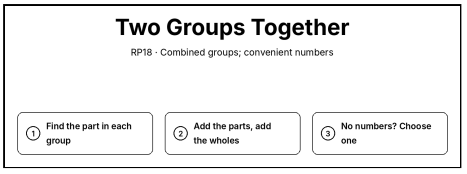
Two Groups Together: teacher script

RP18-V1 · RP18 Combined groups; convenient numbers · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 87 seconds as a video.

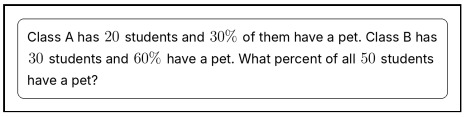
01



Say. Two groups together. Find the part in each group. Add the parts, add the wholes, and divide. And when no numbers are given, choose one.

Draw. Write the title “Two Groups Together” and the steps: 1. Find the part in each group; 2. Add the parts, add the wholes; 3. No numbers? Choose one.

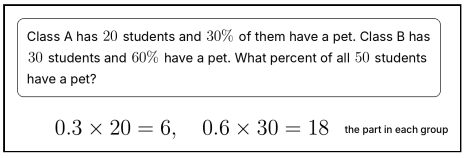
02



Say. Class A has 20 students, and 30 percent of them have a pet. Class B has 30 students, and 60 percent have a pet. What percent of all 50 students have a pet?

Draw. Clear the board. Write “Class A has 20 students and 30\% of them have a pet. Class B has 30 students and 60\% have a pet. What percent of all 50 students have a pet?” in a box at the top.

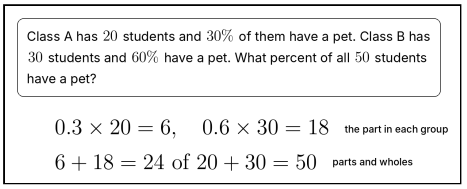
03



Say. In class A, 30 percent of 20 is 6. In class B, 60 percent of 30 is 18.

Draw. Write 0.3 × 20 = 6, 0.6 × 30 = 18 on the next line. Beside it, write “the part in each group”.

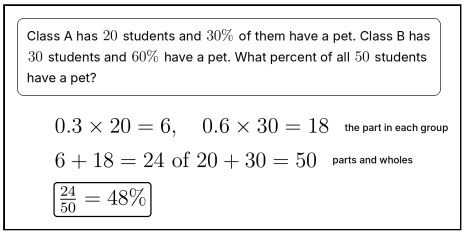
04



Say. Add the parts and add the wholes: 24 of 50 students.

Draw. Write 6 + 18 = 24 of 20 + 30 = 50 on the next line. Beside it, write “parts and wholes”.

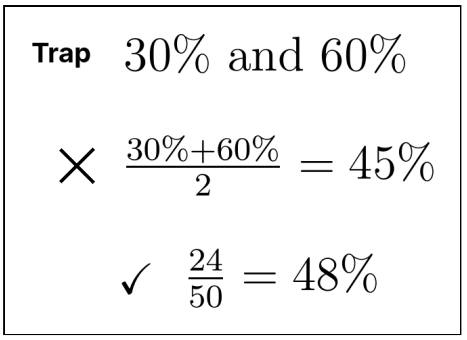
05



Say. 24 over 50 is 48 percent.

Draw. Write 24/50 = 48\% and box it on the next line.

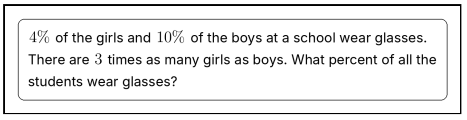
06



Say. Watch for the trap: averaging the percents. The classes are different sizes, so the bigger class counts more.

Draw. Clear the board. Write “Trap” and 30\% and 60\%. Below, write (30\% + 60\%)/2 = 45\% and cross it out ×. Then write 24/50 = 48\% with a tick ✓.

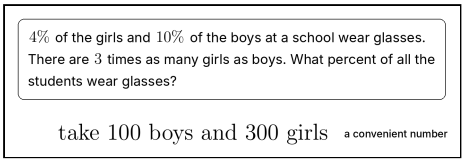
07



Say. 4 percent of the girls and 10 percent of the boys at a school wear glasses. There are 3 times as many girls as boys. What percent of all the students wear glasses?

Draw. Clear the board. Write “4\% of the girls and 10\% of the boys at a school wear glasses. There are 3 times as many girls as boys. What percent of all the students wear glasses?” in a box at the top.

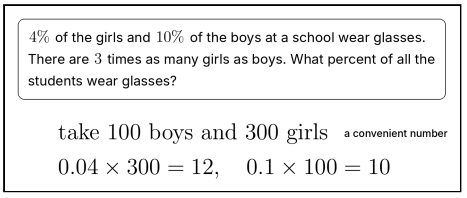
08



Say. No numbers are given, so choose a convenient number: 100 boys, and 3 times as many, 300 girls.

Draw. Write take 100 boys and 300 girls on the next line. Beside it, write “a convenient number”.

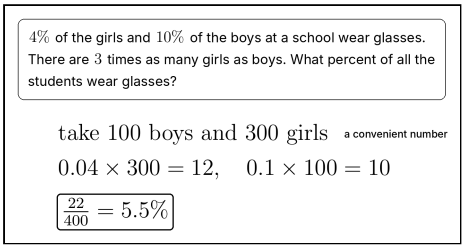
09



Say. Then 12 girls and 10 boys wear glasses.

Draw. Write 0.04 × 300 = 12, 0.1 × 100 = 10 on the next line.

10



Say. 22 of 400 students: 5.5 percent.

Draw. Write 22/400 = 5.5\% and box it on the next line.

11

Trap How many wear glasses?

× 22

✓ can’t tell: only the percent

Say. Watch for the trap: choosing a number when the answer depends on it. We chose 100 boys, so it can't tell you how many students really wear glasses. Only the percent.

Draw. Clear the board. Write “Trap” and How many wear glasses?. Below, write 22 and cross it out ×. Then write can't tell: only the percent with a tick ✓.

12

Your turn

Add the parts, add the wholes; no numbers? choose one.

Say. Now it is your turn. Add the parts, add the wholes, and divide.

Draw. Point to today’s activity: Add the parts, add the wholes; no numbers? choose one.