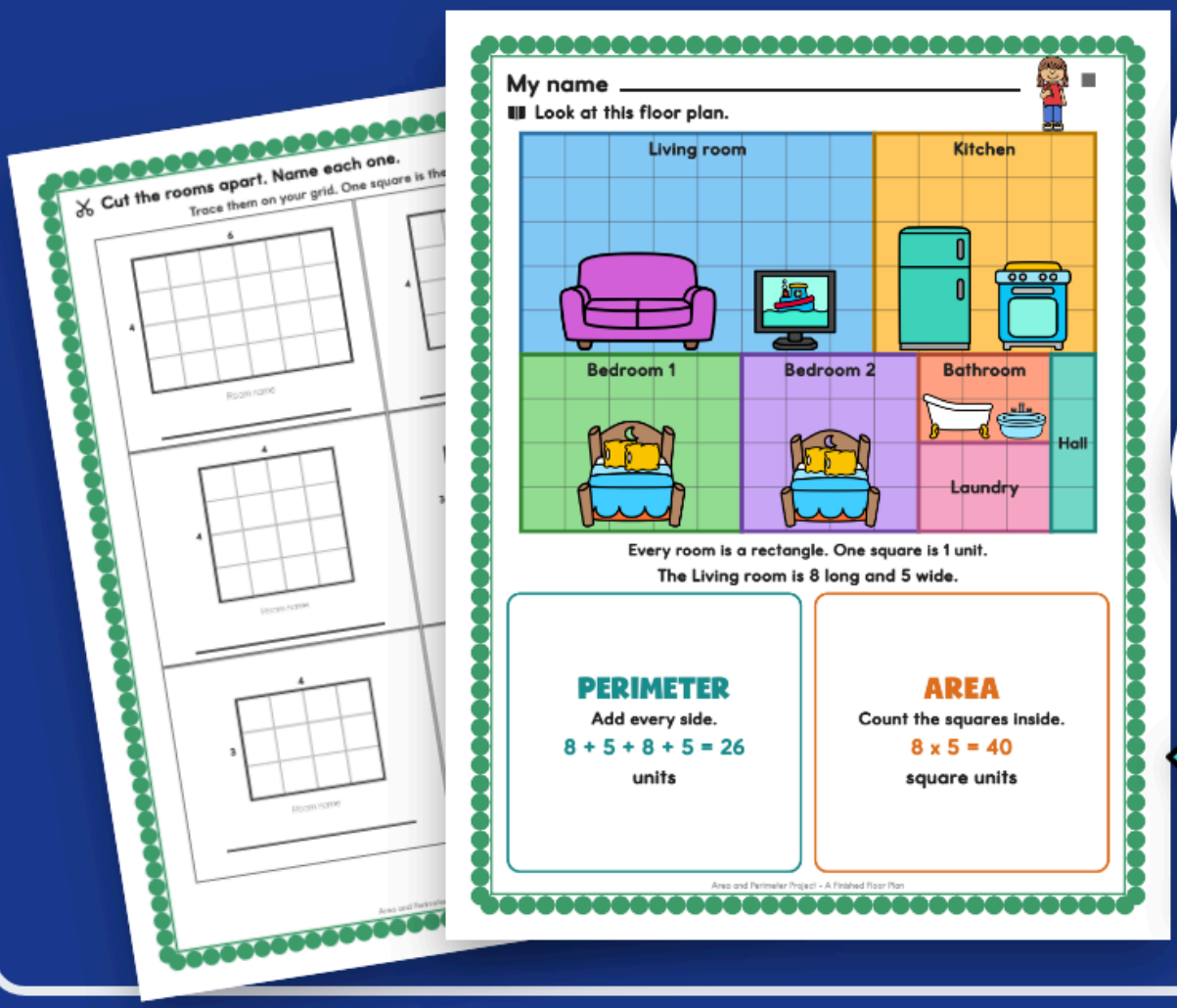
Bright Path Sped

AREA & PERIMETER PROJECT

Design Your Dream Floor Plan



GRADES 3-5

29 PAGES



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- This file is for one classroom: one teacher, one group of students.
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This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a line or a box, type, and Save As.
- The name lines, the key table, the checklist boxes, the partner check, the reflection, the note home and the class roll-up are type-in fields. The grid pages are for pencil and crayons. You can also print any page and write by hand.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Print at 100 percent

Turn off fit to page and shrink to fit. One grid square prints 0.45 inch on every grid page and on every room card, so the cards only trace onto the grids at full size. Every page is readable in black and white. The room cards are fine on copy paper.

Need help?

If a field will not behave or a page will not print the way you expect, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as a free update.

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PREVIEW

How to Run the Project: Five Sessions

One step per session. You need pencils, crayons, scissors and glue. No ruler.

1. Look, then warm up

- Show the finished plan (page 6). Ask: "How long is the living room? How wide?" Find its perimeter and its area together.
- Hand out the reminder (page 7) and the practice plan (page 9). Children count squares to find each room's length and width.

2. Plan

- Children pick their rooms and an area goal for each (page 8). Read the five project rules out loud together.
- Hand out the room cards (page 10). Children cut them apart and write a name on each room.

3. Draw

- Children move the cards around on a grid, trace them and color the rooms (page 11). Use pages 12 and 13 to try a new layout.
- Rooms can be a different size from the cards: children draw their own rectangles along the grid lines.

4. Count and record

- Children fill the key table (page 14): length, width, area, perimeter for every room. Say: "Count the squares inside, or multiply. Add all four sides."
- Then the checklist (page 16) and a partner check (page 17).

5. Final copy, reflect, share

- Children make a final copy (page 15) and write the reflection (page 18). Hang the plans for a gallery walk.
- Score with the rubric (page 21). Early finishers try pages 19 and 20. Send the note home (page 25).

Notes on your day

PREVIEW

Preview - Bright Path Shed

My name _____



Read the steps. Make a floor plan.

1 Pick your rooms. Choose how big. page 8

2 Get the room cards. Name each room. page 10

3 Trace the rooms on the grid. page 11

4 Find the area and perimeter of every room. page 14

5 Tick the checklist. Trade with a partner. page 16

6 Make your best copy. Think about it. page 15

MY PLAN NEEDS

- [ ] 5 or more rooms.
- [ ] Every room is a rectangle with a name.
- [ ] Rooms do not overlap. All rooms stay on the grid.
- [ ] One room has an area of 20 square units or more.
- [ ] One room has a perimeter of exactly 16 units.

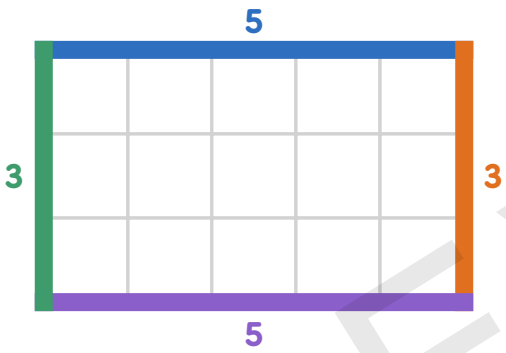
PREVIEW

Preview : Bright Path Sped

My name _____

Keep this at your desk.

PERIMETER



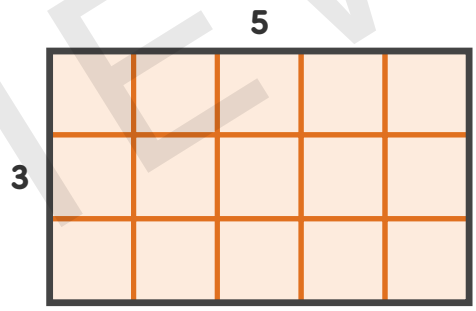
Around the edge

Add all 4 sides

5 + 3 + 5 + 3 = 16

units

AREA



Inside the room

Count squares or multiply

5 x 3 = 15

square units

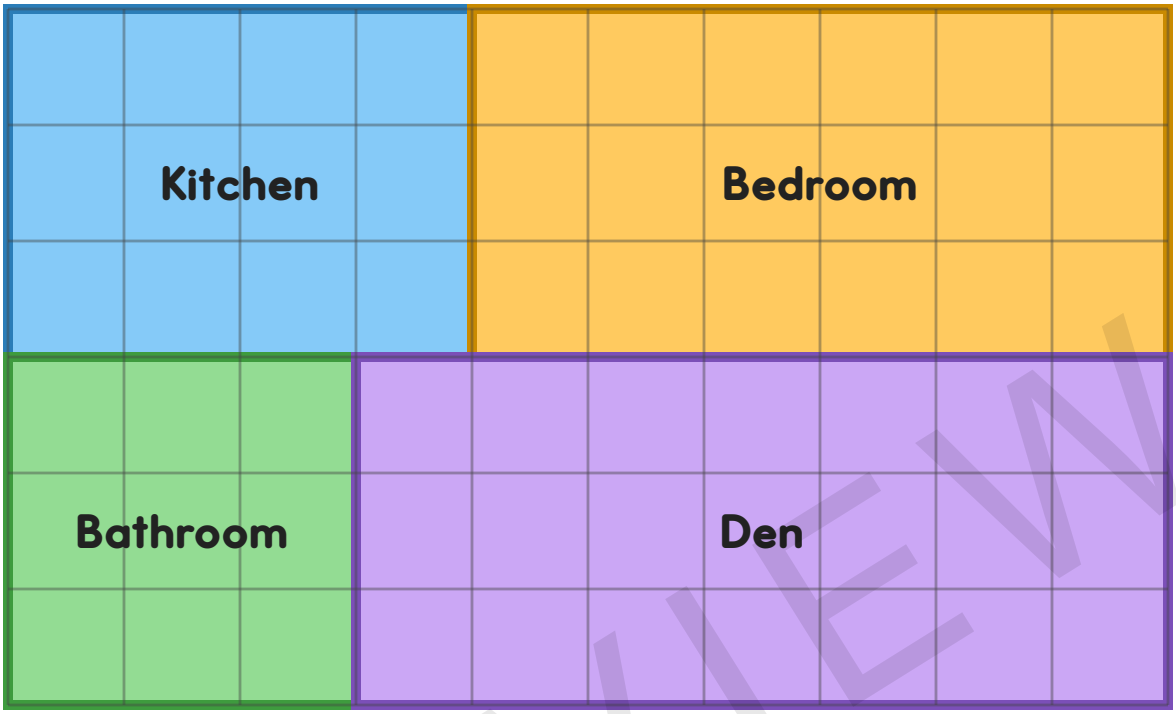
PREVIEW

Around the edge or inside? Pick the one that fits.

My name _____

Count the squares. Fill the table.

Need help? Look at the reminder page.



Room	Length	Width	Area (square units)	Perimeter (units)
Kitchen				
Bedroom				
Bathroom				
Den				

PREVIEW

Preview - Bright Path Shed

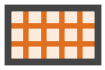
My name _____

Trace your rooms. Draw your plan.

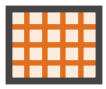
Room sizes to try

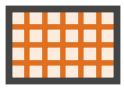

3 x 2


4 x 3


5 x 3


4 x 4


5 x 4


6 x 4

PREVIEW

I made _____ rooms. One square is 1 unit.

My biggest room is the _____

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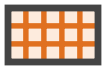
My name _____

Try one more plan. Draw it.

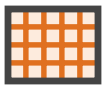
Room sizes to try

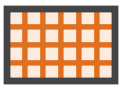

3 x 2


4 x 3


5 x 3


4 x 4


5 x 4


6 x 4

PREVIEW

I made _____ rooms. One square is 1 unit.

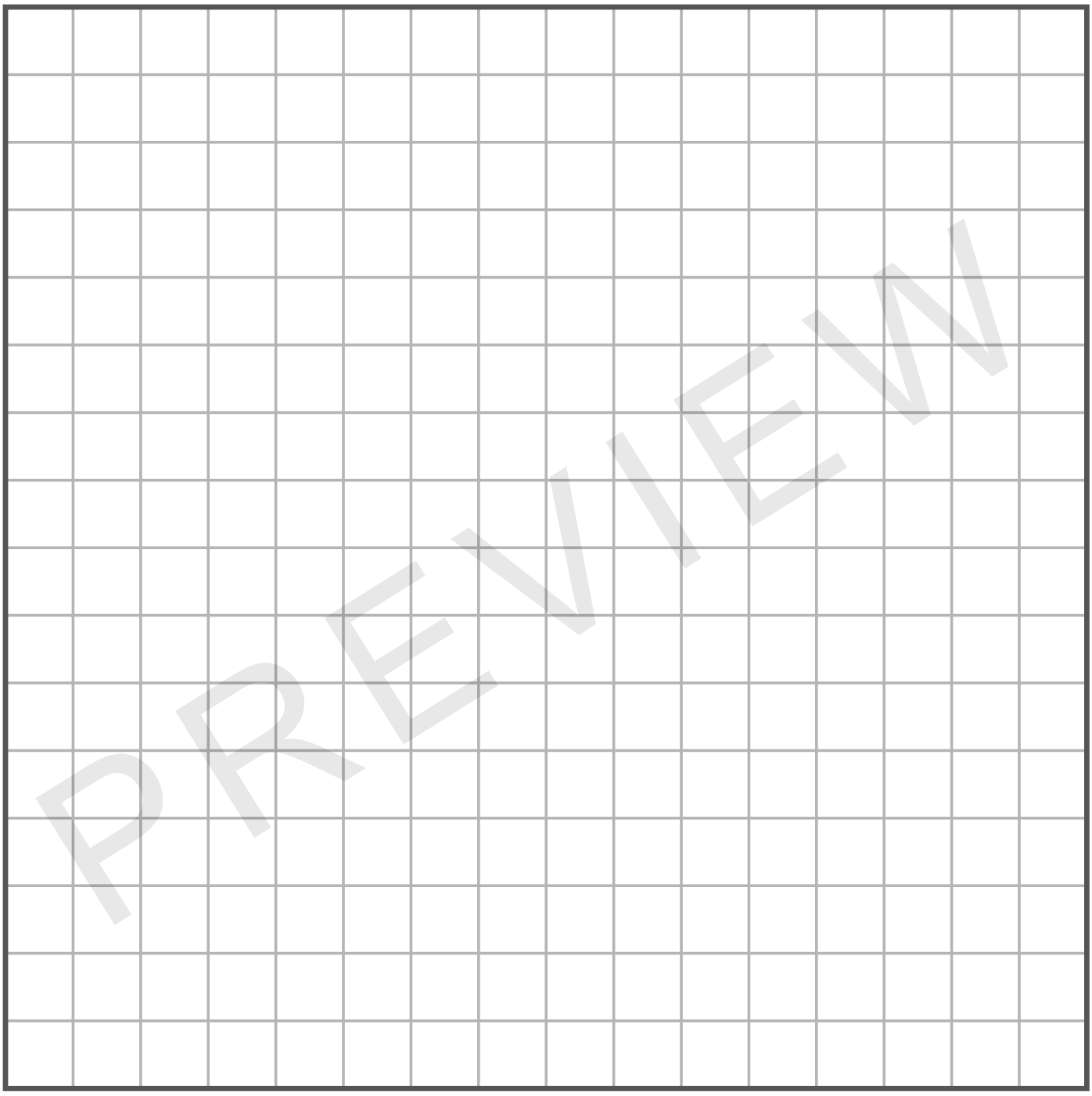
My biggest room is the _____

Preview - Bright Path Sped

My name _____

Make your best copy. Name every room.

My floor plan is called _____



PREVIEW

My plan has _____ rooms. All my rooms add up to _____ square units.

Preview - Bright Path Shed

My name _____

Think about your plan. Write.

The hardest part was ...

Area is ...

Perimeter is ...

I am proud of ...

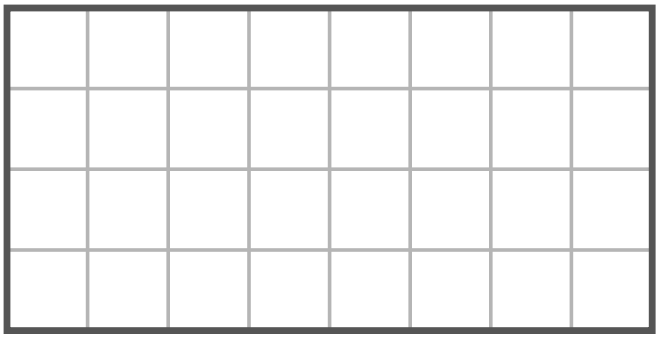
Next time I would change ...

PREVIEW

Preview : Bright Path Sped

My name _____

Same perimeter. Different shapes.

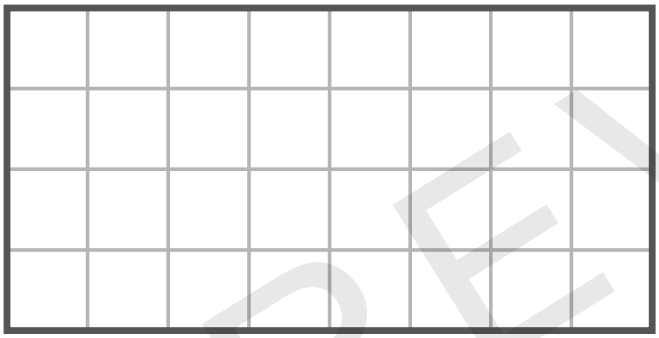


Perimeter 16 units

Long ____

Wide ____

Area ____

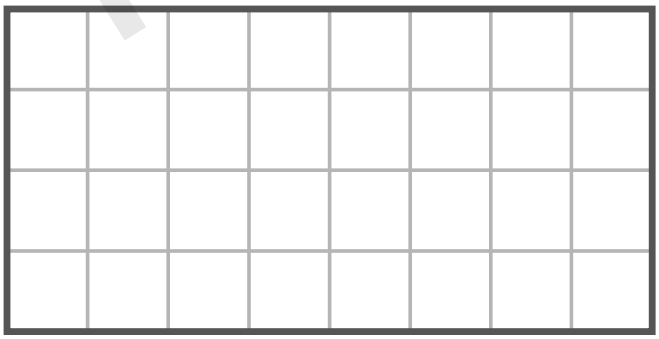


Perimeter 16 units

Long ____

Wide ____

Area ____



Perimeter 16 units

Long ____

Wide ____

Area ____

Which one has the biggest area? _____

PREVIEW

Sample Plan and Answer Check

The plan on page 6. It is an invented sample: no real child made it. Children's plans will differ; check their own numbers.

Room	Length	Width	Area (square units)	Perimeter (units)
Living room	8	5	8 x 5 = 40	8 + 5 + 8 + 5 = 26
Kitchen	5	5	5 x 5 = 25	5 + 5 + 5 + 5 = 20
Bedroom 1	5	4	5 x 4 = 20	5 + 4 + 5 + 4 = 18
Bedroom 2	4	4	4 x 4 = 16	4 + 4 + 4 + 4 = 16
Bathroom	3	2	3 x 2 = 6	3 + 2 + 3 + 2 = 10
Laundry	3	2	3 x 2 = 6	3 + 2 + 3 + 2 = 10
Hall	1	4	1 x 4 = 4	1 + 4 + 1 + 4 = 10
All rooms	–	–	40 + 25 + 20 + 16 + 6 + 6 + 4 = 117 square units	

Does the sample meet the project rules?

- 5 or more rooms: the plan has 7.
- One room with an area of 20 or more: the Living room, 8 x 5 = 40.
- One room with a perimeter of exactly 16: the Bedroom 2, 4 + 4 + 4 + 4 = 16.
- No overlap: the rooms fill the 13 by 9 home exactly, 13 x 9 = 117, the same as the room areas added.

Check a child's plan in four steps

- Read the plan: is every room a named rectangle on the grid with no overlap?
- Pick two rooms. Count the squares along one side and the other side, and match them to the key table.
- Find the area (count or multiply) and the perimeter (add four sides) yourself, and compare.
- If a number is off, ask the child to say how they found it before you fix anything.

My notes

PREVIEW

Key: Practice Plan and Finished Early

Children may list the sides in a different order. Check that all four sides are added.

Practice plan (page 9)

Room	Size	Area	Perimeter
Kitchen	4 by 3	4 x 3 = 12	4 + 3 + 4 + 3 = 14
Bedroom	6 by 3	6 x 3 = 18	6 + 3 + 6 + 3 = 18
Bathroom	3 by 3	3 x 3 = 9	3 + 3 + 3 + 3 = 12
Den	7 by 3	7 x 3 = 21	7 + 3 + 7 + 3 = 20

Same area, 12 (page 19)

Rectangle	Area	Perimeter
1 by 12	1 x 12 = 12	1 + 12 + 1 + 12 = 26
2 by 6	2 x 6 = 12	2 + 6 + 2 + 6 = 16
3 by 4	3 x 4 = 12	3 + 4 + 3 + 4 = 14

Any 3 of these. A rectangle can be turned: 3 by 4 and 4 by 3 are the same.

Same perimeter, 16 (page 20)

Rectangle	Perimeter	Area
1 by 7	1 + 7 + 1 + 7 = 16	1 x 7 = 7
2 by 6	2 + 6 + 2 + 6 = 16	2 x 6 = 12
3 by 5	3 + 5 + 3 + 5 = 16	3 x 5 = 15
4 by 4	4 + 4 + 4 + 4 = 16	4 x 4 = 16

Any 3 of these 4. The square has the biggest area.

Teacher notes

Practice plan: the four rooms fill a 10 by 6 grid, so the areas add to 60: 12 + 18 + 9 + 21 = 60. A child can use that to check.

PREVIEW

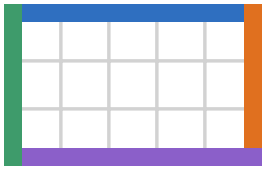
A Note Home: Our Floor Plan Project

One page to send home when you start the project.

Date _____ Class _____ Teacher _____

Dear families,

This week we are designing a floor plan on grid paper. Each room is a rectangle. For every room your child finds the **area**, the space inside, and the **perimeter**, the distance around. A room 5 squares long and 3 squares wide has an area of 5 x 3 = 15 square units and a perimeter of 5 + 3 + 5 + 3 = 16 units.



This week we are practicing

_____

_____

You can try this at home

Look for rectangles together: a table top, a rug, a window, a book cover. Ask: "How long? How wide? What is the distance around? How many squares would cover it?"

_____

_____

A note from me (your words)

_____

_____

_____

Thank you, (teacher) _____ Family signature, if your school asks for one _____

PREVIEW

Preview · Bright Path Sped

Class Roll-Up

One line for each child, so you can see the whole group at a glance. Use the roll-up to plan small groups.

Class _____ Date _____ Teacher _____

Student	Rooms	Areas right	Perimeters right	Rubric (of 20)	Next step

PREVIEW

Who needs area again

_____

_____

_____

Who needs perimeter again

_____

_____

_____

Ready for the finished-early pages

_____

_____

_____