



The Relay Race

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Like traditional relay races, students work in teams and each person is responsible for completing one leg in the race. The teams sit in the same row of desks. Usually a team of four



students makes a good size. Each student in each team will solve a problem and each team has the same set of problems. The first person has a complete problem. All of her teammates have a number missing in their problems. The missing number in each person's problem will be the answer to the problem of the teammate in front of that person.

Here is an example of a race I just used when studying percents:

- Student #1 solves the problem "A radio costs \$40 with a tax rate of 6%. Find the tax."
- Student #1 should get the answer \$2.40.
- Student #1 gives the number \$2.40 to student #2 behind him.
- Student #2 has the problem "60% of what number is ____."
- Student #2 puts \$2.40 in the blank in her problem and solves the now-complete problem.
- She should get the answer \$4.
- Student #2 gives the number \$4 to Student #3 behind her.
- Student #3 has the problem "If you save ____ on a shirt at a 25% off sale, what was the original price?"

- Student #3 puts \$4 in his blank and solves the problem.
- He should get the answer \$16.
- Student #3 gives the number \$16 to Student #4, who puts that number in her problem.
- Student #4 has the problem "Find the interest earned on ____ deposited at 5% simple interest for 4 years."
- Student #4 should get the answer \$3.20.
- Student #4 raises her hand and I record the order in which the teams finish.

After all teams are finished, I ask the last persons on each team for their final answer without telling them if they are right or wrong until all teams have reported their answers. Each team with the correct final answer receives one point and the first team to finish with the correct answer receives two points. This rewards correct and careful work and also encourages speed. The winning team is asked to put their problems on the board. We discuss them as students correct any mistakes they may have made.

These relay races are an excellent way to review or warm up before a test or just to take some time to practice an idea before moving on. They are easily adapted to many other concepts such as solving algebra equations or simplifying expressions.

The first time I try the races in a class, it takes a few minutes to explain the process. Sometimes a practice run with some basic problems is helpful to illustrate how one student must rely on the teammates in front of him or her. I allow students to talk to teammates during a race if they cannot do the problem they were given, or if they question the answer the teammate in front passed back. It does not take long for the teams to realize the benefit of their teammates' correct answers.