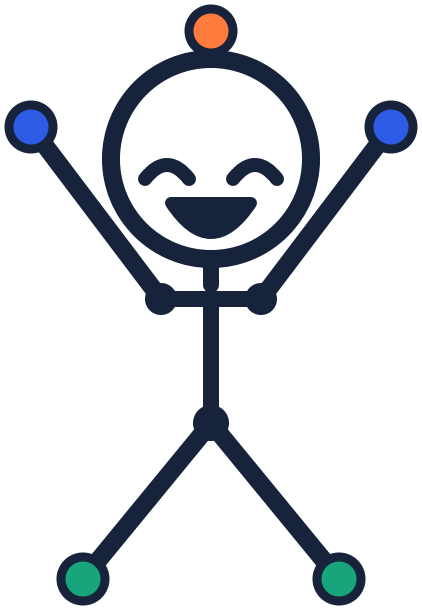
Young Innovators
FOR CHANGE
innovateyouth.org

A FULL-YEAR ENRICHMENT PROGRAM · GRADE 1

What Goes Together

36 weekly assignments, sorting, matching, patterns, and the reason things *belong together*



This book belongs to

_____

Teacher _____ School year _____

One assignment a week · two pages, front and back · about 20 to 30 minutes
Built to sit alongside the California Grade 1 math curriculum, not to replace it.

How This Book Works

A grown-up should read this page out loud before Week 1.



Hi. I am Pip.

I am made of **dots** and **lines**. In Week 20 you will draw lines too, between friends at a table.

One assignment a week, two pages

Page 1 has a note for the teacher about what the class is doing this week, a two-minute **Number Warm-Up**, then **one big sentence** saying what to do, then the picture to do it on.

Page 2 has more to try, a **Talk About It** question to answer out loud, a hint, and a ★ **Challenge Zone**.

Read the big sentence out loud

This book is for six-year-olds, and some of them will not read it on their own yet. That is expected and it is designed for. Every page has exactly **one** sentence that states the task, and the picture underneath it is the task. Read the sentence out loud and point at the picture.

Three rules for this book

1. Guessing and checking is allowed. Real mathematicians do it.
2. If you are stuck, say the problem out loud to somebody.
3. Some pages have **more than one right answer**. Finding a second one is better than finding the first one fast.

For the grown-up helping

The best question you can ask is not “is that right?” but **“how do you know?”** This whole year is about being able to say the reason two things go together, and a child who can point at the reason has done the work, even when the answer is wrong. The teacher guide has a line to say out loud for every week.

The Year at a Glance

Weeks 1–18. The last column is what the week works on, with its Grade 1 Common Core code where one fits.

WK	ASSIGNMENT	STRAND	IN CLASS THIS WEEK
TRIMESTER 1 · WEEKS 1–12			
1	**One Pile or the Other**	Sorting & Rules	Sorting and describing objects
2	**What Is the Same?**	Sorting & Rules	Comparing objects
3	**What Is Different?**	Sorting & Rules	Comparing objects
4	**Does It Belong?**	Sorting & Rules	Organizing objects into categories (1.MD.4)
5	**Sort It Two Ways**	Sorting & Rules	Organizing objects into categories (1.MD.4)
6	**One for Each**	Matching	Comparison word problems (1.OA.1)
7	**More, Fewer, or Same**	Matching	Comparison word problems (1.OA.1)
8	**Which Row Ran Out?**	Matching	Ordering three groups by matching
9	**What Comes Next?**	Patterns	Patterns and reasoning
10	**Find the Part That Repeats**	Patterns	Patterns and reasoning
11	**It Grows**	Patterns	Counting on to add (1.OA.5)
12	**Sorting Fair**	Sorting & Rules	Review & reasoning
TRIMESTER 2 · WEEKS 13–24			
13	**Line Them Up**	Order & Time	Ordering three objects by length (1.MD.1)
14	**Longer Than the Pencil**	Order & Time	Comparing lengths using a third object (1.MD.1)
15	**How Many Paper Clips?**	Order & Time	Length as same-size units (1.MD.2)
16	**Sort the Shapes**	Shape & Space	Defining attributes of shapes (1.G.1)
17	**What Makes It a Triangle?**	Shape & Space	Defining attributes of shapes (1.G.1)
18	**Two Shapes Make One**	Shape & Space	Composing shapes (1.G.2)

Meet the InnovaCritters

One of them sits at the top of every week. In weeks 20, 21, 34 and 36 they are the friends at the table, each with its letter. Their names are here and in the teacher guide, to say out loud. No week's page prints them. On a colored shape, the letter names the color: **R** red, **B** blue, **Y** yellow, **G** green.



Pod **Burr** **Plink** **Wade** **Cobble** **Grit** **Flick** **Zing** **Wisp** **Gust**

The Year at a Glance

Weeks 19–36. The last column is what the week works on, with its Grade 1 Common Core code where one fits.

WK	ASSIGNMENT	STRAND	IN CLASS THIS WEEK
19	**Cut It Fair**	Shape & Space	Halves and fourths (1.G.3)
20	**Around the Table**	Dots & Lines	Who sits next to whom
21	**Everybody Waves**	Dots & Lines	Counting every pair
22	**Do Not Touch the Same Color**	Dots & Lines	Coloring so touching parts differ
23	**Three Buckets**	Pictures & Data	Organizing data in three categories (1.MD.4)
24	**Which Bucket Has More?**	Pictures & Data	Interpreting data in three categories (1.MD.4)
TRIMESTER 3 · WEEKS 25–36			
25	**Getting There**	Steps & Paths	Finding a path on a grid
26	**The Short Way**	Steps & Paths	Counting and comparing steps
27	**Follow the Arrows**	Steps & Paths	Following steps in order
28	**Write the Arrows**	Steps & Paths	Finding an unknown number to add (1.OA.8)
29	**A Ten and Some More**	Numbers & Tens	Tens and ones (1.NBT.2)
30	**Ten More, Ten Less**	Numbers & Tens	Ten more, ten less (1.NBT.5)
31	**Rows of Ten**	Numbers & Tens	Counting to 120 (1.NBT.1)
32	**Every Way to Make 6**	Ways of Counting	Adding within 10: every way to make 6 (1.OA.6)
33	**Two Hats, Two Scarves**	Ways of Counting	Counting every combination
34	**Three Friends, Two Chairs**	Ways of Counting	Counting every pair
35	**First, Next, Last**	Order & Time	Telling time to the hour (1.MD.3)
36	**The Last Sort**	Sorting & Rules	Review & reasoning

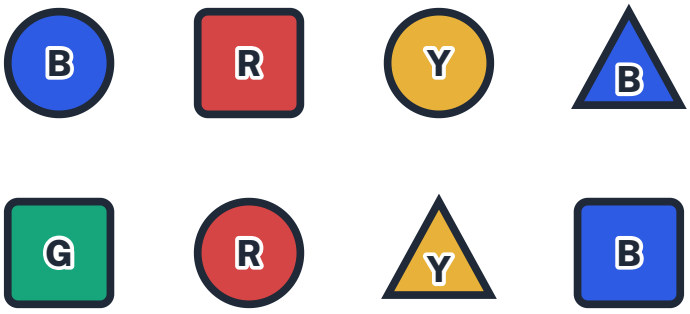
One Pile or the Other

The rule is given. Every object goes in exactly one pile, and none is left over.

IN CLASS THIS WEEK
Sorting and describing objects

NUMBER WARM-UP · 2 MINUTES
Count out loud to 20, then back down to 0.

Put every shape in one pile or the other.



Round

Not round

ROOM TO DRAW

More to try

Sort the same eight shapes again, with a new rule.

Blue **Not blue**

1. How many went in the first hoop?
2. How many went in the other one?
3. Did every shape find a home?

TALK ABOUT IT

Every shape had to go somewhere. Was there one that was hard to place?

Could a shape ever go in both hoops at once?



STUCK? TRY THIS

Touch each shape once, and say the hoop out loud before you draw it.

★ CHALLENGE ZONE

Sort them by **round or not round** and by **blue or not blue** at the same time, into groups like **round and blue**. How many groups do you need?

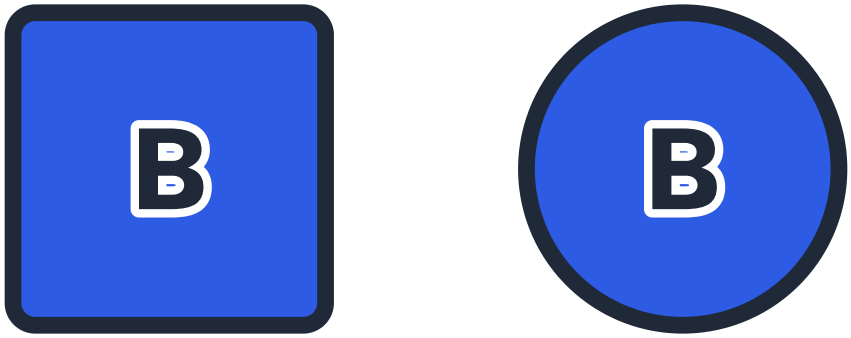
What Is the Same?

Saying out loud how two things are the same. The answer is a sentence, not a word.

IN CLASS THIS WEEK
Comparing objects

NUMBER WARM-UP · 2 MINUTES
Say the numbers from 10 to 20.

Say one way these two are the same.



Write it

They are both _____.

ROOM TO DRAW

More to try



They are both _____.



They are both _____.

TALK ABOUT IT

Two things can be the same in more than one way. Find a second way for one pair.

Pick any two things in this room. Say one way they are the same.



STUCK? TRY THIS

Look at the color first. Then look at the shape. Then look at the size.

★ CHALLENGE ZONE

Find two things in the room that are the same in **three** ways.

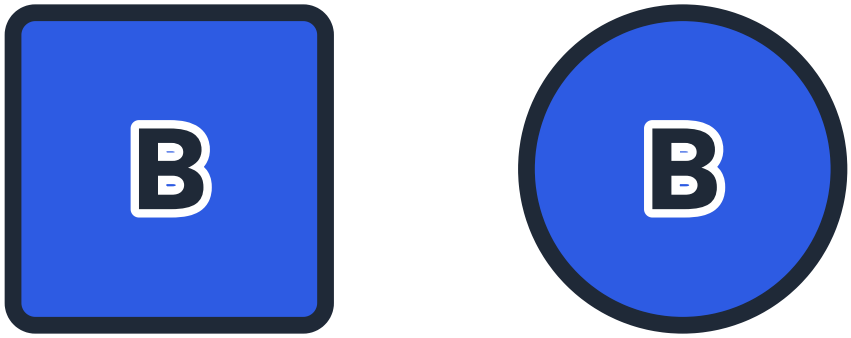
What Is Different?

The same pairs as last week, asked the other way. Same and different are one skill.

IN CLASS THIS WEEK
Comparing objects

NUMBER WARM-UP · 2 MINUTES
Say the numbers from 20 down to 10.

Say one way these two are different.



Write it

One is _____ and one is not.

ROOM TO DRAW

More to try



They are different because

_____



They are different because

_____

TALK ABOUT IT

Last week you said how two things were the same. This week you said how they were different. Can both be true about the same two things?

Pick two crayons. Say one way they are the same, and one way they are different.



STUCK? TRY THIS

Say what the first one is. Then say what the second one is. Then look for the part that changed.

★ CHALLENGE ZONE

Find two things that are different in only **one** way. Just one, and everything else the same.

WEEK 4 SORTING & RULES

Does It Belong?

Using a rule on new shapes. Yes or no, with a reason.

IN CLASS THIS WEEK
Organizing objects into categories (1.MD.4)

NUMBER WARM-UP · 2 MINUTES
Count by 2s to 20.

Which of these belong in the group?

The rule: every shape here has three corners.



Now these



Circle the ones that belong.

ROOM TO DRAW

More to try

New rule: every shape here is **red**.



1. Which one does not belong?
2. Say why, out loud.
3. How many do belong?

TALK ABOUT IT

A shape can follow one rule and break a different one. Show one.

Make up a rule. Ask someone to find a thing that belongs.

STUCK? TRY THIS

Say the rule out loud first. Then look at the shape and ask, is that true about this one?

★ CHALLENGE ZONE

Here is a rule: **three corners and red**. Draw a shape that follows half of it.

Sort It Two Ways

The same objects, a second rule, and different piles. Sorting is a choice.

IN CLASS THIS WEEK
Organizing objects into categories (1.MD.4)

NUMBER WARM-UP · 2 MINUTES
Count by 5s to 50.

Sort them by color.



Red

Blue

ROOM TO DRAW

Now a new rule

Round	Not round

1. Did the same shapes end up together both times?
2. Name one shape that moved.

TALK ABOUT IT

The shapes did not change. The piles did. What changed?

Sort the crayons in the room two different ways.



STUCK? TRY THIS

Do the first rule all the way through. Then start over with the new one.

★ CHALLENGE ZONE

Find a third rule for the same six shapes.

WEEK 6 MATCHING

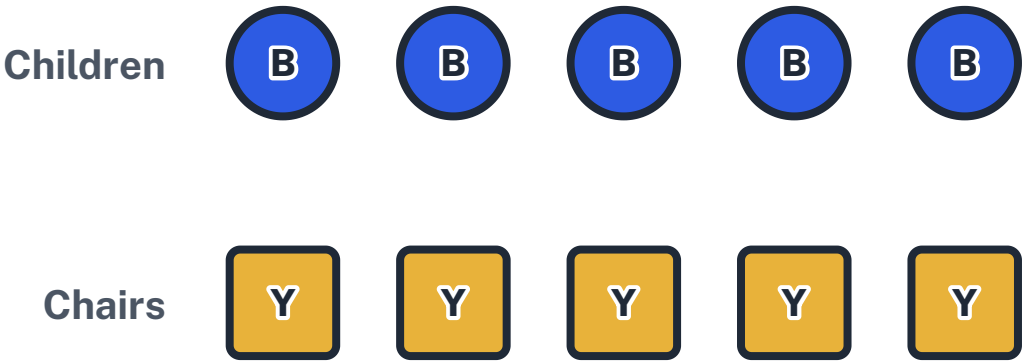
One for Each

One-to-one matching. Enough or not enough, decided without counting either row.

IN CLASS THIS WEEK
Comparison word problems (1.OA.1)

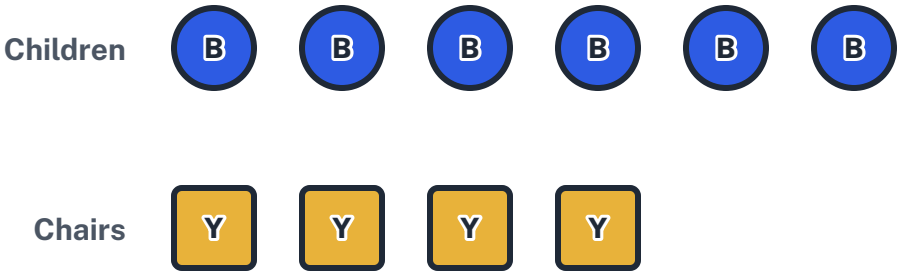
NUMBER WARM-UP · 2 MINUTES
Count on from 7 up to 15.

Draw a line to match each one.



ROOM TO DRAW

More to try



1. Is there a chair for every child?
2. How many children have no chair?
3. How many more chairs do you need?

TALK ABOUT IT

You can answer without counting either row. How?

In the classroom, check there is a chair for every child.



STUCK? TRY THIS

Draw one line at a time. Cross off the two you just used.

★ CHALLENGE ZONE

There are 6 children and 4 chairs. Two more children come in. How many **more** chairs do you need now?

WEEK 7 MATCHING

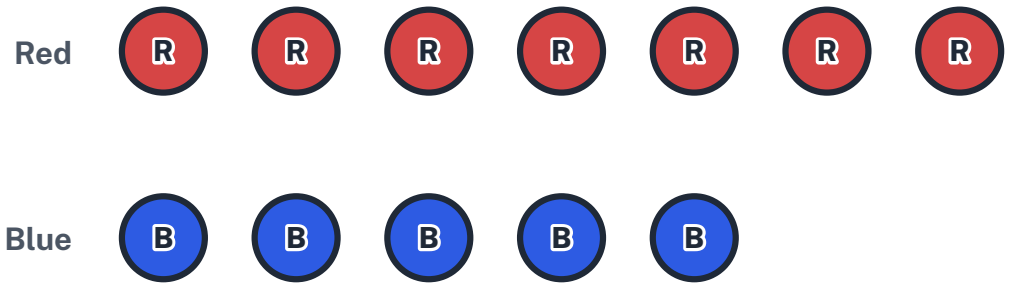
More, Fewer, or Same

Comparing two sets by pairing them off, not by counting them.

IN CLASS THIS WEEK
Comparison word problems (1.OA.1)

NUMBER WARM-UP · 2 MINUTES
Which is more, 8 or 5? Say it out loud.

Which row has more?



ROOM TO DRAW

More to try

Yellow 

Green 

1. Which row has more?
2. How do you know without counting?

Blue 

Red 

3. Which row has fewer?
4. How many more are in the long row?

TALK ABOUT IT

Pair them up and one row runs out first. What does that tell you?

Is there a row here with the same number as another row?



STUCK? TRY THIS

Match one to one until a row runs out. The row still going has more.

★ CHALLENGE ZONE

Two rows have the same number. You take one away from each. Do they still have the same number?

WEEK 8 MATCHING

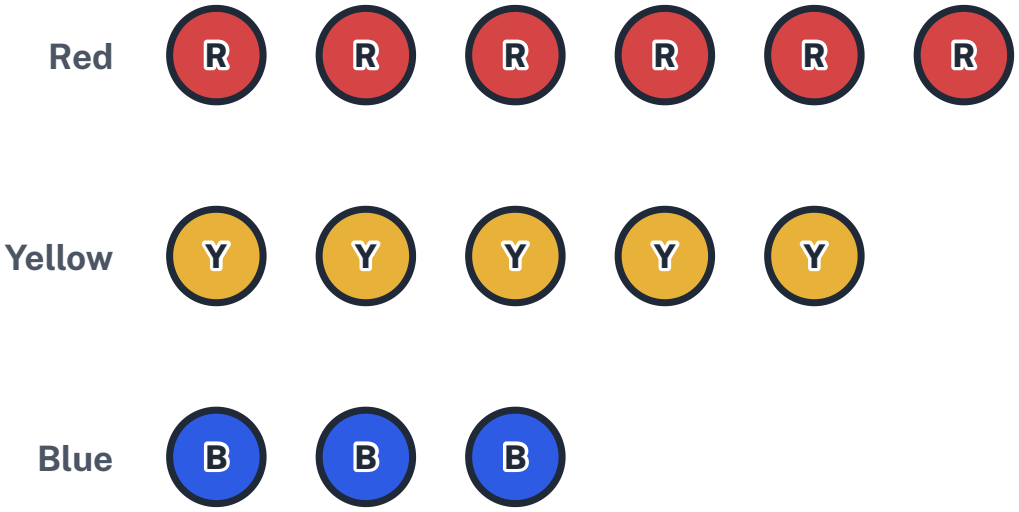
Which Row Ran Out?

Three sets put in order by pairing them against each other, none of them counted.

IN CLASS THIS WEEK
Ordering three groups by matching

NUMBER WARM-UP · 2 MINUTES
Count by 10s to 100.

Put the three rows in order.



ROOM TO DRAW

More to try

Write the color of each row.

1. Most: _____
2. In the middle: _____
3. Fewest: _____

You never had to count. You matched twice.

TALK ABOUT IT

Red beat yellow. Yellow beat blue. Does that tell you about red and blue?

You never matched red with blue. Why did you not need to?



STUCK? TRY THIS

Match red with yellow first. Then match yellow with blue. Write down who won each time.

★ CHALLENGE ZONE

Four rows now. Red beats yellow, yellow beats blue, and blue beats green. How many matchings is that? Which row has the fewest?

WEEK 9 PATTERNS

What Comes Next?

Repeating patterns, AB, AAB and ABB. The child continues the strip.

IN CLASS THIS WEEK
Patterns and reasoning

NUMBER WARM-UP · 2 MINUTES
Clap this: clap, clap, rest. Do it three times.

Draw the next two.





ROOM TO DRAW

More to try



1. What would come after those two?
2. Make your own pattern in the empty boxes below.

TALK ABOUT IT

Say the first pattern out loud as you point. What did your voice do?

Find a pattern in this room. Say it out loud.



STUCK? TRY THIS

Point and say each one out loud. Your voice will find the pattern before your eyes do.

★ CHALLENGE ZONE

Make a pattern that uses **three** different shapes before it repeats.

Find the Part That Repeats

Finding the part of a pattern that repeats. That part is what makes it a pattern.

IN CLASS THIS WEEK
Patterns and reasoning

NUMBER WARM-UP · 2 MINUTES
Count by 2s to 20, then by 5s to 25.

Circle the part that repeats.



ROOM TO DRAW

More to try



1. How many shapes are in the part that repeats?
2. How many times does it repeat here?
3. Draw what comes next.

TALK ABOUT IT

Two patterns can look different and repeat the same way. Show one.

How short can the repeating part be? How long?



STUCK? TRY THIS

Say the pattern out loud. When you hear yourself start over, that is the end of the part.

★ CHALLENGE ZONE

The pattern above repeats every **4** shapes. What is the 12th shape? What is the 16th?

WEEK 11 PATTERNS

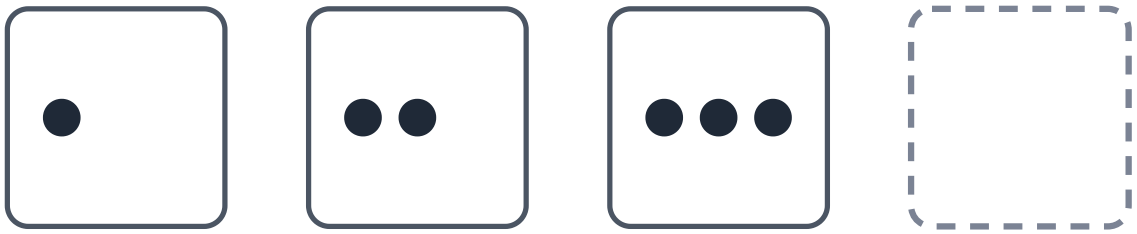
It Grows

A growing pattern, not a repeating one. Each stage is bigger than the last.

IN CLASS THIS WEEK
Counting on to add (1.OA.5)

NUMBER WARM-UP · 2 MINUTES
Count on from 4 to 12.

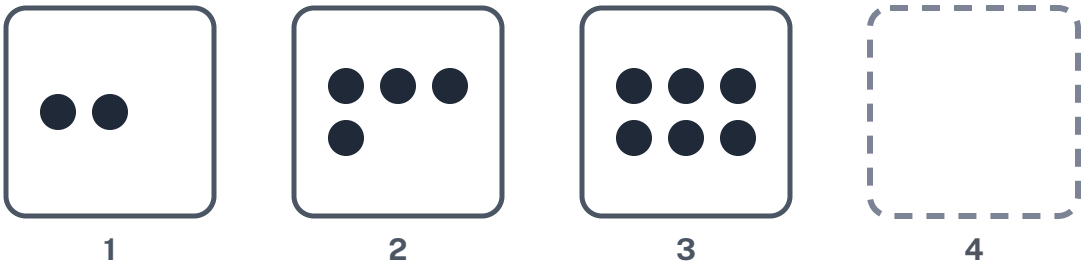
Draw the next one.



1 2 3 4

ROOM TO DRAW

More to try



1. How many dots in the one you drew?
2. How many more each time?
3. Would this pattern ever start over?

TALK ABOUT IT

This pattern does not repeat. Say how it is different from last week's.

In this pattern, how many dots would the 5th picture have?



STUCK? TRY THIS

Count the dots in each picture. Write the number under it. Then look at the numbers.

★ CHALLENGE ZONE

A pattern goes 1, 3, 5, 7. Draw the next picture and say how many dots.

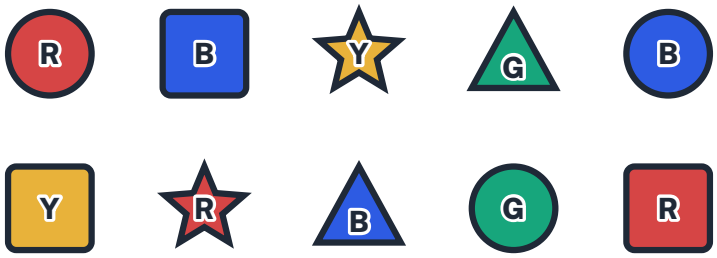
Sorting Fair

Review of weeks 1 to 11. Every kind of question the year has asked so far.

IN CLASS THIS WEEK
Review & reasoning

NUMBER WARM-UP · 2 MINUTES
Count to 30. Then say the numbers with a 0 at the end.

Sort these into two groups your own way.



Write your rule here:

ROOM TO DRAW

More to try

1. Which row has more?

Red R R R R R

Blue B B B B B B B B

2. Draw the next two.



3. Say one way these are the same, and one way they are different.



TALK ABOUT IT

Which of these was easiest? Which was hardest?

You picked your own rule at the top. Could someone else have picked a different one and still been right?

STUCK? TRY THIS

Go back and look at the week the question came from. The pages are still in this book.

★ CHALLENGE ZONE

Sort the ten shapes into **three** groups so that no group is empty.

Line Them Up

Three objects in order by length (1.MD.1). Compared directly, never measured.

IN CLASS THIS WEEK
Ordering three objects by length (1.MD.1)

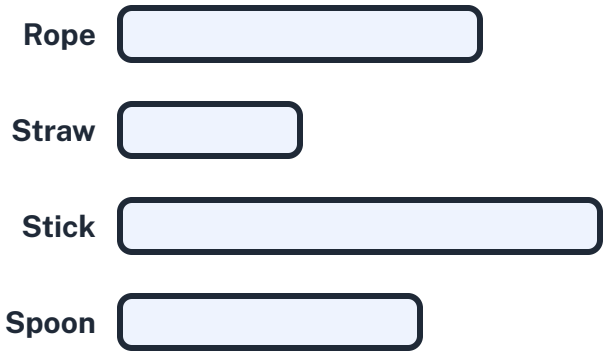
NUMBER WARM-UP · 2 MINUTES
Which is more, 6 or 9?

Write 1 on the shortest and 3 on the longest.



ROOM TO DRAW

More to try



1. Write 1, 2, 3, 4 from shortest to longest.
2. Which is longer, the straw or the spoon?
3. Which two are closest in length?

TALK ABOUT IT

You did not use a ruler. How did you know?

Line up three things on your desk from shortest to longest.



STUCK? TRY THIS

Put your finger at the left end of two bars. The one that keeps going is longer.

★ CHALLENGE ZONE

Five things are already in a line from shortest to longest. How many times do you compare two side by side to check?

Longer Than the Pencil

Indirect comparison (1.MD.1). Two things compared using a third that touches both.

IN CLASS THIS WEEK
Comparing lengths using a third object (1.MD.1)

NUMBER WARM-UP · 2 MINUTES
Count back from 12 to 3.

Which one is longer?

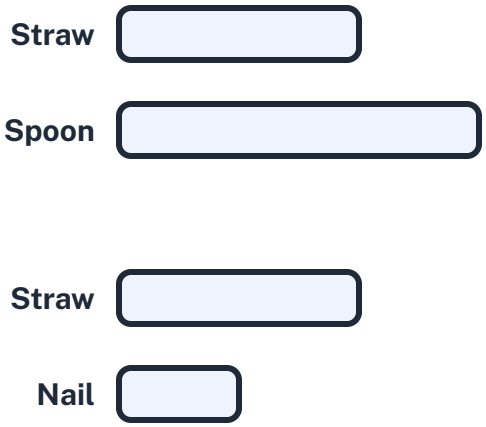


Finish the sentence

The rope is longer than the _____.

ROOM TO DRAW

More to try



1. Which is longer, the spoon or the nail?
2. Did you ever see them next to each other?
3. How did you know?

TALK ABOUT IT

You never put the rope and the clip side by side, but you know which is longer. Say why that works.

Find two things too big to move. Use a piece of string to compare them.



STUCK? TRY THIS

One thing is in both pictures. Use it to talk about the other two.

★ CHALLENGE ZONE

The spoon is longer than the straw. The straw is longer than the nail. Is the nail longer than the spoon? Say how you know.

How Many Paper Clips?

Length as a row of same-size units laid end to end, with no gaps (1.MD.2).

IN CLASS THIS WEEK
Length as same-size units (1.MD.2)

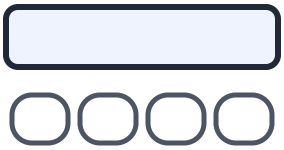
NUMBER WARM-UP · 2 MINUTES
Count by 1s from 10 to 20.

How many clips long is it?



ROOM TO DRAW

More to try



This one is _____ clips long.



1. How many clips is this one?
2. How many more clips than the one with 4?

TALK ABOUT IT

The clips have to touch, with no space between them. What goes wrong if you leave gaps?

Measure your book in paper clips. Then in erasers. Why are the numbers different?



STUCK? TRY THIS

Put your finger on the first clip and count along without lifting it.

★ CHALLENGE ZONE

Something is 8 clips long. Each clip is 2 erasers long. How many erasers long is it?

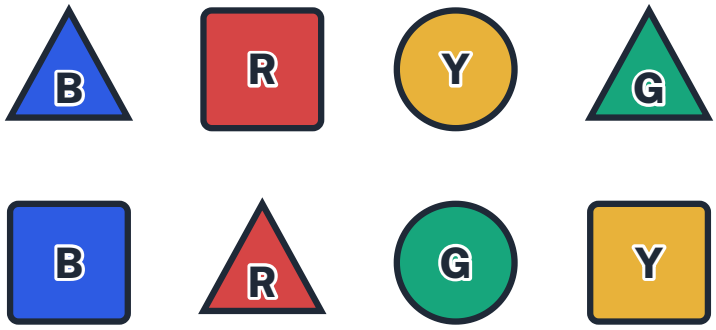
Sort the Shapes

Shapes into piles by a rule the page states (1.G.1). The first shape week.

IN CLASS THIS WEEK
Defining attributes of shapes (1.G.1)

NUMBER WARM-UP · 2 MINUTES
Count by 2s to 20.

Put the shapes with three sides here.



Three sides

Not three sides

ROOM TO DRAW

More to try

New rule: **four sides**.

Four sides	Not four sides

1. How many shapes have three sides?
2. How many have four?
3. How many have no sides at all?

TALK ABOUT IT

A circle has no sides and no corners. Is it still a shape?

Find something in this room with four sides.



STUCK? TRY THIS

Touch each side with your finger and count out loud as you go.

★ CHALLENGE ZONE

Draw a shape with **five** sides. How many corners does it have?

WEEK 17 SHAPE & SPACE

What Makes It a Triangle?

What makes a triangle a triangle (1.G.1). Three sides matter. Color does not.

IN CLASS THIS WEEK
Defining attributes of shapes (1.G.1)

NUMBER WARM-UP · 2 MINUTES
Say the numbers from 15 to 25.

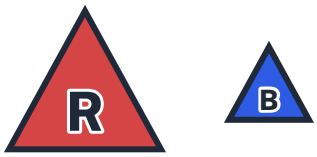
Color every shape that is a triangle.



ROOM TO DRAW

More to try

Two of these are triangles. They are not the same color and they are not the same size.



1. Are they both triangles?
2. What makes a triangle a triangle?
3. Does the color matter? Does the size?

TALK ABOUT IT

A big red triangle and a small blue one are both triangles. What has to be true, and what does not?

Name something about a square that does not matter.



STUCK? TRY THIS

Count the sides. Then count the corners. Color does not help you here.

★ CHALLENGE ZONE

Draw a triangle that does not look like the ones on this page, and is still a triangle.

WEEK 18 SHAPE & SPACE

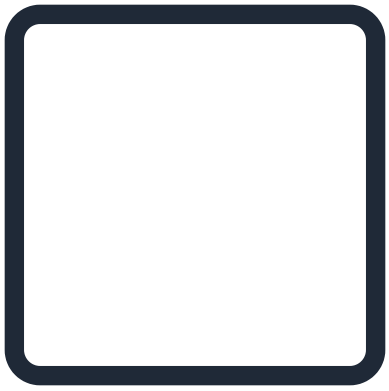
Two Shapes Make One

Composing shapes (1.G.2). Two pieces put together and the whole named.

IN CLASS THIS WEEK
Composing shapes (1.G.2)

NUMBER WARM-UP · 2 MINUTES
Count on from 9 to 17.

Draw two shapes that make this one.

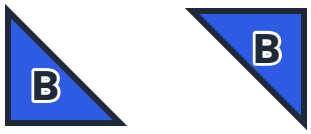


Draw your two pieces here

ROOM TO DRAW

More to try

Two of these triangles make a square.



1. How many triangles make one square?
2. How many triangles make two squares?
3. Can two squares make a triangle?

TALK ABOUT IT

You cut a square into two pieces. Is the amount of paper the same?

Use two shapes to make a shape with more corners than either one.



STUCK? TRY THIS

With a grown-up and safety scissors, cut a square of paper corner to corner. Look at what you get.

★ CHALLENGE ZONE

Four small squares make one big square. How many small squares make **two** big squares?

WEEK 19 SHAPE & SPACE

Cut It Fair

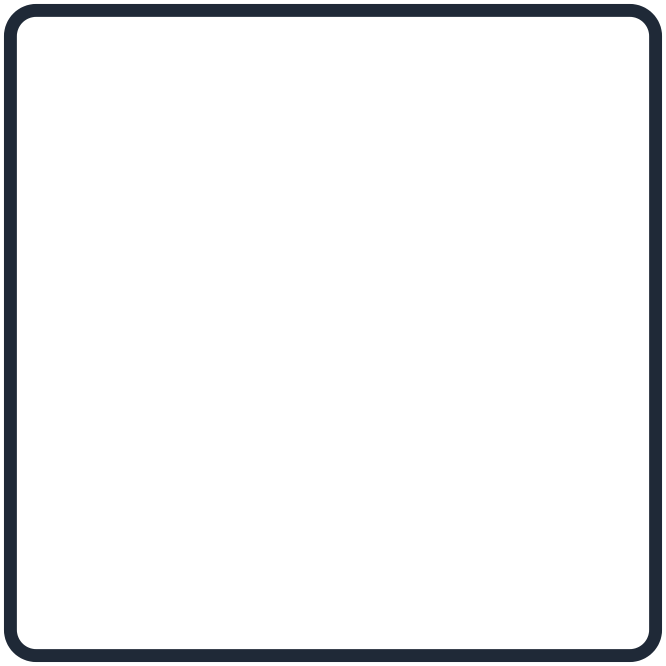
Halves and fourths by folding (1.G.3). Equal parts, decided by matching them up.

IN CLASS THIS WEEK
Halves and fourths (1.G.3)

NUMBER WARM-UP · 2 MINUTES
Count by 5s to 30.

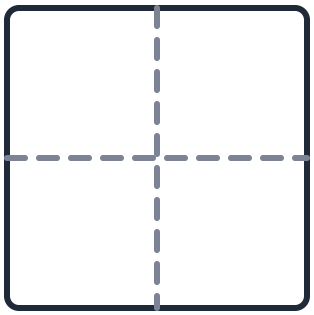
Fold it, then draw the fold line.

Your teacher will give you a paper square to fold.

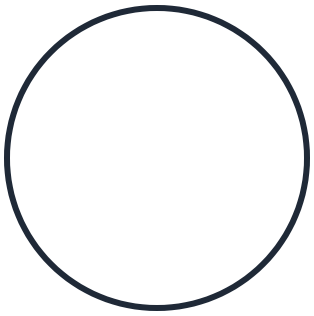


ROOM TO DRAW

More to try



1. How many equal parts now?
2. Is one part more than half, or less?
3. How many of these parts make the whole square?



Draw one line that cuts this one into two equal parts.

TALK ABOUT IT

Equal parts have to be the same size. How can you check without a ruler?

Share a paper square with a friend so it is fair. How did you do it?



STUCK? TRY THIS

Fold the paper and hold it up to the light. If the edges line up, the parts are equal.

★ CHALLENGE ZONE

Fold a square into four equal parts in a way that is **not** four little squares.

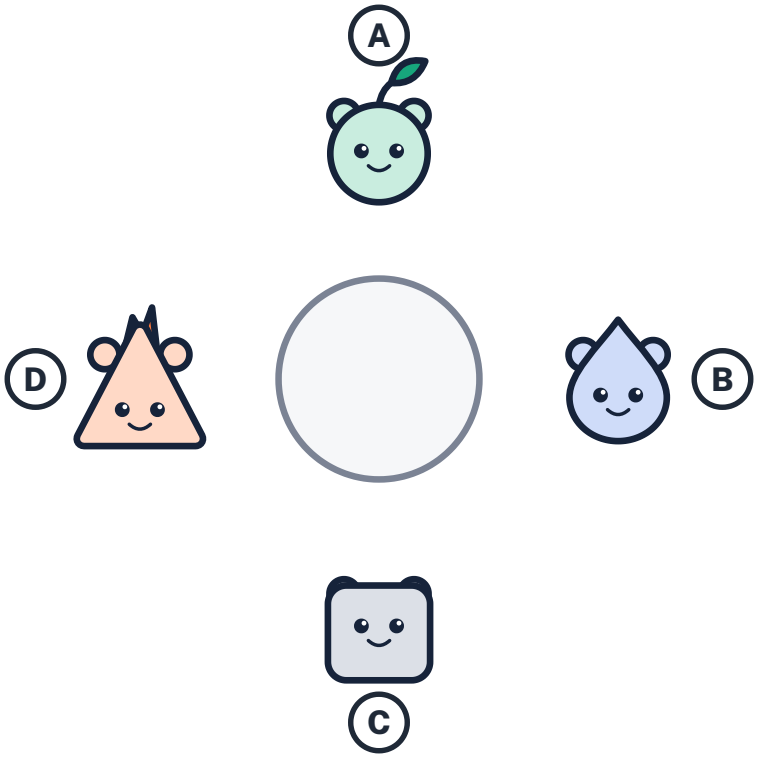
Around the Table

A picture of who sits next to who, drawn with dots and lines.

IN CLASS THIS WEEK
Who sits next to whom

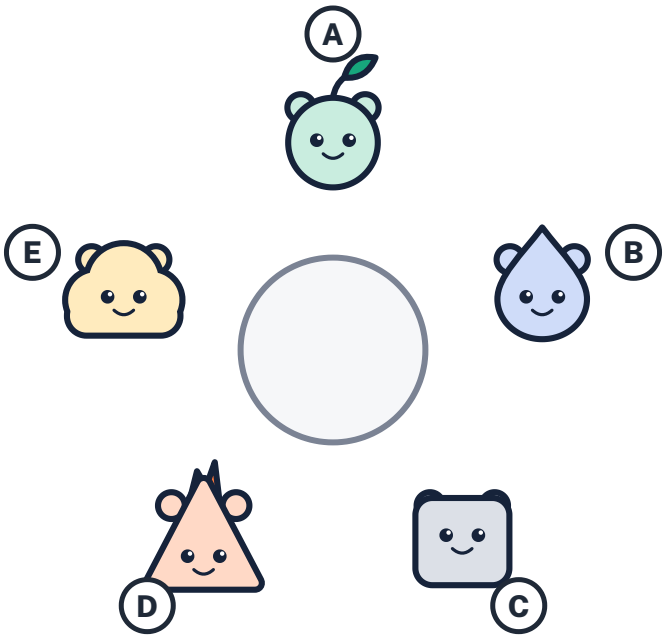
NUMBER WARM-UP · 2 MINUTES
What is 6 + 4? What is 4 + 6?

Draw a line for every two friends who sit side by side.



ROOM TO DRAW

More to try



1. How many friends does A sit beside?
2. Does everyone sit beside the same number of friends?
3. How many lines did you draw in all?

TALK ABOUT IT

At a round table, does everyone have the same number of neighbors?

What if the table were a long straight one instead? Who would change?

STUCK? TRY THIS

Start at A and go around the table one way. Then go back the other way.

★ CHALLENGE ZONE

Six friends at a round table. How many lines will you draw? Say the number before you draw them.

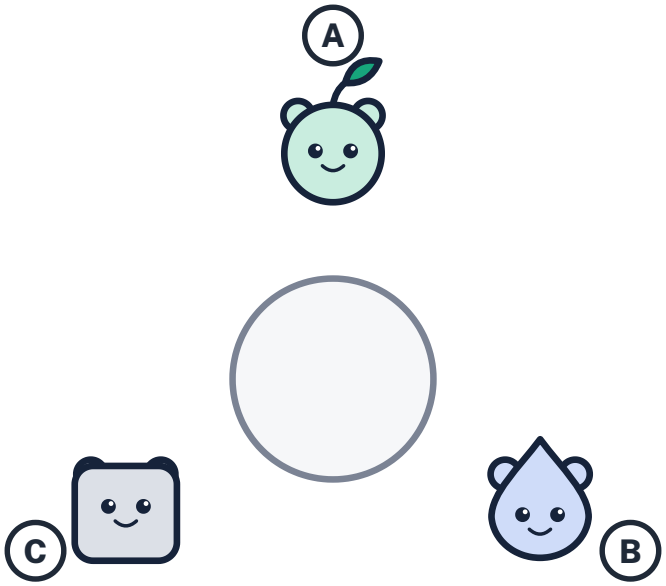
Everybody Waves

Three friends, every wave drawn once, and then four.

IN CLASS THIS WEEK
Counting every pair

NUMBER WARM-UP · 2 MINUTES
What is 3 + 3? What is 3 + 3 + 3?

Draw every wave one time only.

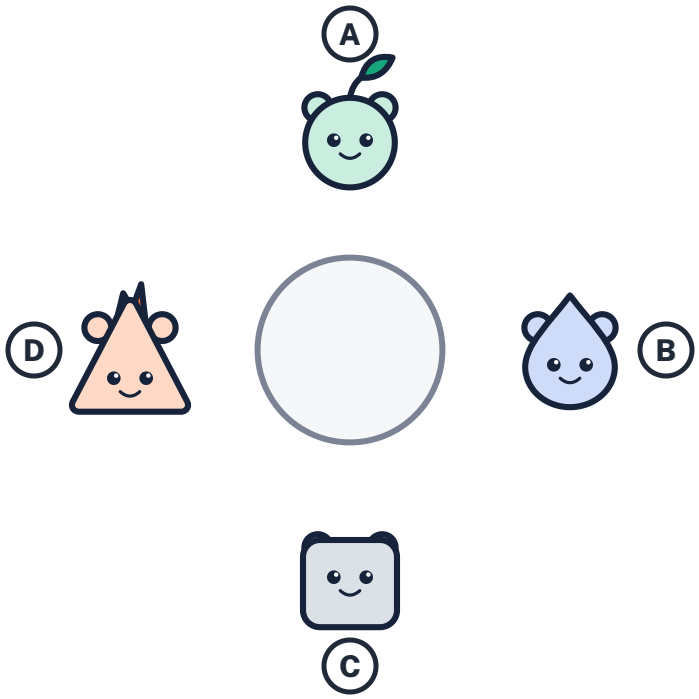


Count them

You drew _____ waves.

ROOM TO DRAW

More to try



1. How many waves now?
2. How many waves does each friend send?
3. Did you draw any wave twice?

TALK ABOUT IT

On this page, one line between A and B means A and B wave at each other. Why is that one line, not two?

Wave at everyone in your group. Count the lines you would draw.

STUCK? TRY THIS

Go in order. Do all of A's waves first, then all of B's new ones.

★ CHALLENGE ZONE

Five friends. Draw it, then count. Is it more or less than double the answer for four?

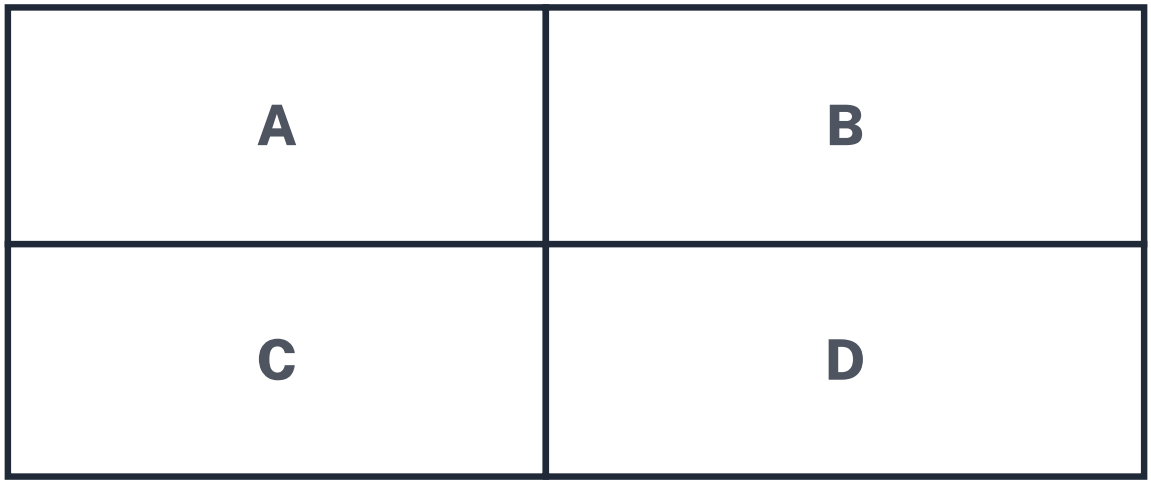
Do Not Touch the Same Color

Coloring so no two touching parts match. A corner is not touching.

IN CLASS THIS WEEK
Coloring so touching parts differ

NUMBER WARM-UP · 2 MINUTES
Count by 10s to 100, then back to 0.

Color it so no two touching parts match.

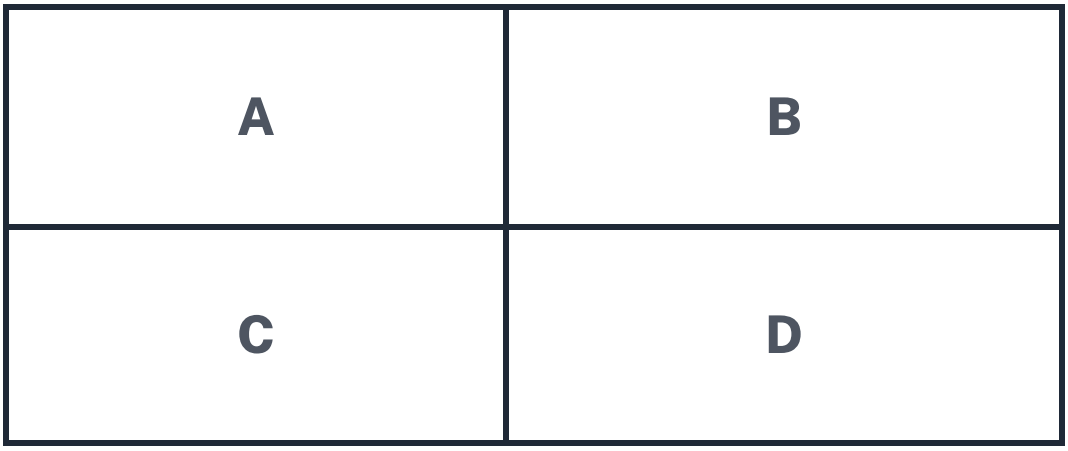


ROOM TO DRAW

More to try

1. How many colors did you use?
2. Do A and D touch? Can they be the same color?
3. Find two parts that touch. Are they different colors?

Now color it again with a different set of colors.



TALK ABOUT IT

Two parts that only meet at a corner are not touching. Does that change anything here?

Look at a map your teacher shows you. Are any two touching places the same color?



STUCK? TRY THIS

Color one part. Then look at everything it touches and pick something else for those.

★ CHALLENGE ZONE

Can you do this whole picture with only **two** colors? Try it, and say what happened.

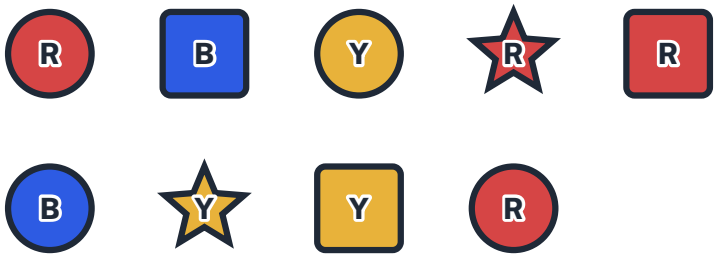
Three Buckets

Sorting into three categories and drawing what you found (1.MD.4).

IN CLASS THIS WEEK
Organizing data in three categories (1.MD.4)

NUMBER WARM-UP · 2 MINUTES
Count to 15 and back down to 5.

Sort them into the three buckets.



Circles	Squares	Stars

ROOM TO DRAW

More to try

Draw one dot for each shape you found.

Circles

Squares

Stars

1. How many circles?
2. How many shapes in all?
3. Which bucket got the most?

TALK ABOUT IT

Every shape went in exactly one bucket. Why does that matter?

Sort the crayons in your box by color. How many buckets do you need?



STUCK? TRY THIS

Cross off each shape as you put it in a bucket, so you do not count it twice.

★ CHALLENGE ZONE

Sort the same nine shapes by **color** instead: red, blue and yellow. How many are in each bucket?

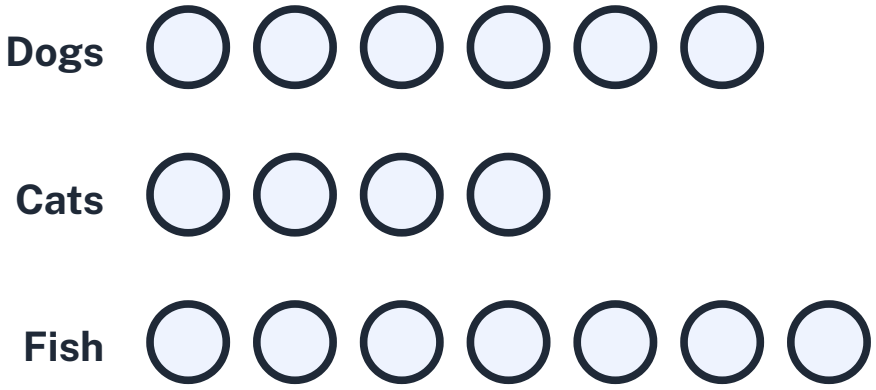
Which Bucket Has More?

Reading a picture graph back and comparing its bars (1.MD.4).

IN CLASS THIS WEEK
Interpreting data in three categories (1.MD.4)

NUMBER WARM-UP · 2 MINUTES
What is 5 + 3? What is 8 - 3?

Which bucket has the most?



ROOM TO DRAW

More to try

1. Which one has the fewest?
2. How many more fish than cats?
3. How many pets in all?
4. Are there more dogs than cats and fish together?

TALK ABOUT IT

You can answer the first question without counting. How?

Make a picture like this for something in the classroom.



STUCK? TRY THIS

Put your finger at the end of two rows. The row that reaches farther has more.

★ CHALLENGE ZONE

Two more cats arrive. Now which bucket has the most? Say the answer before you draw them.

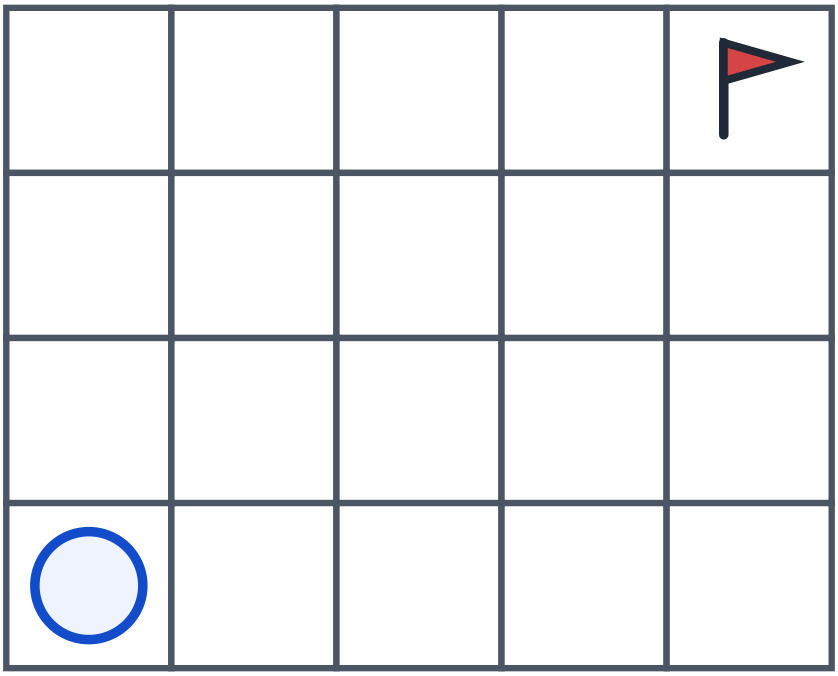
Getting There

Any path from the start to the flag on a small grid, drawn by the child.

IN CLASS THIS WEEK
Finding a path on a grid

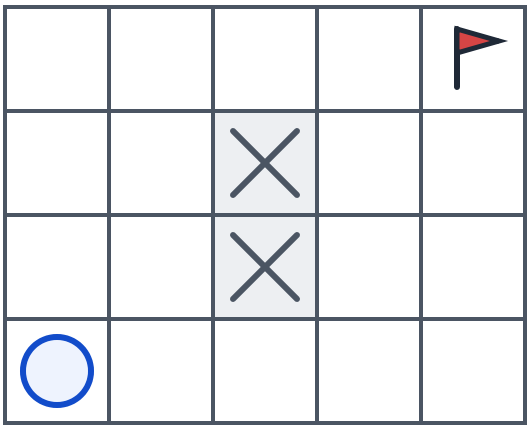
NUMBER WARM-UP · 2 MINUTES
Count on from 8 to 14.

Draw a path from the dot to the flag.



ROOM TO DRAW

More to try



1. Two squares are blocked. Draw a path around them.
2. Did your path have to get longer?
3. Draw a second path that is different from your first.

TALK ABOUT IT

There is more than one right answer here. How many did you find?

Tell how you would draw the path from your desk to the door.



STUCK? TRY THIS

Move one square at a time, up, down, left or right. No jumping.

★ CHALLENGE ZONE

Block **two** more squares so that **no** path can get through.

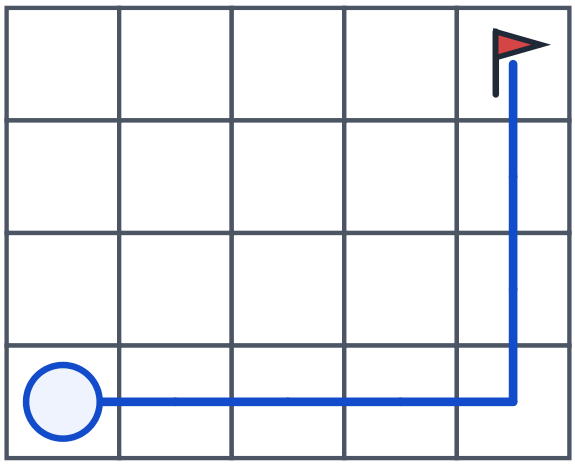
The Short Way

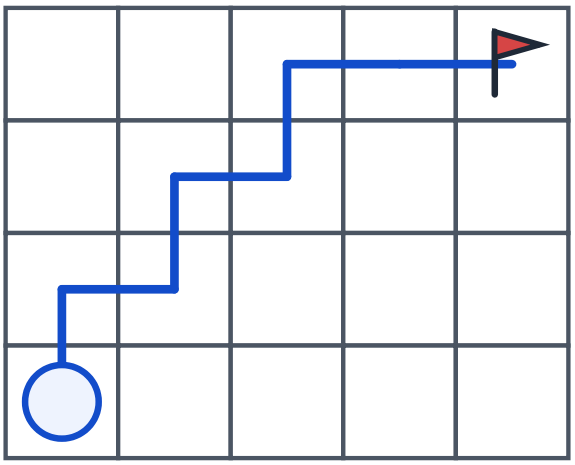
Two drawn paths, each one counted. They turn out to be the same length.

IN CLASS THIS WEEK
Counting and comparing steps

NUMBER WARM-UP · 2 MINUTES
What is 7 + 2? What is 9 - 2?

Count the steps on each path.





ROOM TO DRAW

More to try

1. How many steps on the first path?
2. How many steps on the second?
3. Is one shorter, or are they the same?
4. Can you find a path with fewer steps than both?

TALK ABOUT IT

Both paths start and end in the same place. Say what that tells you.

Is the path that looks longer always the one with more steps?



STUCK? TRY THIS

Put a dot on every square the path goes through, then count the dots.

★ CHALLENGE ZONE

Every path from the dot to the flag has the same number of steps, as long as you never go back. Say why.

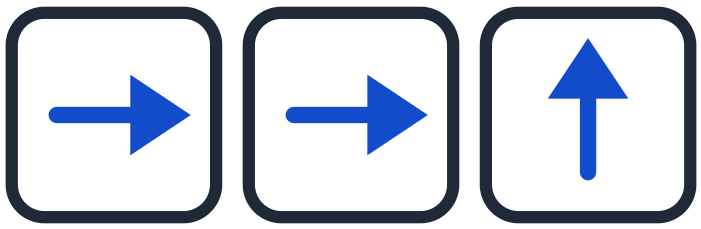
Follow the Arrows

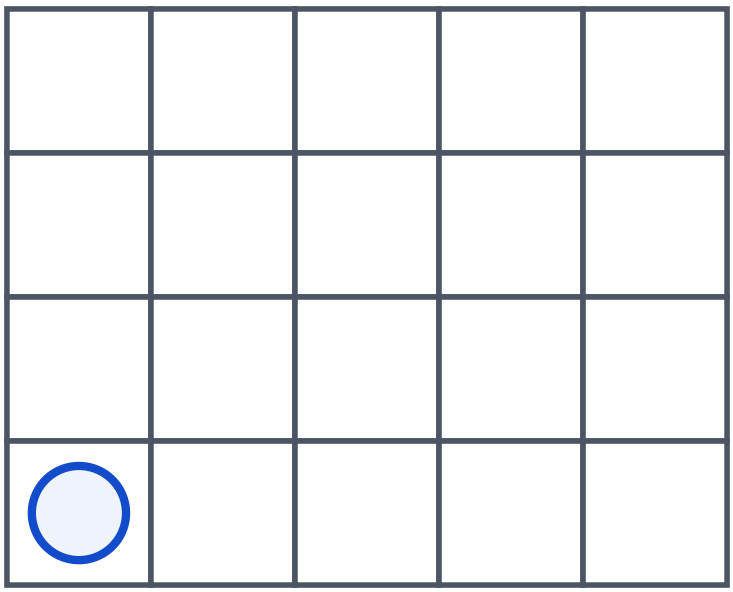
Three arrows done in order, and the landing square colored.

IN CLASS THIS WEEK
Following steps in order

NUMBER WARM-UP · 2 MINUTES
What is 4 + 4? What is 8 - 4?

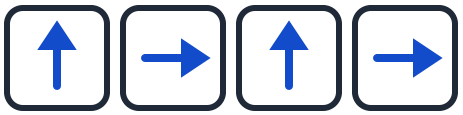
Do the arrows and color where you land.

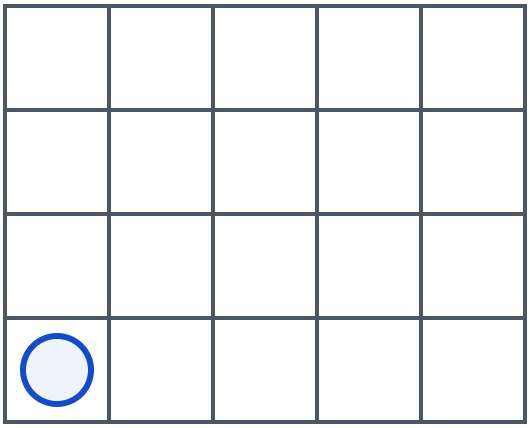




ROOM TO DRAW

More to try





1. Where did you land this time?
2. How many steps up in all?
3. Would a different order land you in the same square?

TALK ABOUT IT

You did the arrows in order. Try the same arrows in a different order. Where do you end up?

Give a friend three arrows and see where they land.



STUCK? TRY THIS

Do one arrow at a time and put your finger on the new square before you read the next one.

★ CHALLENGE ZONE

Write **four** arrows that bring you back to the square you started on.

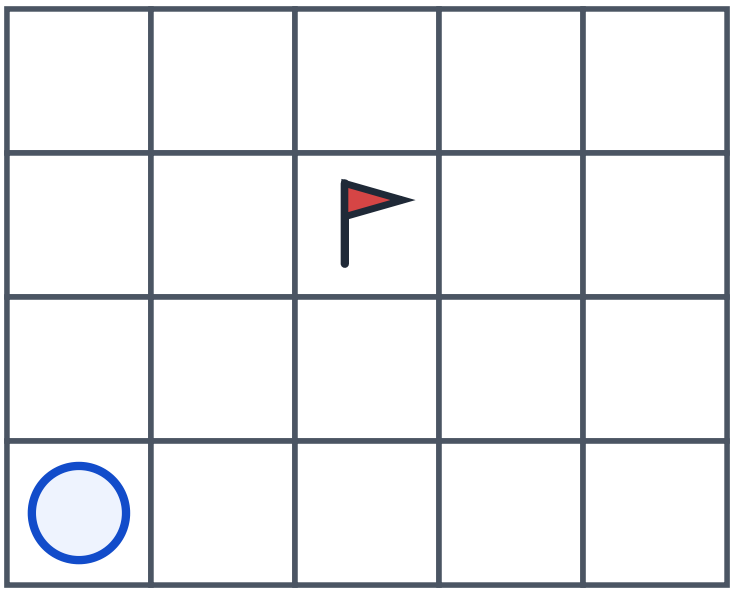
Write the Arrows

The reverse of last week: the start and the end are given, the arrows are not.

IN CLASS THIS WEEK
Finding an unknown number to add (1.OA.8)

NUMBER WARM-UP · 2 MINUTES
What plus 3 makes 7?

Write the arrows that get you there.

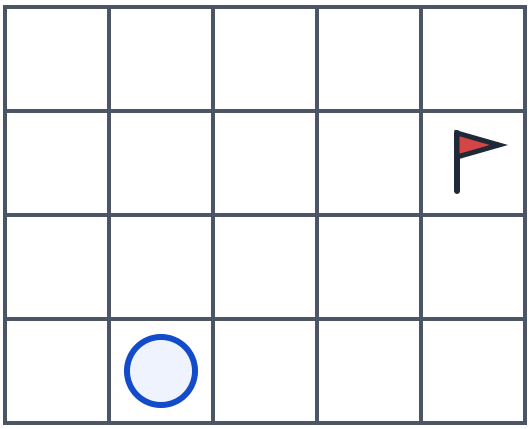


Your arrows

Leave a card empty if you do not need it.

ROOM TO DRAW

More to try



1. How many arrows did you need?
2. How many go right? How many go up?
3. Write other arrows that get you there too.

TALK ABOUT IT

Two children wrote different arrows and both landed on the flag. Can they both be right?

What is the fewest arrows that will get you there?



STUCK? TRY THIS

Count how many squares across first. Then count how many squares up.

★ CHALLENGE ZONE

On the first grid you need 2 right and 2 up. Write every different order you could put them in.

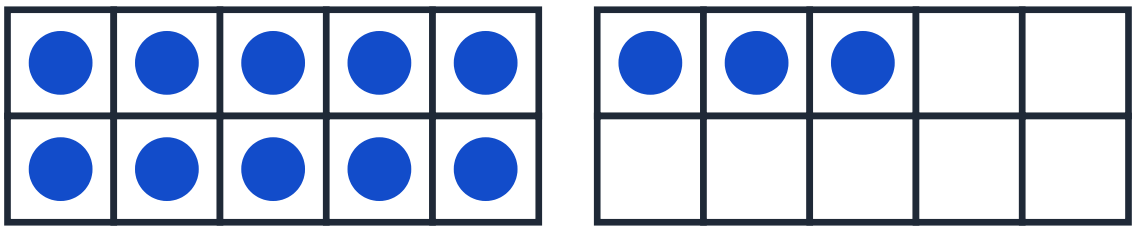
A Ten and Some More

A teen number is one full ten and some ones (1.NBT.2). Seen, not told.

IN CLASS THIS WEEK
Tens and ones (1.NBT.2)

NUMBER WARM-UP · 2 MINUTES
Count from 10 to 20.

Write how many tens and how many ones.

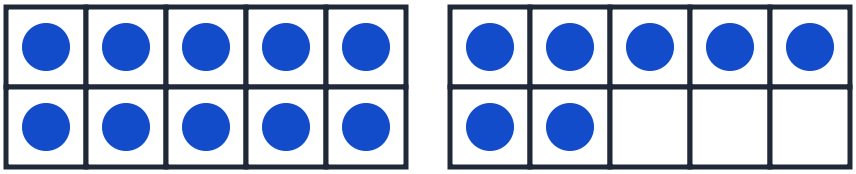


Finish the sentence

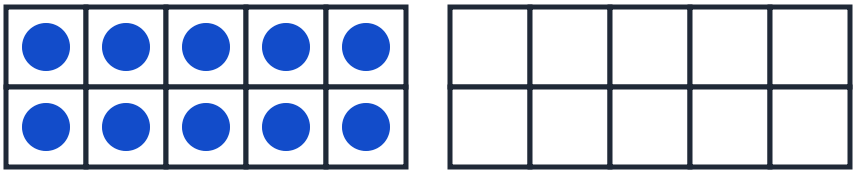
_____ ten and _____ ones makes _____.

ROOM TO DRAW

More to try



This is _____.



1. What number is this?
2. How many ones are in the second frame?
3. Which is more, 13 or 17? How do you know?

TALK ABOUT IT

Every teen number starts with the same full ten. Which part tells you which teen it is?

Show 15 with your fingers and a friend's.



STUCK? TRY THIS

Fill the first frame all the way before you start the second one.

★ CHALLENGE ZONE

Show 20 with these frames. How many frames do you need?

Ten More, Ten Less

One row down is ten more, one row up is ten less (1.NBT.5).

IN CLASS THIS WEEK
Ten more, ten less (1.NBT.5)

NUMBER WARM-UP · 2 MINUTES
Count by 10s from 20 to 70.

Circle ten more, then circle ten less.

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

ROOM TO DRAW

More to try

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

1. What is ten more than 55?
2. What is ten less than 55?
3. What is the same about all three numbers?

TALK ABOUT IT

Ten more moves you one row down, not ten squares along. Say why.

Pick any number on the chart. Say ten more without counting.



STUCK? TRY THIS

Put your finger on the number and move straight down one row.

★ CHALLENGE ZONE

What is **twenty** more than 34? How many rows do you move?

Rows of Ten

Why the chart's columns end in the same digit, and what that says about ten (1.NBT.1).

IN CLASS THIS WEEK
Counting to 120 (1.NBT.1)

NUMBER WARM-UP · 2 MINUTES
Count by 10s to 100.

Color every number that ends in zero.

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

ROOM TO DRAW

More to try

1. Where are the numbers you colored?
2. Color every number that ends in 5. What do you see?
3. How many numbers are in one row?

TALK ABOUT IT

The chart has ten in every row. What would change if it had nine?

Count by 10s and follow along on the chart with your finger.



STUCK? TRY THIS

Look down a column, not across a row. The last digit stays the same.

★ CHALLENGE ZONE

Cover the chart. What number is directly below 27? How do you know?

Every Way to Make 6

All the number pairs that make 6, listed in order so none is missed (1.OA.6).

IN CLASS THIS WEEK
Adding within 10: every way to make 6 (1.OA.6)

NUMBER WARM-UP · 2 MINUTES
What is 4 + 2? What is 2 + 4?

Write every way to make 6.

First number	Second number
0	
1	
2	
3	
4	
5	
6	

ROOM TO DRAW

More to try

1. How many ways did you find?
2. Which way has the same number twice?
3. Do 2 and 4 and then 4 and 2 count as two ways?

Now do the same for **5**.

First number	Second number
0	
1	
2	
3	
4	
5	

TALK ABOUT IT

You went 0, 1, 2, 3 in order down the first column. What would happen if you jumped around?

How many ways are there to make 10? Guess first, then check.



STUCK? TRY THIS

Start the first number at 0 and go up by one each row. The second number takes care of itself.

★ CHALLENGE ZONE

Without writing them all out, how many ways are there to make **9**?

Two Hats, Two Scarves

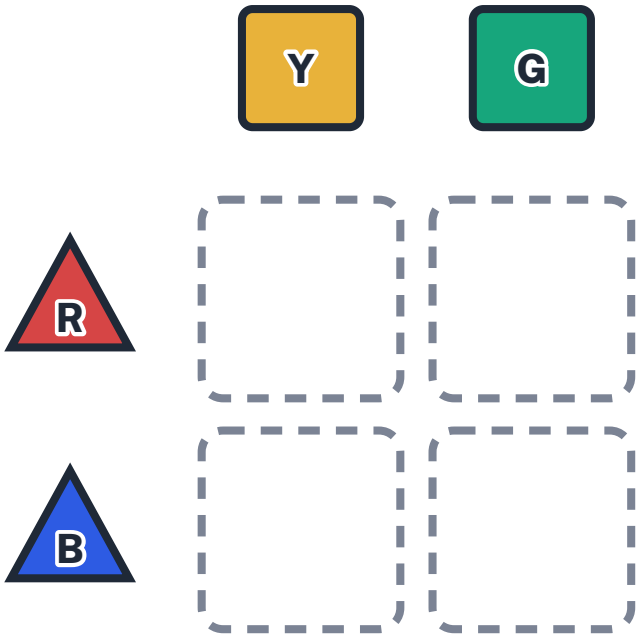
Every outfit, drawn. There are four, and drawing them is the whole method.

IN CLASS THIS WEEK
Counting every combination

NUMBER WARM-UP · 2 MINUTES
What is 2 + 2? What is 2 + 2 + 2?

Draw every outfit one time only.

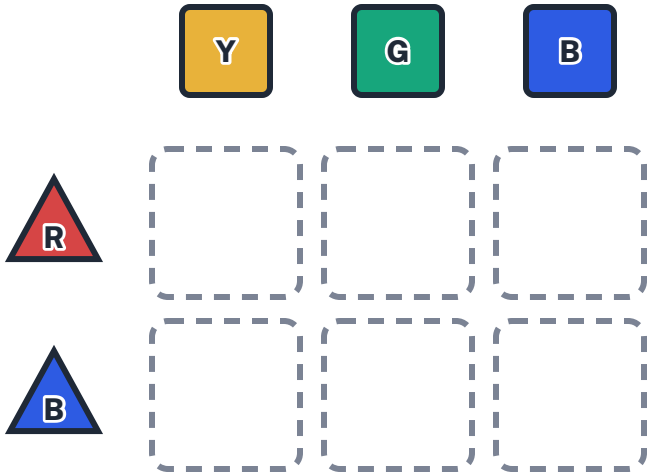
The triangles are hats. The squares are scarves.



ROOM TO DRAW

More to try

1. How many outfits did you draw?
2. How many use the red hat?
3. If there were three scarves, how many outfits?



TALK ABOUT IT

Every box in the grid is one outfit, and no outfit is in two boxes. Say why that means you did not miss any.

How many outfits with three hats and three scarves? Say how the grid would look.



STUCK? TRY THIS

Do one row at a time. Keep the hat the same all the way across.

★ CHALLENGE ZONE

Two hats, two scarves, and now two pairs of shoes. How many outfits? Try to say it before you draw.

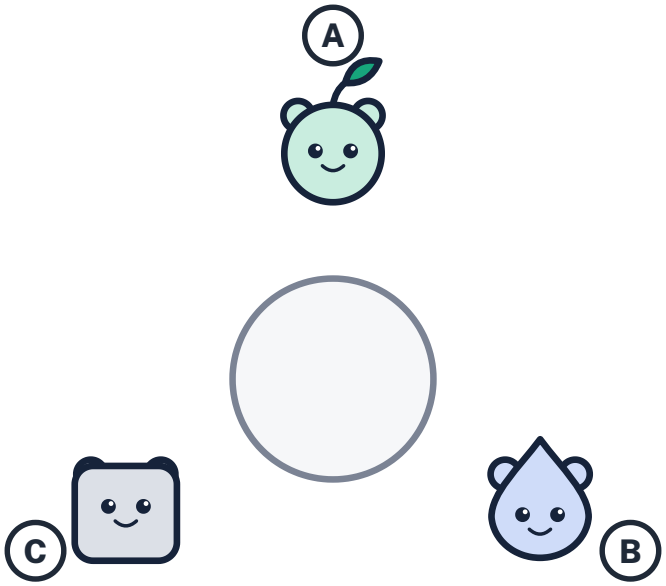
Three Friends, Two Chairs

Every pair from three, drawn. There are three, and order does not matter.

IN CLASS THIS WEEK
Counting every pair

NUMBER WARM-UP · 2 MINUTES
What is 3 - 1? What is 3 - 2?

Draw every pair of friends.



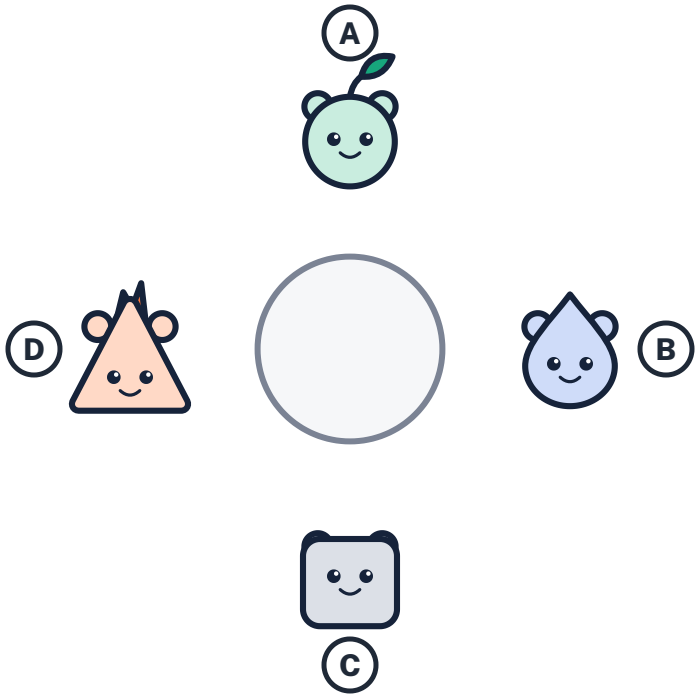
Pair of friends

ROOM TO DRAW

More to try

1. How many pairs did you find?
2. Is A and B the same pair as B and A?
3. Who is left out each time?

Now try it with **four** friends.



TALK ABOUT IT

Each pair leaves exactly one friend standing. Does that help you count the pairs?

You drew every wave in week 21. Is this the same question?

STUCK? TRY THIS

Pick one friend and pair them with everyone else. Then move to the next one and skip the pairs you already have.

★ CHALLENGE ZONE

Five friends, two chairs. How many pairs? Look back at week 21 before you start.

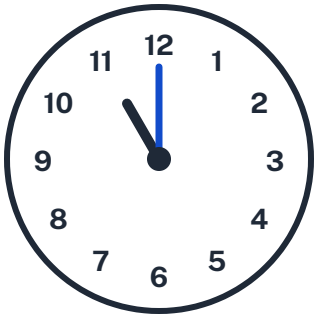
First, Next, Last

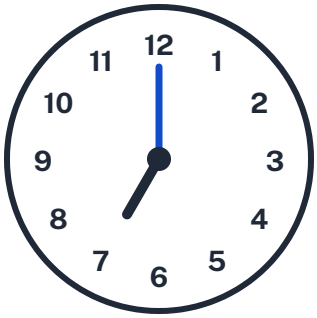
Putting a day in order, and reading a clock on the hour (1.MD.3).

IN CLASS THIS WEEK
Telling time to the hour (1.MD.3)

NUMBER WARM-UP · 2 MINUTES
Count by 5s to 60.

Write 1, 2, and 3 in order.







Write the time

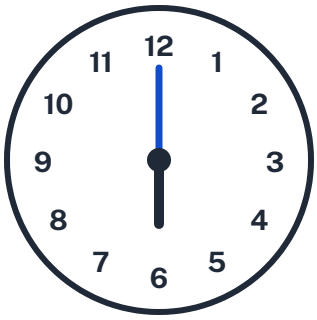
Clock	Time	In order
First one		
Middle one		
Last one		

ROOM TO DRAW

More to try

Put these in the order they happen in a day.

In a day	1, 2, 3 or 4
Eat lunch	
Wake up	
Go to sleep	
Get to school	



This clock says _____ o'clock.

TALK ABOUT IT

Look back at the three clocks on page 1. They are all in the morning. Which one is the earliest? Is it first on that page?

What might Pip do at 7 o'clock? What about at 11?



STUCK? TRY THIS

The short hand points at the hour. The long hand points straight up when it is o'clock.

★ CHALLENGE ZONE

It is 3 o'clock. What time will it be in four hours?

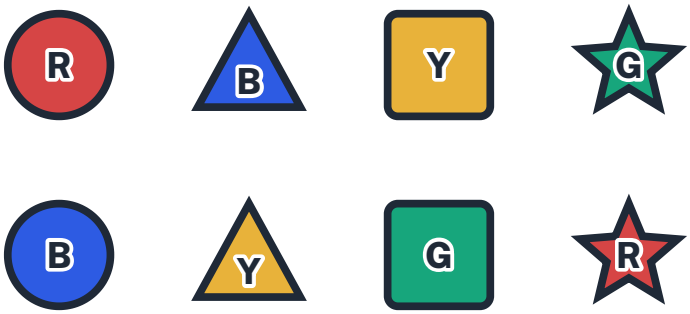
The Last Sort

Everything once more, and a look at what Grade 2 does with all of it.

IN CLASS THIS WEEK
Review & reasoning

NUMBER WARM-UP · 2 MINUTES
Count to 50. Then count by 10s to 100.

Sort these your own way, and say the rule.



My rule:

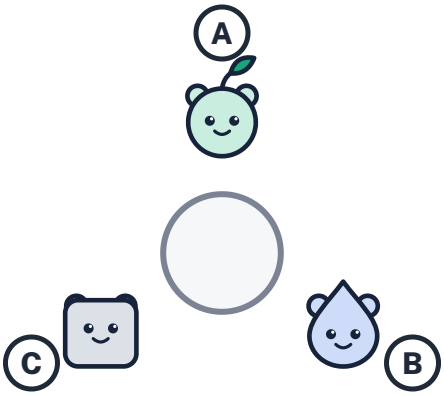
ROOM TO DRAW

More to try

1. Draw the next two.



2. Draw every wave one time only.



3. Write every way to make 5 on these lines.

_____

_____

TALK ABOUT IT

You sorted at the top and you picked the rule yourself. In week 1 the rule was given to you. Which is harder?

Next year you will be handed two piles and asked what the rule was. Try one on a friend today.

STUCK? TRY THIS

Every question on this page came from a week you already did. Find the week and look.

★ CHALLENGE ZONE

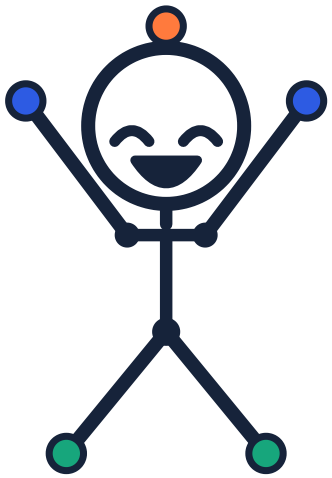
Sort the eight shapes so that one hoop has exactly **three** shapes in it, and say a rule that does it.

CERTIFICATE OF COMPLETION

What Goes Together

awarded to

for a whole year of sorting shapes, matching rows, finding patterns, drawing waves, coloring maps, and, hardest of all, saying the *reason*.



a Young Innovator for Change

Teacher

Date

Young Innovators
FOR CHANGE
innovateyouth.org