

A Case of Interest

"Looks like we have another case!" shouted Rick as he scanned his e-mail. Athena and Rick have received an anxious query from the president of the 6th-grade class. The middle school has a proud tradition which involves each 6th-grade class raising money that they will use at the end of their 8th-grade year for a community service project. This year, the 6th-graders held a bake sale which raised \$500. The class treasurer is concerned because the class wants to build flower beds at the town's senior center at a cost of \$545. Athena researches savings opportunities for the class and finds that:

- First National Bank is offering a two-year CD with **4.9% simple interest**.
- Second National Bank is offering a two-year CD with **4.8% compound interest (compounded yearly)**.

Do the students need to hold another fund-raiser? Rick thinks they might, but Athena has another idea and opens her laptop to get to work.



WORK THE MATH

Show your work—use separate paper as needed.

- 1 How much will the class have in two years if it buys a First National Bank CD?
- 2 How much will the class have in two years if it buys a Second National Bank CD?
- 3 Which CD is the better deal? Explain your thinking. Did your calculations surprise you?

Hint: Remember these formulas:

$$I = p \cdot r \cdot t \text{ (simple interest)}$$

$$y = a(1 + r)^n \text{ (compound interest)}$$

NOW TRY THIS:

Assume next year's 6th-grade class needs \$600 for its service project. If it can buy a two-year CD with a compound interest rate of 5%, how much does it need to raise at its fund-raiser?

Take It Further: The 7th-grade class needs \$800 for its class project. If the 7th-grade class invests \$650 in a CD, how many years will it take the 7th grade's CD to mature to \$800 with 5% simple interest? With 5% compound interest?