

**Introduction to Earning Interest**  
**9<sup>th</sup> - 10<sup>th</sup> Grade Assessment Worksheet**

Taylor has been saving her allowance and her babysitting money for years. She and her friend are planning to travel to Paris, France, when they have each saved enough money.

Taylor has saved **\$6,500** so far and her friend has saved almost as much. Taylor wants her money to work as hard for her as she has worked to save it!

Taylor's bank has three types of investments to choose from, if she wants to put her money to work: **annual certificates of deposit** with a **3.5% APR**, **statement savings accounts** with a **3.25% APR**, and **money market savings accounts** with a **3.0% APR**.

Given that Taylor and her friend have at least one more year before the big trip, which investment will help Taylor the most?

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

**Annual CD:** (compounds annually)

$$P = \$6,500$$

$$r = 3.5\% = .035$$

$$n = 1$$

$$t = 1$$

$$A = \$6,500\left(1 + \frac{.035}{1}\right)^{1 \times 1} \quad A = \$6,500(1 + .035)$$

$$A = \$6,500 \times 1.035 = \$6,727.50$$

**Statement Savings Account:** (compounds quarterly)

$$P = \$6,500$$

$$r = 3.25\% = .0325$$

$$n = 4$$

$$t = 1$$

$$A = \$6,500\left(1 + \frac{.0325}{4}\right)^{4 \times 1} \quad A = \$6,500(1 + .008125)^4$$

$$A = \$6,500 \times 1.03289 = \$6,713.79$$

**Money Market Savings Account:** (compounds monthly)

$$P = \$6,500$$

$$r = 3.0\% = .03$$

$$n = 12$$

$$t = 1$$

$$A = \$6,500\left(1 + \frac{.03}{12}\right)^{12 \times 1}$$

$$A = \$6,500(1 + .0025)^{12}$$

$$A = \$6,500 \times 1.03041 = \$6,697.67$$

What are the APYs of each investment?

$$APY = \frac{\$227.50}{\$6,500}$$

$$APY = .035$$

$$APY = 3.5\%$$

$$APY = \frac{\$213.79}{\$6,500}$$

$$APY = .03289$$

$$APY = 3.29\%$$

$$APY = \frac{\$197.67}{\$6,500}$$

$$APY = .03041$$

$$APY = 3.04\%$$

Fill in the table:

Investment	APR	APY
<b>Annual CD</b>	<b>3.5%</b>	<b>3.5%</b>
<b>Statement Savings Account</b>	<b>3.25%</b>	<b>3.29%</b>
<b>Money Market Savings Account</b>	<b>3.0%</b>	<b>3.04%</b>

Circle Taylor's best investment choice.