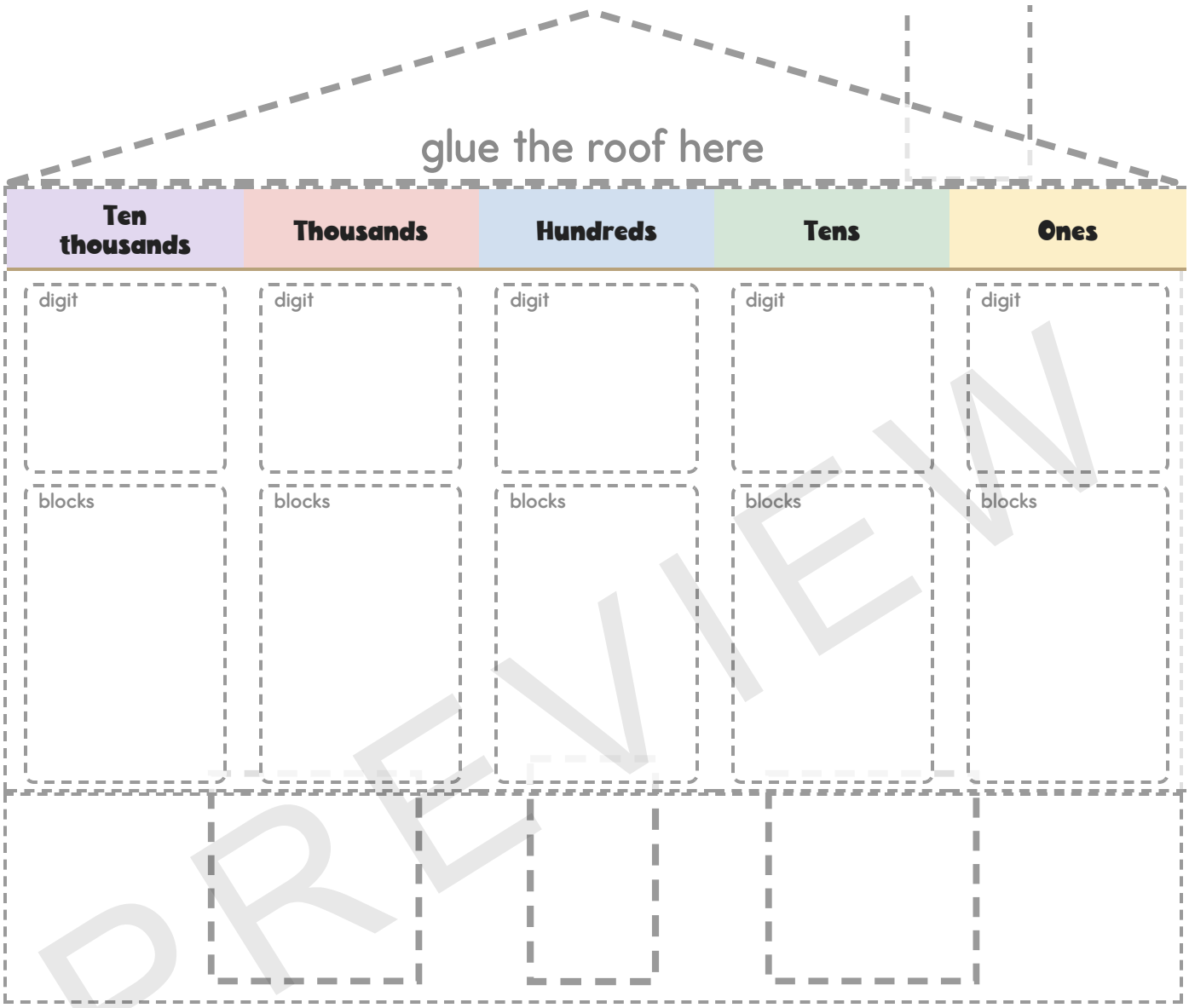
My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

Preview · Bright Path Shed

My name _____ House 1 ▲

Glue the roof and the walls here. Write the number three ways.




PREVIEW

Standard form _____

Expanded form _____

Word form _____

My first digit is _____ . It is in the _____ place.

My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

My name _____ House 2 ▲

Glue the roof and the walls here. Write the number three ways.

glue the roof here

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| digit | digit | digit | digit | digit |
| blocks | blocks | blocks | blocks | blocks |

PREVIEW

Standard form _____

Expanded form _____

Word form _____

My first digit is _____ . It is in the _____ place.

My number has _____ zero(s).

Build it check ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

**My name** _____ **House 3** ▲

**Glue the roof and the walls here. Write the number three ways.**

glue the roof here

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| digit | digit | digit | digit | digit |
| blocks | blocks | blocks | blocks | blocks |

PREVIEW

**Standard form** _____

**Expanded form** _____

**Word form** _____

**My first digit is** _____ **. It is in the** _____ **place.**

**My number has** _____ **zero(s).**

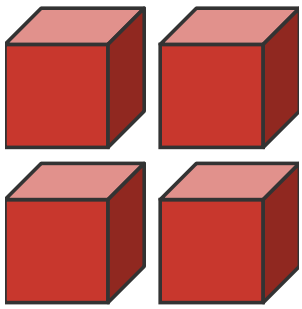
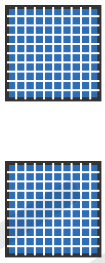
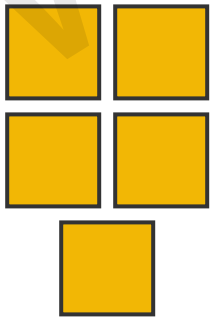
**Build it check** ☐ The roof is on. ☐ Every wall has its tiles. ☐ I wrote the number three ways.

Preview - Bright Path Shed

My name Sam (an invented student) House 1

Glue the roof and the walls here. Write the number three ways.

# PLACE VALUE

| Thousands | Hundreds | Tens | Ones |
|---|---|---|---|
| 4 | 2 | 0 | 5 |
|  |  | none |  |

Standard form 4,205

Expanded form 4,000 + 200 + 5

Word form four thousand, two hundred five

My first digit is 4 . It is in the thousands place.

My number has 1 zero(s).

Build it check ☑ The roof is on. ☑ Every wall has its tiles. ☑ I wrote the number three ways.

PREVIEW

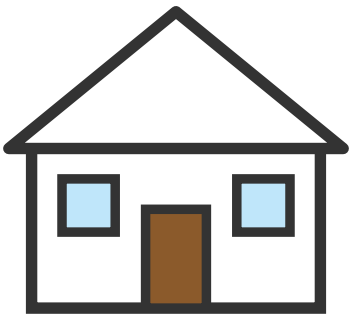
My name _____

ALL BUILT

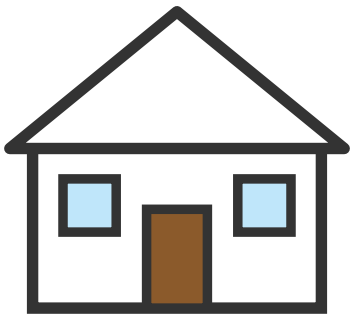
# My House Street

Write each house number. Color the houses. Then put them in order.

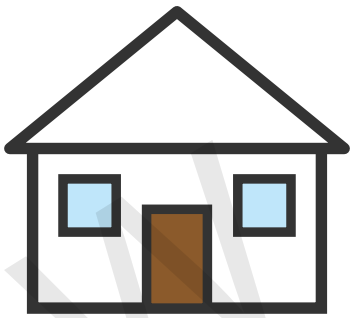
My shape: ▢ ● ▢ ■ ▢ ▲



House 1



House 2



House 3

_____ _____ _____

## Least to greatest

_____ is less than _____ is less than _____

The greatest number is House _____. The least is House _____

## Draw my street: add doors, windows and trees

PREVIEW

# Answer Key

Check: the expanded form adds back to the standard form, the word form reads back to it, and the blocks match the digits.

## The nine houses

| House | Standard | Expanded | Word | Blocks | First digit in; zeros |
|---|---|---|---|---|---|
| ● Circle 1 (p11) | 258 | 200 + 50 + 8 | two hundred fifty-eight | 2 flats, 5 rods, 8 units | hundreds; zeros: 0 |
| ● Circle 2 (p13) | 470 | 400 + 70 | four hundred seventy | 4 flats, 7 rods, 0 units | hundreds; zeros: 1 |
| ● Circle 3 (p15) | 806 | 800 + 6 | eight hundred six | 8 flats, 0 rods, 6 units | hundreds; zeros: 1 |
| ■ Square 1 (p17) | 3,426 | 3,000 + 400 + 20 + 6 | three thousand, four hundred twenty-six | 3 cubes, 4 flats, 2 rods, 6 units | thousands; zeros: 0 |
| ■ Square 2 (p19) | 5,073 | 5,000 + 70 + 3 | five thousand, seventy-three | 5 cubes, 0 flats, 7 rods, 3 units | thousands; zeros: 1 |
| ■ Square 3 (p21) | 6,190 | 6,000 + 100 + 90 | six thousand, one hundred ninety | 6 cubes, 1 flat, 9 rods, 0 units | thousands; zeros: 1 |
| ▲ Triangle 1 (p23) | 24,613 | 20,000 + 4,000 + 600 + 10 + 3 | twenty-four thousand, six hundred thirteen | 2 cube strips, 4 cubes, 6 flats, 1 rod, 3 units | ten thousands; zeros: 0 |
| ▲ Triangle 2 (p25) | 40,586 | 40,000 + 500 + 80 + 6 | forty thousand, five hundred eighty-six | 4 cube strips, 0 cubes, 5 flats, 8 rods, 6 units | ten thousands; zeros: 1 |
| ▲ Triangle 3 (p27) | 38,904 | 30,000 + 8,000 + 900 + 4 | thirty-eight thousand, nine hundred four | 3 cube strips, 8 cubes, 9 flats, 0 rods, 4 units | ten thousands; zeros: 1 |

## Sam's two examples (an invented student)

| House | Standard | Expanded | Word | Blocks | First digit in; zeros |
|---|---|---|---|---|---|
| Sam, house (square) (p29) | 4,205 | 4,000 + 200 + 5 | four thousand, two hundred five | 4 cubes, 2 flats, 0 rods, 5 units | thousands; zeros: 1 |
| Sam, blank house (p30) | 3,860 | 3,000 + 800 + 60 | three thousand, eight hundred sixty | 3 cubes, 8 flats, 6 rods, 0 units | thousands; zeros: 1 |

## The place value card (page 6)

| Level | Standard | Expanded | Word |
|---|---|---|---|
| ● Circle | 306 | 300 + 6 | three hundred six |
| ■ Square | 4,052 | 4,000 + 50 + 2 | four thousand, fifty-two |
| ▲ Triangle | 38,407 | 30,000 + 8,000 + 400 + 7 | thirty-eight thousand, four hundred seven |

## Blank house, street and check

The blank house (page 10) and the street (page 31) use the child's own numbers: check each one the same way. On the street the three numbers come from the child's own houses, so the order is the order of those numbers. In the check, the sum on the right must equal the child's own standard form.

Notes

PREVIEW