



The Counting Game

Number Sequencing

Flip a chip, build your pile, and count what is left — a counting game



Grades K–2



10–15 min



Solo or small group



Sets A & B

About this activity



What's involved

- Counting forward and backward by ones
- Decomposing a pile one or two objects at a time
- Composing your own pile as it grows
- Determining quantity: how many you have and how many are left
- Noticing which unit changes, the units of 10 or the units of 1 (Set B)
- Finding patterns



Why it matters

- Builds one-to-one correspondence: one number word for each object.
- Every turn shows the same structure. Your objects, your partner's objects, and the pile always compose the starting total.
- Counting back one or two at a time strengthens the number sequence in both directions, the base for counting on and counting back.
- Set B shows that taking 10 changes the units of 10 and taking 1 or 2 changes the units of 1, an early step into place value.

Materials & terms



Materials

- A pile of small objects: 8 to 20 for Set A, 21 to 85 for Set B. Snap cubes or wooden cubes work well.
- A 1 or 2 chip (Sets A and B): a red & yellow chip, red = 1 and yellow = 2. Or print one from page 10.
- A 10 or 5 chip (Set B): print it from page 10.
- Recording strips (Set A, page 11) or change trackers (Set B, page 12), and a pencil.

*The DMTI Math Pack includes **snap cubes and red & yellow chips** — mathsuccess.io/math-pack*



Terms

total

how many objects in all

quantities

the amounts that compose a total: your objects, a partner's objects, the pile

compose

put quantities together to make a total

decompose

break a total into quantities

one-to-one

match one number word to one object

units of 10 • units of 1

the units that change as you take (Set B)

Empty the pile — solo game



Solo

- 1 Choose a set and a round. Count out the pile and say the total.
- 2 Flip the 1 or 2 chip. Take that many objects into your own pile.
- 3 Say how many you took, how many you have now, and how many are left.
- 4 Record the turn on your recording strip. Keep flipping until the pile is empty.
- 5 Check that your pile matches the starting total. Play again and predict how many flips it will take.



TIP

After every turn, count your pile and the objects left. Together they always compose the starting total.

Set B: use both chips. See page 7.

Take from the pile — small group



2–4 players

- 1 Place the pile in the middle. Count it together and say the total.
- 2 Take turns. Flip the 1 or 2 chip and take that many objects.
- 3 Say how many you take, how many you have now, and how many are left in the pile.
- 4 Keep taking turns until the pile is empty.
- 5 Everyone counts their objects. The player with the most objects wins.



TIP

Before you flip, predict how many will be left if you get a 1, and if you get a 2.

Set B: use both chips. See page 7.

Set A — Take from the pile

Use the 1 or 2 chip. Play three rounds, from a small pile to a larger one.

Play three rounds

Round 1 — 8 objects

Round 2 — 12 objects

Round 3 — 20 objects

Red = 1 · Yellow = 2

How a round looks — 8 objects

Turn	Player	Takes	Left in pile
1	Player 1	2	6
2	Player 2	1	5
3	Player 1	2	3
4	Player 2	2	1
5	Player 1	1	0

Result Player 1 has 5. Player 2 has 3. 5 and 3 compose 8.

SENTENCE FRAME

There are ____ in the pile. I take _____. I have ____ in total, and there are ____ left in the pile.

Set B — Notice the change

Use both chips. On your turn, choose a chip, flip it, and take 10, 5, 2, or 1.

Larger each round

Round 1 — 21 to 39

Round 2 — 40 to 59

Round 3 — 60 to 85

After each turn, ask: which unit changed, and which stayed the same?

How a round looks — 72 objects

Pile before	Take	Pile now	Which unit changed?
72	10	62	units of 10
62	10	52	units of 10
52	2	50	units of 1
50	5	45	both: decompose a unit of 10
45	5	40	units of 1

Notice Taking 10 changes only the units of 10. When the units of 1 run out, decompose a unit of 10.

SENTENCE FRAME

I took _____. The pile went from _____ to _____. The _____ changed and the _____ stayed the same.

Number line strips

Print at actual size (100%) and cut the strips apart. One strip per player, for tracking the pile.

Round 1 — 0 to 8



Round 2 — 0 to 12



Round 3 — 0 to 20



Set B — label it yourself



HOW TO USE IT

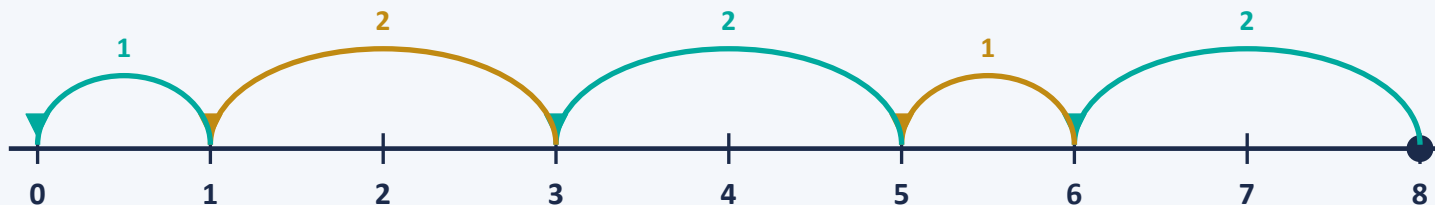
Mark the pile at the start. After each turn, jump back the number you took and circle where you land.

See it on a number line

Start at the pile. Each turn is a jump back. Where you land is how many are left.

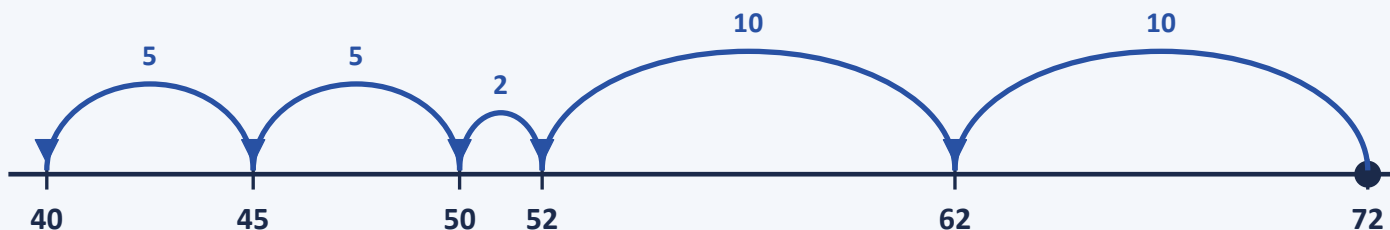
Set A — 8 objects

Player 1 • Player 2



I started at 8. I jumped back 2. I landed on 6, so 6 are left.

Set B — 72 objects, an open number line



From 50 to 45, the jump crosses a unit of 10: decompose a unit of 10.

Flip tokens

Print this page and cut out each token. Glue its two circles back-to-back, then flip it like a coin.

1 or 2 chip



Flips to 1 or 2 — Sets A and B

10 or 5 chip



Flips to 10 or 5 — Set B



NO PRINTING NEEDED

A red & yellow chip from the Math Pack is a 1 or 2 chip: red = 1, yellow = 2.

Recording strips

Print and cut apart so each player has a strip. Write each player's name, then record every turn.

Player 1: _____

In pile	I take	My total	Left

Player 2: _____

In pile	I take	My total	Left

Change trackers

Print one per player. After each turn, record the pile before, what you took, the pile now, and which unit changed.

Player 1: _____

Pile before	I take	Pile now	Which unit changed?

Player 2: _____

Pile before	I take	Pile now	Which unit changed?

Answer key — check a round

Teacher or self-check. These records match the example rounds on pages 6 and 7.

Set A — 8 objects

Player 1

In pile	I take	My total	Left
8	2	2	6
5	2	4	3
1	1	5	0

Player 2

In pile	I take	My total	Left
6	1	1	5
3	2	3	1

Check: 5 and 3 compose 8.

Set B — 72 objects

Pile before	I take	Pile now	Which unit changed?
72	10	62	units of 10
62	10	52	units of 10
52	2	50	units of 1
50	5	45	both
45	5	40	units of 1

Check: 32 taken and 40 left compose 72.

Page 8, strips: the pile mark and the jumps back always land on the objects left in the pile.

Page 9, Set B: 50 is 5 units of 10. Taking 5 leaves 4 units of 10 and 5 units of 1, which is 45.

Questions to push thinking

Ask these while students play. Each card names what to listen for.

?

How many are in the pile now? How did you count them?

Listen for: one number word for each object; the last number said names the total.

?

You flipped a 2. How many will be left? Say it before you take.

Listen for: counting back two from the pile without recounting every object.

?

How many do you have now? How many did you have before this turn?

Listen for: counting on from the old total.

?

Which flip empties the pile faster, a 1 or a 2? Why?

Listen for: a 2 moves two objects each turn, so the pile empties in fewer turns.

?

Set B: you took 10. Which unit changed? Which stayed the same?

Listen for: the units of 10 changed; the units of 1 stayed the same.

?

Do your objects, your partner's objects, and the pile always compose the starting total? How do you know?

Listen for: objects only move, so counting all of them gives the starting total.

Challenge yourself

Push the count further.

Exact finish

To go out, your flip must match exactly how many are left in the pile. If it doesn't, you skip the turn.

Predict who wins

Halfway through, predict who will have more objects at the end. Then finish and check your prediction.

Larger pile, new tool

SWAP THE MEDIUM

Swap the chip for a 4-face die from the Math Pack and take 1, 2, 3, or 4. Start Set A with 30 objects, or Set B with 90. Does the winning strategy change? Why?

Explain the total

Tell a partner how you know your objects, your partner's objects, and the pile always compose the starting total.



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