

Activity Sheet 1: Saving for Retirement

Help Bob and Sidney calculate the potential gains for the three different accounts by completing the amounts in the grayed section of the table. Results are rounded to the whole dollar amount. Compound interest is the amount of investment + earned interest x the interest rate = the interest earned:

Age	Scenario One	Scenario Two		Scenario Three		
	Savings account interest rate	Savings account balance	Certificate of deposit interest rate*	Certificate of deposit account balance	IRA Rate of Return	IRA balance
22	2%		4%		5%	
23	2%		4%		5%	
24	2%		4%		5%	
25	2%		4%		5%	
26	2%		4%		5%	
27	2%	\$1,126	6%	\$1,290	5%	\$1,340
28	4%	\$1,171	6%	\$1,367	9%	\$1,461
29	2%	\$1,195	6%	\$1,449	4%	\$1,519
30	2%	\$1,219	6%	\$1,536	4%	\$1,580
31	3%		6%		4%	
32	3%	\$1,293	8%	\$1,758	4%	\$1,709
33	5%	\$1,357	8%	\$1,899	11%	\$1,897
34	5%	\$1,425	8%	\$2,051	11%	\$2,105
35	5%	\$1,497	8%	\$2,215	10%	\$2,316
36	5%		8%		10%	
37	5%	\$1,650	8%	\$2,584	10%	\$2,802
38	5%	\$1,732	8%		9%	\$3,055
39	4%	\$1,802	8%		9%	
40	4%	\$1,874	8%	\$3,255	7%	\$3,563
41	3%		8%		7%	
42	3%	\$1,988	8%	\$3,796	7%	\$4,079
43	4%	\$2,067	8%	\$4,100	9%	\$4,446
44	5%	\$2,171	8%		11%	\$4,935
45	7%	\$2,323	8%		11%	\$5,478
46	7%		8%		11%	
47	7%	\$2,659	10%	\$5,681	11%	\$6,749
48	7%	\$2,845	10%	\$6,249	9%	\$7,356
49	5%	\$2,988	10%	\$6,874	9%	\$8,019
50	5%	\$3,137	10%	\$7,562	7%	\$8,580
51	5%		10%		7%	
52	3%	\$3,393	6%	\$8,817	5%	\$9,639
53	3%		6%		5%	\$10,121
54	3%		6%	\$9,907	5%	
55	3%	\$3,707	6%	\$10,501	5%	\$11,159
56	3%		6%		5%	
57	3%	\$3,933	4%	\$11,577	4%	\$12,185
58	3%	\$4,051	4%	\$12,040	5%	\$12,795
59	3%	\$4,173	4%	\$12,521	6%	\$13,562
60	3%	\$4,298	4%	\$13,022	6%	\$14,376
61	3%		4%		6%	
62	4%		5%		6%	

* 5 year CD

1. Based on the results above, which savings vehicle yields the best results for retirement? Why?
2. Assume the interest rate for the savings account remained at 2%, the interest rate for the CD remained at 4%, and the interest rate of the IRA remained at 5%. Using the Rule of 72, how many years would it take for each savings type to double?
3. Using the assumption stated above about interest rates for the savings types above, how much more would Bob and Sidney have earned at the age of 22, if they had invested their respective \$1,000 at the age of 18? To answer, first calculate how much they would have earned from the ages of 18 to 22. Then subtract that amount from \$1000.
4. The story of Bob and Sidney includes changes in interest rates throughout the years. Which type of savings account is the most stable? Which the most volatile?
5. The Certificate of Deposit maintains the same interest rate over the deposit period. What is a possible disadvantage to this kind of savings account? When would you advise the young men to consider it most useful?
6. The Individual Retirement Account seems to have risks and rewards. Based upon the chart, is the IRA a sound investment over the 40 years? What could happen to have you change your advice?

ANSWER KEY

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Help Bob and Sidney calculate the potential gains for the three different accounts by completing the amounts in the grayed section of the table. Results are rounded to the whole dollar amount. Compound interest is the amount of investment + earned interest x the interest rate = the interest earned:

	Scenario One		Scenario Two		Scenario Three	
Age	Savings account interest rate	Savings account balance	Certificate of deposit interest rate*	Certificate of deposit account balance	IRA Rate of Return	IRA balance
22	2%	\$1,020	4%	\$1,040	5%	\$1,050
23	2%	\$1,040	4%	\$1,081	5%	\$1,102
24	2%	\$1,061	4%	\$1,125	5%	\$1,157
25	2%	\$1,082	4%	\$1,170	5%	\$1,215
26	2%	\$1,104	4%	\$1,217	5%	\$1,276
27	2%	\$1,126	6%	\$1,290	5%	\$1,340
28	4%	\$1,171	6%	\$1,367	9%	\$1,461
29	2%	\$1,195	6%	\$1,449	4%	\$1,519
30	2%	\$1,219	6%	\$1,536	4%	\$1,580
31	3%	\$1,256	6%	\$1,628	4%	\$1,643
32	3%	\$1,293	8%	\$1,758	4%	\$1,709
33	5%	\$1,357	8%	\$1,899	11%	\$1,897
34	5%	\$1,425	8%	\$2,051	11%	\$2,105
35	5%	\$1,497	8%	\$2,215	10%	\$2,316
36	5%	\$1,572	8%	\$2,392	10%	\$2,548
37	5%	\$1,650	8%	\$2,584	10%	\$2,802
38	5%	\$1,732	8%	\$2,790	9%	\$3,055
39	4%	\$1,802	8%	\$3,013	9%	\$3,330
40	4%	\$1,874	8%	\$3,255	7%	\$3,563
41	3%	\$1,930	8%	\$3,515	7%	\$3,812
42	3%	\$1,988	8%	\$3,796	7%	\$4,079
43	4%	\$2,067	8%	\$4,100	9%	\$4,446
44	5%	\$2,171	8%	\$4,428	11%	\$4,935
45	7%	\$2,323	8%	\$4,782	11%	\$5,478
46	7%	\$2,486	8%	\$5,165	11%	\$6,081
47	7%	\$2,659	10%	\$5,681	11%	\$6,749
48	7%	\$2,845	10%	\$6,249	9%	\$7,356
49	5%	\$2,988	10%	\$6,874	9%	\$8,019
50	5%	\$3,137	10%	\$7,562	7%	\$8,580
51	5%	\$3,294	10%	\$8,318	7%	\$9,180
52	3%	\$3,393	6%	\$8,817	5%	\$9,639
53	3%	\$3,495	6%	\$9,346	5%	\$10,121
54	3%	\$3,600	6%	\$9,907	5%	\$10,627
55	3%	\$3,707	6%	\$10,501	5%	\$11,159
56	3%	\$3,818	6%	\$11,131	5%	\$11,717
57	3%	\$3,933	4%	\$11,577	4%	\$12,185
58	3%	\$4,051	4%	\$12,040	5%	\$12,795
59	3%	\$4,173	4%	\$12,521	6%	\$13,562
60	3%	\$4,298	4%	\$13,022	6%	\$14,376
61	3%	\$4,427	4%	\$13,543	6%	\$15,239
62	4%	\$4,604	5%	\$14,220	6%	\$16,153

* 5 year CD

1. Based on the results above, which savings vehicle yields the best results for retirement? Why?

The best results would have to be the IRA, Scenario 3 because from the ages of 22-62, its balance is the highest.

2. Assume the interest rate for the savings account remained at 2%, the interest rate for the CD remained at 4%, and the interest rate of the IRA remained at 5%. Using the Rule of 72, how many years would it take for each savings type to double?

*Savings Account - 2% = 36 years
 CD - 4% = 18 years
 IRA - 5% = 14.4 years*

3. Using the assumption stated above about interest rates for the savings types above, how much more would Bob and Sidney have earned at the age of 22, if they had invested their respective \$1,000 at the age of 18? To answer, first calculate how much they would have earned from the ages of 18 to 22. Then subtract that amount from \$1000.

*Savings Account - 1104 – 1000 = 104
 CD - 1217 – 1000 = 217
 IRA - 1340 – 1000 = 340*

4. The story of Bob and Sidney includes changes in interest rates throughout the years. Which type of savings account is the most stable? Which the most volatile?

CD is the most stable because its interest rates do not change over the deposit period. The interest rates don't differ much. On the other hand, the IRA interest rates are unstable. They usually change every couple of years with very major interest rate differences.

5. The Certificate of Deposit maintains the same interest rate over the deposit period. What is a possible disadvantage to this kind of savings account? When would you advise the young men to consider it most useful?

You want your investment to grow, but if the CD maintains a low rate for 5 years, you might of just wasted valuable interest. When they grow older and have a larger amount of money in the deposit, it would probably be more beneficial.

6. The Individual Retirement Account seems to have risks and rewards. Based upon the chart, is the IRA a sound investment over the 40 years? What could happen to have you change your advice?

The IRA sounds like a really nice investment over 40 years, but if the interest is unstable and decides to drop low for most of the 40 years, then I would change my advice.