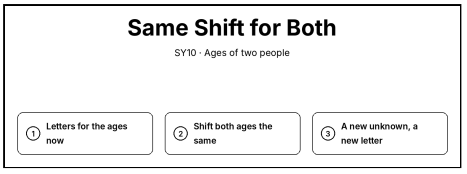
Same Shift for Both: teacher script

SY10-V1 · SY10 Ages of two people · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 70 seconds as a video.

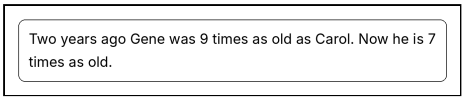
01



Say. Same shift for both. Use letters for the ages now. Shift both ages by the same number. And a new unknown gets a new letter.

Draw. Write the title “Same Shift for Both” and the steps: 1. Letters for the ages now; 2. Shift both ages the same; 3. A new unknown, a new letter.

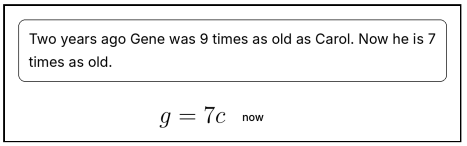
02



Say. Two years ago, Gene was nine times as old as Carol. Now he is seven times as old.

Draw. Clear the board. Write “Two years ago Gene was 9 times as old as Carol. Now he is 7 times as old.” in a box at the top.

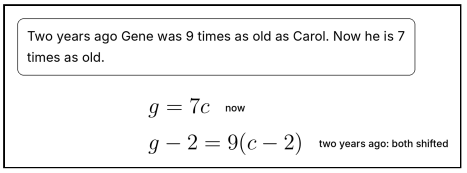
03



Say. Let g and c be their ages now. Now: g = 7c.

Draw. Write g = 7c on the next line. Beside it, write “now”.

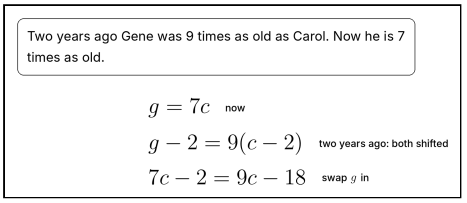
04



Say. Two years ago, both were two years younger: g − 2 = 9(c − 2).

Draw. Write g − 2 = 9(c − 2) on the next line. Beside it, write “two years ago: both shifted”.

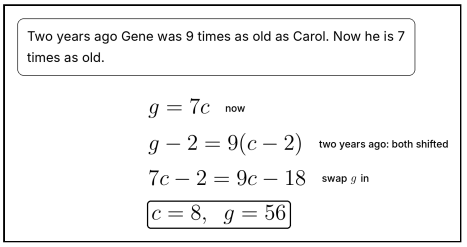
05



Say. Swap g = 7c in, and expand: 7c − 2 = 9c − 18.

Draw. Write 7c − 2 = 9c − 18 on the next line. Beside it, write “swap g in”.

06



Say. So c = 8 and g = 56. Carol is eight and Gene fifty-six.

Draw. Write c = 8, g = 56 and box it on the next line.

07

Trap two years ago

$\times\ g - 2 = 9c$

$\checkmark\ \ g - 2 = 9(c - 2)$

Say. Watch for the trap: shifting only one age. Carol was two years younger too.

Draw. Clear the board. Write “Trap” and two years ago. Below, write g − 2 = 9c and cross it out ×. Then write g − 2 = 9(c − 2) with a tick ✓.

08

Trap two years ago

$\times\ g - 2 = 9c$

$\checkmark\ \ g - 2 = 9(c - 2)$

$\boxed{56 + t = 5(8 + t),\ \ t = 4}$ in t years

Say. In how many years will he be five times as old? A new unknown gets a new letter, t: 56 + t = 5(8 + t), so t = 4.

Draw. Write 56 + t = 5(8 + t), t = 4 and box it on the next line. Beside it, write “in t years”.

09

Your turn

Ages now, the same shift for both, and a new letter for a new unknown

Say. Now it is your turn. Ages now, the same shift for both, and a new letter for a new unknown.

Draw. Point to today’s activity: Ages now, the same shift for both, and a new letter for a new unknown