Name Middle School Answer Key **Date** _____

NOW YOU TRY STUDENT WORKSHEET
MIDDLE SCHOOL

ANNUAL INTEREST

1. Andrea wants to invest **$2,000** at her bank. She picks an annual **certificate of deposit (CD)** that will pay her **3%** annually. (Remember, 3% interest is .03 when written as a decimal.)

   A. How much **interest** will Andrea earn for the year?

$$Interest = \$2{,}000 \times .03 = \$60$$

   B. What will Andrea's **balance** be when the certificate of deposit ends?

$$Balance = \$2{,}000 + \$60 = \$2{,}060$$

2. Now, if Andrea decides to leave her money in the bank for three years:

   A. What is the **term** of Andrea's **CD**?

Three years

   B. Fill in the table to find out how Andrea's investment grows:

	Beginning Balance	3% Interest	Ending Balance
Year 1	**$2,000**	**$60**	**$2,060**
Year 2	**$2,060**	**$61.80**	**$2,161.80**
Year 3	**$2,161.80**	**$63.65**	**$2,225.45**

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ANNUAL vs. QUARTERLY INTEREST

1. Andrea wants to invest **$2,000** at her bank. She decides to open a **statement savings account**, compounding quarterly, instead of an **annual CD**. This **statement savings account** will pay her a **3% APR**. (Remember, 3% interest is .03 when written as a decimal.)

   A. How often does Andrea's account compound?

   Quarterly – four times

   B. What will Andrea's 1st quarter **interest** payment be?

$$Interest = (\$2{,}000 \times .03) / 4 = \$15$$

   C. What will Andrea's **balance** be when the year is over?

	Beginning Balance	3% Interest	Ending Balance
1st Quarter	**$2,000**	**$15**	**$2,015**
2nd Quarter	**$2,015**	**$15.11**	**$2,030.11**
3rd Quarter	**$2,030.11**	**$15.23**	**$2,045.34**
4th Quarter	**$2,045.34**	**$15.34**	**$2,060.68**

   D. What **APY** will Andrea's statement savings account earn her for the year?

$$APY = \frac{\$60.68}{\$2{,}000} = .03034 = 3.034\%$$

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QUARTERLY vs. MONTHLY INTEREST

1. Andrea wants to invest **$2,000** at her bank. She decides to open a **money market savings account**, compounding monthly, instead of a **statement savings account**. This money market savings account will pay her a **3% APR**. (Remember, 3% interest is .03 when written as a decimal.)

	Beginning Balance	3% Interest	Ending Balance
1st Month	**$2,000**	**$5**	**$2,005**
2nd Month	**$2,005**	**$5.01**	**$2,010.01**
3rd Month	**$2,010.01**	**$5.03**	**$2,015.04**
4th Month	**$2,015.04**	**$5.04**	**$2,020.08**
5th Month	**$2,020.08**	**$5.05**	**$2,025.13**
6th Month	**$2,025.13**	**$5.06**	**$2,030.19**
7th Month	**$2,030.19**	**$5.08**	**$2,035.27**
8th Month	**$2,035.27**	**$5.09**	**$2,040.36**
9th Month	**$2,040.36**	**$5.10**	**$2,045.46**
10th Month	**$2,045.46**	**$5.11**	**$2,050.57**
11th Month	**$2,050.57**	**$5.13**	**$2,055.70**
12th Month	**$2,055.70**	**$5.14**	**$2,060.84**

A. What **APY** will Andrea's money market savings account earn her for the year?

$$APY = \frac{\$60.84}{\$2{,}000} = .03042 = 3.042\%$$