**Grade 8 Math**

**(%)…BEDMAS…Formula…Exponents…Compound Interest**

**We are combining numerous skills---Whoa!!**

Let’s make some money



**Let's look at an example**

**Compound interest formula (including principal):**

A = P(1+r/n)(nt)

If an amount of $5,000 is deposited into a [savings](http://www.thecalculatorsite.com/finance/calculators/savings-calculators.php) account at an annual interest rate of 5%, **compounded monthly**, the value of the investment after 10 years can be calculated as follows...

**P** = 5000. **r** = 5/100 = 0.05 (decimal). **n** = 12. **t** = 10.

If we plug those figures into the formula, we get:

**A = 5000 (1 + 0.05 / 12) ^ (12(10))** = 8235.05.

So, the investment balance after 10 years is **$8,235.05.**

Looks like free money was made. How much was made \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?

Looks like a good investment.

**This formula has numerous variables**

Let’s see how much money we will make if we **change** the interest rate (change the % rate)

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| --- | --- | --- | --- |
| **List all the variables in this formula** | **List the variable(s) that we will control** | **List the variable(s) we will manipulate** | **List the responding variable(s)** |
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**Calculate the amount of money made using different interest rates**

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| **Interest rate****r****%** | **Write the formula with all the necessary numbers**Do calculations on a separate sheet and staple to this sheet | **Amount****A** |
| 4 |  |  |
| 6 |  |  |
| 8 |  |  |
| 10 |  |  |