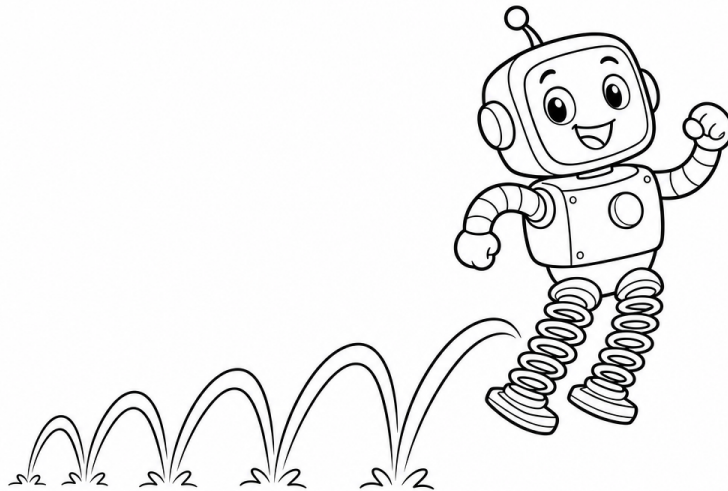


THE HOP SQUAD

The Case of the Missing Numbers



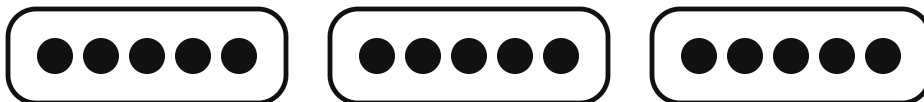
Lead Agent: Penelope

Shortchange Sam stole numbers off Maplewood's big counting line so nobody can count fast. But the numbers he stole all follow a **rule** — they go up by the same jump every time. Learn to **skip-count** by 2s, 5s, and 10s, put the missing numbers back — and you'll unlock the Bureau's biggest secret: this is how **multiplication** begins.

Counting in Equal Groups

Don't count one-by-one. Count the *GROUPS*.

THE BIG IDEA



3 groups of 5 → 5, 10, 15

When things come in **equal groups**, you don't have to count every one. Count a whole group at a time: **5... 10... 15**. That's **skip-counting** — jumping by the same amount each time.

Secret the Bureau wants you to see: “3 groups of 5” is the very same thing as “skip-count by 5, three times.” That is exactly how **multiplication** starts. Keep it in your back pocket.

- 1 Count these **4 groups of 5** by fives. Write the running total under each group as you go.



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So 4 groups of 5 = in all.

- 2 These come in **groups of 2** (like shoes!). One group is hidden. Skip-count by 2s and figure out the hidden group's total.



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- 3 Bureau crates come in **stacks of ten**. One stack fell off the shelf — write the number that belongs on it. (No boxes drawn, Agent — write it yourself.)

10 → 20 → → 40 → 50

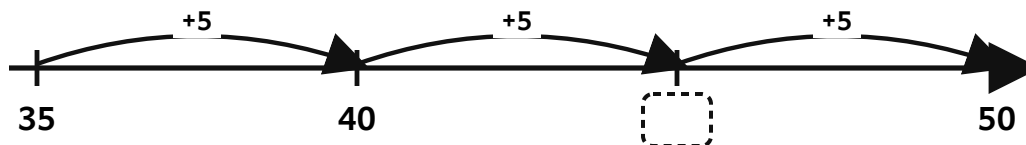


finished? color the star! ☆

The Hopping Line

Every hop is the SAME size. That's the whole trick.

EQUAL HOPS



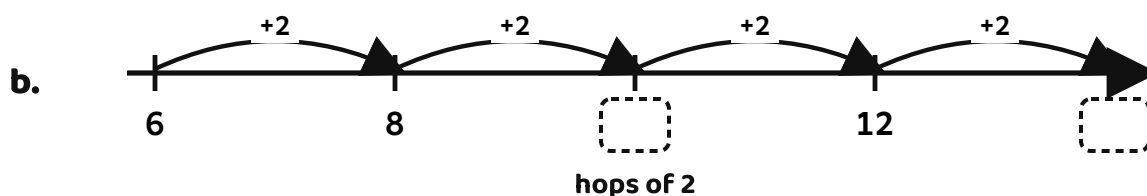
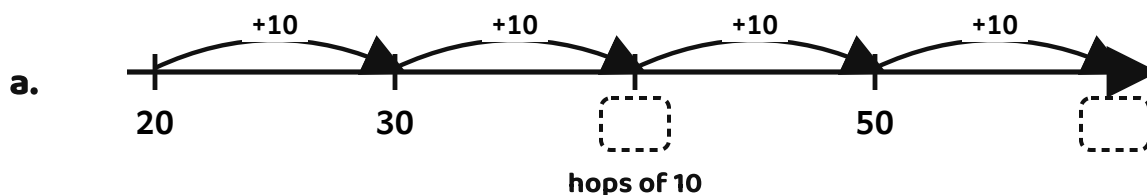
hops of 5, starting at 35 — what lands in the box?

To skip-count on a line, **jump the same amount every time**. Each hop **lands** on the next number in the count. A **box** is a landing whose number fell off — hop to it.

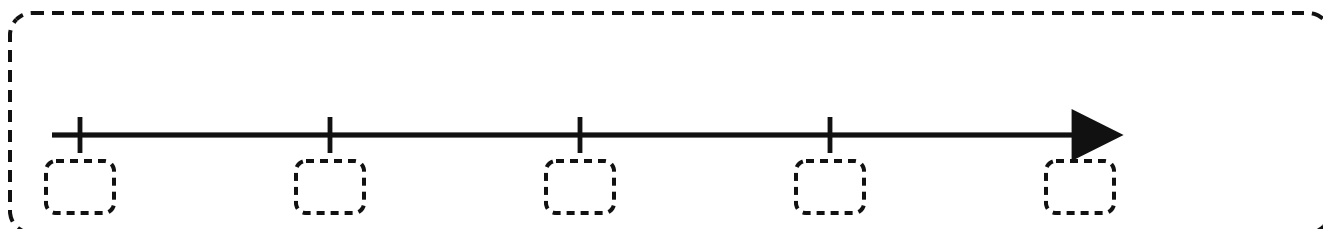
The box above: 35, 40, ?, 50. The hop is +5, so $40 + 5 = 45$. ($45 \rightarrow 50$ crosses into a new ten — still just +5.)

1 Read the line in the box above. Fill in: 35, 40, , 50. Rule: add each hop.

2 Find every missing landing. Each hop is equal — use it.



3 Your turn to draw. On this empty line, mark hops of 5 from 30 up to 50, and label each landing. Draw the arcs yourself.



The Pattern in the Chart

Skip-counting leaves a trail you can SEE.

SPOT THE TRAIL

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
41	42	43	44	45	46	47	48	49	50

by 10s

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
41	42	43	44	45	46	47	48	49	50

by 5s

Ring the numbers you land on and a **pattern** appears. By **10s** you go straight down a **column** — every number ends in **0**. By **5s** you light up **two columns** — every number ends in **5 or 0**. The pattern is a way to **check yourself**.

- 1 Look at the **by-10s** chart. Every number you land on ends in the same digit. Which digit? Write the by-10s count to 50: _____

- 2 Look at the **by-5s** chart. Skip-counting by 5 always lands on numbers that end in or .

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
41	42	43	44	45	46	47	48	49	50

by 2s (even numbers)

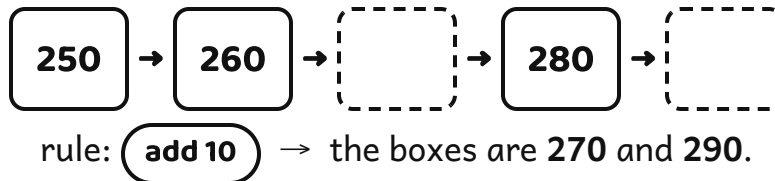
- 3 This chart shows counting by **2s**. (a) Skip-counting by 2 always lands on **even** numbers — they end in 0, 2, 4, 6, or . (b) Detective test: is **25** in the by-5s count? **YES / NO** Is 25 in the by-2s count? **YES / NO** (circle each)

Sequences & the Rule

No line, no chart. Just the numbers and the rule.

NAME THE RULE

A skip-count is a row of numbers where you **add the same amount every step**. That amount is the **rule**. Find it by looking at one jump: from 250 to 260 is **+10**, so the rule is **add 10** — and every step obeys it.



- 1 Warm up on the example: fill the boxes above in here — 250, , 270, .

Rule: add .

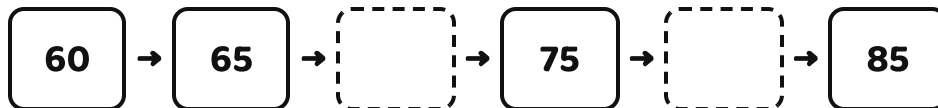
- 2 Continue each sequence. First find the rule (one jump tells you), then keep it going.

a. rule: add

b. rule: add

c. rule: add

- 3 Missing in the MIDDLE. Same rule holds — hop forward from the number before, or back from the number after.



- 4 Bureau brain-buster: a skip-count can jump by other amounts too. Find the rule, then write the **next** number. (No boxes — write the whole thing.)

12, 15, 18, 21, _____ rule: add _____

Case Closed on the Count

Real jobs. Skip-count to finish them fast.

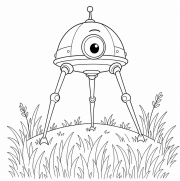
Recap: skip-counting means every jump is the SAME size — and “so many groups of a number” is just a skip-count in disguise.

- 1 Agent Penelope finds **6 nickels** (each nickel = 5¢). Count by 5s to total them.



5, 10, _____ → ¢

- 2 The Martian scout lines up **4 pairs of shoes**. Shoes come in 2s. Count by 2s — how many shoes?



2, 4, _____ → shoes

- 3 **Catch Sam in a lie.** He scrawled this count-by-5 on the stolen number line:



“5, 10, 15, 20, 24. All fives, easy!”

Is Sam right? **YES / NO** (circle one) Where did the pattern break, and what should the last number be? _____

- 4 Don't over-arrest him! Sam also wrote: “10, 20, 30, 40, 50” counting by tens. Trick, or true? **TRICK / OK** (circle one)

- 5 The Bureau secret, unlocked: **5 groups of 2**. Skip-count by 2 five times to total them — then you've done your first multiplication.

5 groups of 2 = 2, 4, 6, 8, = (grown-ups write this 5×2)

CASE CLOSED: every stolen number is back on Maplewood's line, in perfect equal hops. An agent who can skip-count by 2s, 5s, and 10s counts faster than anyone — and now knows the door multiplication hides behind. Shortchange Sam is back in the Bureau lock-up. Outstanding work, Agent Penelope!