I hear, and I forget.
I see, and I remember.
I do, and I understand.

- Confucius

Excel 2019
Part 4: Simple Budgets

Revised January 2020

The Function of a Budget

Personal budgets are used to keep the checkbook balanced or to plan for unforeseen circumstances such as job loss. They can also be used to plan for a significant future event such as a wedding, vacation, or home purchase. This class involves using Excel skills (inserting text, basic functions, AutoSum, AutoFill, and more) to create a basic budget spreadsheet.

Getting Started

To create a budget spreadsheet, first enter the basic content into your Excel document.

1. Open Excel from the Start menu

1. An Excel start screen opens; click on **blank workbook**

2. In cell **A1,** type **Personal Budget** and press enter **three** times

3. Type the following content into the designated cell addresses

➢ **A4**: Income	***SKIP A ROW***
➢ **A5**: Wages	➢ **A19**: Non-Essential Expenses
➢ **A6**: Misc	➢ **A20**: Entertainment
➢ **A7**: Income Total	➢ **A21**: Eating Out
SKIP A ROW	➢ **A22**: Non-Essential Expenses Total
➢ **A9**: Expenses	***SKIP A ROW***
➢ **A10**: Essential Expenses	➢ **A24**: Charity and Savings
➢ **A11**: Mortgage/Rent	➢ **A25**: Savings
➢ **A12**: Groceries	➢ **A26**: Debt
➢ **A13**: Utilities	➢ **A27**: Charity
➢ **A14**: Phone	➢ **A28**: Charity and Savings Total
➢ **A15**: Transportation Costs	***SKIP A ROW***
➢ **A16**: Clothing	➢ **A30**: Expenses Total
➢ **A17**: Essential Expenses Total	➢ **A31**: Over/Short

Changing Column Width

The text in several cells is wider then the column width. If text is added to the next column, the text in the previous column will not be fully visible.

For example:

1. Click in cell **B15** and type 200
2. Press **Enter**

The content in the A15 cell is no longer fully visible.

To correct this problem the A column width must be adjusted.

1. Place the cursor over the **column line** in the **column heading** so the **white cross** becomes a **double arrow**

2. Double-click the mouse; the column widens to fit the longest information in the column

Using Auto Fill

One of Excel's nicest features is **Auto Fill**, which reduces the amount of typing needed when entering series into a spreadsheet. Excel has been programmed to understand cycles, like after January comes February or after 1 comes 2.
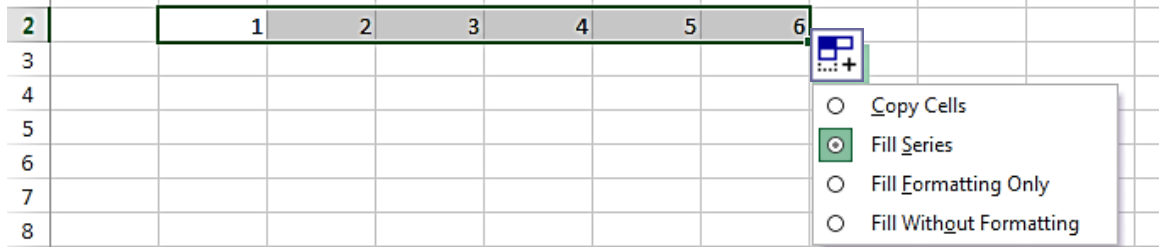
Practice Exercise: Auto Fill - Months

1. In cell **B3**, type **Jan**

2. Place the cursor in the bottom right corner of the cell until the cursor turns into a small dark plus sign

3. Click and drag the fill handle to the right until you see the prompt for December (cell M3). Excel automatically fills the cells
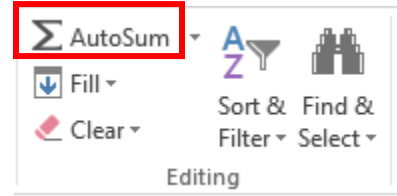
NOTE: When using **Auto Fill**, select the **Auto Fill options** button to either copy the cells or fill the series. Selecting **Fill Series** produces a series of numbers, e.g. 1, 2, 3, months, e.g. Jan, Feb, March etc.

2		1	2	3	4	5	6		
3									
4						○ Copy Cells			
5						◉ Fill Series			
6						○ Fill Formatting Only			
7						○ Fill Without Formatting			
8									

Creating a Budget

A 5-Step Approach to Creating a Personal Budget

This budget is for Person X, who has no one to support but himself and has credit card debt to pay off.

Step 1: Calculate Your Income

First, he calculates exactly how much money he earns on a yearly basis—about $24,000 (after taxes), from his day job. He also drives for Lyft and earns about $3,000 yearly from that side job. Dividing by 12, his monthly net salary is $2,250.

He decides to put aside money every month for all expenses, even if a payment isn't due every month. He calculates the monthly expenses by taking each yearly expense and dividing by 12.

Input Budgeted Income

1. First we'll fill in the **Income** section. In cell **B5**, type **2000** and press the **Enter** key on the keyboard

2. In cell **B6**, type **250** and press the **Enter** key on the keyboard

3. Select cells **B5** and **B6** (make sure to release the left mouse button once you select cells!)

4. Place the cursor in the bottom right corner of the **B6** cell until the cursor turns into a small dark plus sign

3		Jan	F
4	Income		
5	Wages	2000	
6	Misc	250	
7	Income Total		

5. Left click and drag the fill handle right to the **M column**

3		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4	Income												
5	Wages	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
6	Misc	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
7	Income Total												

Use the AutoSum Function to Total Income

The AutoSum function provides a quick way to add columns or rows of numbers in a spreadsheet. We will use AutoSum to determine our total monthly income.

1. Click on the **B7** cell to make it the active cell

2. Go to the **Home** tab → **Editing** group → **AutoSum** command

3. Excel places "marching ants" around the numbers it assumes should be included in the sum function. If it's correct, press **Enter** on the keyboard and Excel automatically totals the selected numbers.

Income	
Wages	2000
Misc	250
Income Total	=SUM(B5:B6)

NOTE: Excel first looks above the selected cell for a group of numbers to add; if none are found, it looks to the left of the selected cell. If the marching ants are not around the correct cells, click and drag over the correct cells and hit **Enter** on the keyboard. To cancel the marching ants, hit the **Esc** key.

4. Click back in cell **B7** and use autofill to copy the AutoSum function across to cell **M7**

Step 2: Determine which Expenses are Necessary

Person X decides to make a list of monthly expenses for things he absolutely needs to survive. In doing so, he comes up with the following categories:

1. Mortgage/rent

2. Groceries

3. Clothing

4. Utilities such as gas and electricity

5. Transportation costs (gas/fuel)

6. Phone

Step 3: Input Essential Expenses

Some expenses, like rent, are fixed and will be the same each month. Many expenses will fluctuate each month.

1. In the **Essential Expenses** section of **Expenses**, enter:

   - **850** in **Mortgage/Rent** - cell **B11**

   - **200** in **Groceries** - cell **B12**

   - **75** in **Utilities** - cell **B13**

   - **25** in **Phone** - cell **B14**

   - **50** in **Clothing -** cell **B16**

9	Expenses	
10	Esssential Expenses	
11	Mortgage/Rent	850
12	Groceries	200
13	Utilities	75
14	Phone	25
15	Transportation Costs	200
16	Clothing	50
17	Essential Expenses Total	

2. Click in cell **B17** and use the AutoSum function to total essential expenses

10	Esssential Expenses	
11	Mortgage/Rent	850
12	Groceries	200
13	Utilities	75
14	Phone	25
15	Transportation Costs	200
16	Clothing	50
17	Essential Expenses Total	=SUM(B11:B16)

3. Select the cell range **B11-B17** and autofill across to **column M**

The total essential expenses for the month are **$1400**. Now Person X knows that he must set aside $1400 for basic expenses every month.

Step 4: Determine and Calculate Non-Essential Expenses

Person X lists the things on which he spends money that are not vital. Person X budgets these amounts:

1. In the **Non-Essential Expenses** section, enter:

   - **50** in **Entertainment**- cell **B20**

   - **100** in **Eating Out** - cell **B21**

19	Non-Essential Expenses	
20	Entertainment	50
21	Eating Out	100
22	Non-Essential Expenses Total	

2. Click in cell **B22** and use the AutoSum function to total non-essential expenses

3. Select the cell range **B20-B22** and autofill across to **column M**

50
100
=SUM(B20:B21)

The total non-essential expenses for the month are **$150**. Now Person X knows that he must set aside $150 for non-essential expenses every month.

Formulas in non-contiguous cells

So far we have only put together formulas in contiguous (connected) cells. Now we will learn how to create formulas using non-contiguous cells.

To create a formula to calculate total expenses:

1. Click in cell **B30**
2. Type in **=**
3. Click on cell **B17**
4. In cell **B30**, type **+**
5. Click on cell **B22**
6. In cell **B30**, type **+**
7. Click on cell **B28**
8. Press **Enter**

17	Essential Expenses Total	1400
18		
19	Non-Essential Expenses	
20	Entertainment	50
21	Eating Out	100
22	Non-Essential Expenses Total	150
23		
24	Charity and Savings	
25	Savings	
26	Debt	
27	Charity	
28	Charity and Savings Total	
29		
30	Expenses Total	=B17+B22+B28

Now that we have calculated total expenses, we can create a formula to show if we are over or short for our monthly expenses.

1. Click on cell **B31**
2. Type in the subtraction formula **=B7-B30**
3. Press **Enter**
4. Select cells **B30-B31** and autofill the formulas across to **column M**

30	Expenses Total	1550
31	Over/Short	=B7-B30

The spreadsheet shows a **$700 surplus** of cash for the month.

NOTE: A negative number in the over/short section indicates that you are over budget for the month.

Step 5: Establish Categories for Debt Elimination, Charity, and Savings

Since Person X has a surplus in his budget and is serious about giving to charity, eliminating his debt, and creating a savings cushion, he decides that these categories must be included as well. He chooses to budget the following amounts:

Input Charity & Savings Expenses

1. In the **Charity and Savings** section, enter:

   - **150** in **Savings**- cell **B25**

   - **400** in **Debt** - cell **B26**

   - **150** in **Charity** - cell **B27**

24	Charity and Savings	
25	Savings	150
26	Debt	400
27	Charity	150
28	Charity and Savings Total	700

4. Click in cell **B28** and use the AutoSum function to total charity and savings expenses

5. Select cells **B25-B28** and use autofill to copy the numbers and formulas across to **column M**

The total charity and savings expenses for the month are **$700**. Person X can now see in the Over/Short section that he has budgeted all of his income for the month.
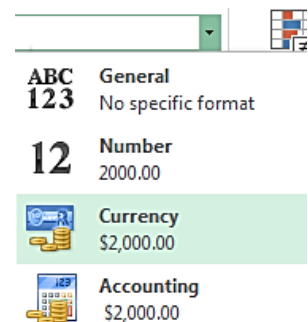
150
400
150
700

Formatting

Now that the spreadsheet has been created with values entered and formulas inserted, the final task is to format your spreadsheet

Changing Number Format

Right now, even though we are looking at a budget, it isn't obvious that we are talking about money. Dollar signs and decimal points usually show us we are talking about money! To change the number format on the spreadsheet:

1. Select the cell range **B5-M31**
2. Go to the **Home** tab → **Number** group → **Number Format** drop down menu
3. Click on **Currency**

ABC 123	General No specific format
12	Number 2000.00
	Currency $2,000.00
	Accounting $2,000.00

Changing Cell Appearance

Personal Budget Header:

1. Select the cell range **A1-M1**
2. Go to the **Home** tab → **Font** group
3. Change the **font** to Arial Black
4. Change the **font size** to 28
5. Change the **cell color** to dark green
6. Change the **font color** to white

Income Header:

1. Select the cell range **A4-M4**
2. Go to the **Home** tab → **Font** group
3. Change the **font** to Arial Black
4. Change the **font size** to 24
5. Change the **cell color** to a light shade of green
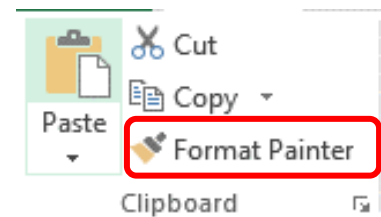6. Change the **font color** to white

Essential Expenses Sub-Header:

1. Select the cell range **A10-M10**
2. Go to the **Home** tab → **Font** group
3. Change the **font** to Arial Black
4. Change the **font size** to 11
5. Change the **cell color** to a light shade of gray

Use the format painter to quick change other headers

Expenses Header:

1. Select the cell range **A4-M4**
2. Go to the **Home** tab → **Clipboard** group → **Format Painter**
3. Click on cell **A9**

Non-Essential Expenses Header:

Double click the format painter button to apply the same formatting to multiple places in a document

1. Select the cell range **A10-M10**
2. Go to the **Home** tab → **Clipboard** group → Double click **Format Painter**
3. Click on cell **A19**
4. Click on cell **A24**
5. Click on cell **A30**
6. Click on cell **A31**
7. Click once on **Format Painter** to turn it off

Error Message

#####, sometimes referred to as "railroad tracks", is an Excel error message caused by several conditions:

- A number in a cell is too wide for the cell to display it.

- The formula in a cell produces a result that is too wide for the cell.

- There is a negative number in the cell that has been formatted for dates or times. Dates and times in excel must be positive values.

To fix the ##### error, place the cursor over the line between the two columns at the top of the worksheet. When the cursor changes to a two-headed arrow with a line in between, double-click the mouse.

For example, in this worksheet:

1. Place your cursor between the **B** and **C** columns at the top of the worksheet.

2. When the cursor changes to a two-headed arrow with a line between, double-click the mouse

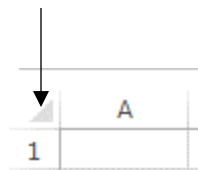|	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Income												
Wages	#######	#######	#######	#######	#######	#######	#######	#######	#######	#######	#######	#######
Misc	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00	$250.00
Income Total	#######	#######	#######	#######	#######	#######	#######	#######	#######	#######	#######	#######

6. Repeat *the steps above to* widen the **any other** columns on the spreadsheet displaying the #####.

NOTE: Repeat these steps any time a cell fills with #######

To adjust the width of all the columns at once:

Select All button

1. To highlight the entire document (**Ctrl+A**) or Click the **Select All** button

2. Go to the **Home** tab → **Cells** group → **Format** command → **AutoFit Column Width**

Some Things to Remember

Revisit your budget each month to see if you've stayed on track or if you need to make further adjustments. If your financial picture changes significantly—for example, you get a pay raise or are laid off—update your budget to reflect your new circumstances.

Numbers are flexible. Experiment with finding cheaper options for things, even essentials.

- Don't spend money unless you actually have it in order to avoid paying interest
- Write down every expenditure
- Keep receipts of all purchases
- Estimate using averages
- Plan for emergencies
- Plan for extras