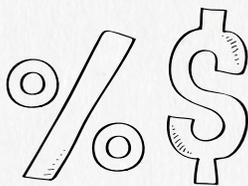


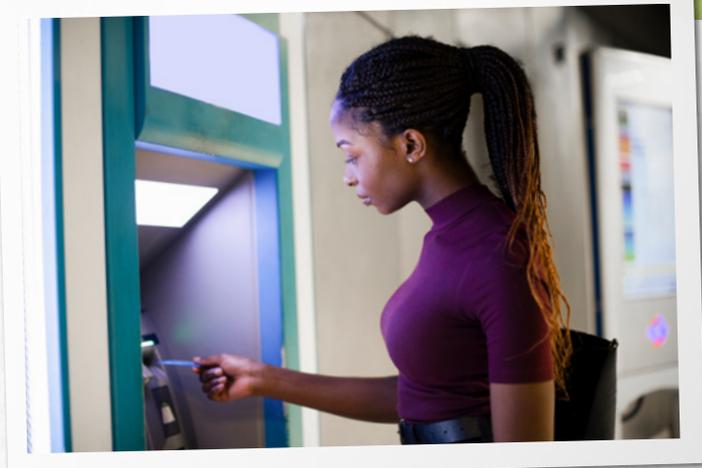
Activity 1

PART 1: COMPOUND INTEREST



Compound interest can make your savings grow. Take a look at this spreadsheet to see how. Then answer the questions to learn more about how compound interest can give a real boost to your savings.

Month	Interest Rate	Beginning Balance	Interest Payment	Ending Balance
1	0.25%	\$1,000.00	\$2.50	\$1,002.50
2	0.25%	\$1,002.50	\$2.51	\$1,005.01
3	0.25%	\$1,005.01	\$2.51	\$1,007.52
4	0.25%	\$1,007.52	\$2.52	\$1,010.04
5	0.25%	\$1,010.04	\$2.53	\$1,012.57
6	0.25%	\$1,012.56	\$2.53	\$1,015.10
7	0.25%	\$1,015.09	\$2.54	\$1,017.64
8	0.25%	\$1,017.63	\$2.54	\$1,020.18
9	0.25%	\$1,020.18	\$2.55	\$1,022.73
10	0.25%	\$1,022.73	\$2.56	\$1,025.29
11	0.25%	\$1,025.28	\$2.56	\$1,027.85
12	0.25%	\$1,027.85	\$2.57	\$1,030.42
13	0.25%	\$1,030.42	\$2.58	\$1,033.00
14	0.25%	\$1,033.00	\$2.58	\$1,035.58
15	0.25%	\$1,035.58	\$2.59	\$1,038.17
16	0.25%	\$1,038.17	\$2.60	\$1,040.77
17	0.25%	\$1,040.77	\$2.60	\$1,043.37
18	0.25%	\$1,043.37	\$2.61	\$1,045.98
19	0.25%	\$1,045.98	\$2.61	\$1,048.59
20	0.25%	\$1,048.59	\$2.62	\$1,051.21
21	0.25%	\$1,051.22	\$2.63	\$1,053.84
22	0.25%	\$1,053.85	\$2.63	\$1,056.47
23	0.25%	\$1,056.48	\$2.64	\$1,059.11
24	0.25%	\$1,059.12	\$2.65	\$1,061.76
25	0.25%	\$1,061.77	\$2.65	\$1,064.41
26	0.25%	\$1,064.42	\$2.66	\$1,067.07
27	0.25%	\$1,067.08	\$2.67	\$1,069.74
28	0.25%	\$1,069.75	\$2.67	\$1,072.41
29	0.25%	\$1,072.42	\$2.68	\$1,075.09
30	0.25%	\$1,075.10	\$2.69	\$1,077.78
31	0.25%	\$1,077.79	\$2.69	\$1,080.47
32	0.25%	\$1,080.48	\$2.70	\$1,083.17
33	0.25%	\$1,083.18	\$2.71	\$1,085.88
34	0.25%	\$1,085.89	\$2.71	\$1,088.59
35	0.25%	\$1,088.60	\$2.72	\$1,091.31
36	0.25%	\$1,091.32	\$2.73	\$1,094.04



- The spreadsheet is based on the following formulas. Fill in the blanks:
 - Interest Payment = _____ x Beginning Balance
 - _____ = Beginning Balance + Interest Payment

How would you express each of the statements above as a numerical formula for month 1 of the spreadsheet?

- Write a mathematical formula to show why the monthly interest rate is 0.25% if the annual percentage is 3%.

- How did the beginning balance grow over the course of the first year? If 3% of \$1,000 is \$30, where did the extra 42 cents come from?

- Compare the monthly interest payments at 12 months, 24 months, and 36 months. Why do the monthly interest payments increase over time?

- How do these amounts illustrate the concept of compound interest?

- Why would a bank choose to pay small payments over time in an amount that totals more than the 3% annual interest rate?

- What would happen if the 3% annual percentage rate was compounded daily instead of monthly? What would the ending balance be after 1 year?
