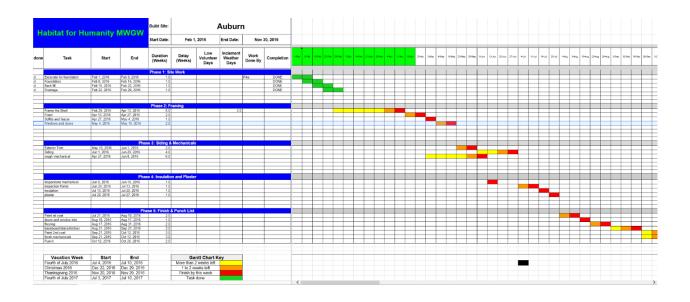
# Google Sheets Project Management User Manual



Worcester Polytechnic Institute Interactive Qualifying Project D term March-May 2016

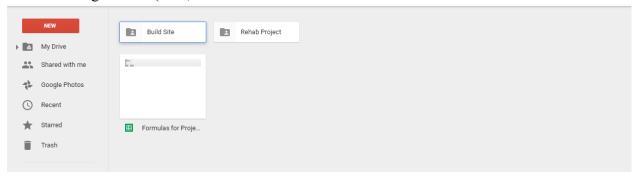
Written By: Andrew Bauer, Chris Xavier, Anna Schozer and Erin Bracken

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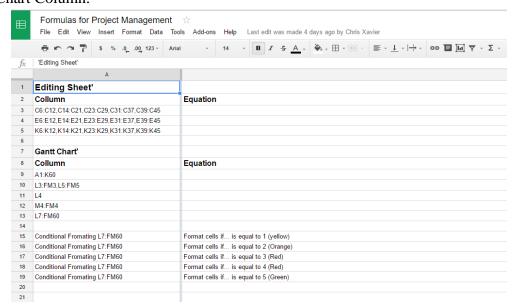
# Accessing the documents in the Drive

- 1. Start navigating to drive.google.com and entering the user name and password for google mail (gmail). (0:01)
- 2. Click on the folder that is titled "HFH MWGW Project Management".
- 3. On this screen the user will notice that there are two google folders that are titled "Build Site" and "Rehab Project" and a google sheets file that is titled "Formulas for Project Management". (0:18)



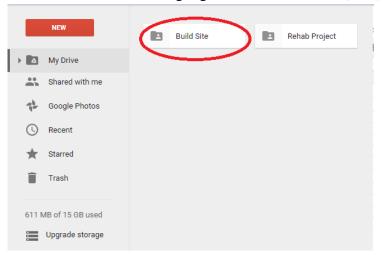
#### Accessing the Drive Formulas

- 1. "Formulas for Project Management" does not need to be accessed unless the formulas are accidently changed in one of the documents. These formulas are extremely long and complicated.
- 2. If the user happens to need to access the formulas, click on the google sheets document and the formulas will appear and are grouped by the editing sheet Column and the Gantt Chart Column.

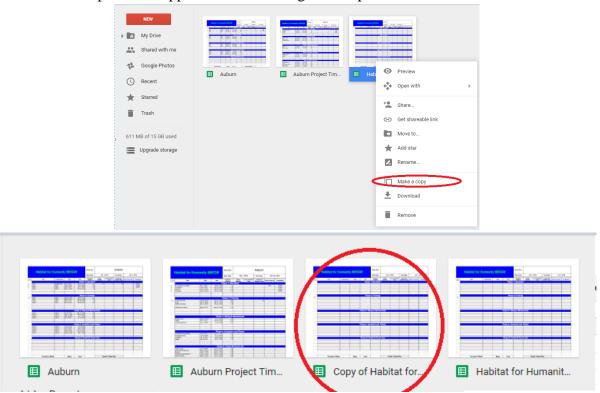


#### Creating a New Document

1. Click on the "HFH MWGW Project Management Folder", then the "Build Site" folder and the user will notice there are three google sheets documents. (0:25)



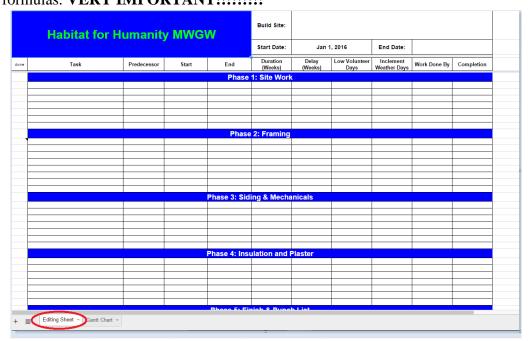
- 2. The third sheet is the project management template and will be used whenever a new project is being started.
- 3. When starting a new project, right click on the template and choose make a copy. A copy of the template will appear next to the original template.



4. Click on this icon and start by renaming the google sheets project. (0:41)



- 5. Rename the document by highlighting the name and changing it to the title that is desired.
- 6. **VERY IMPORTANT!!!!!!** Before editing, please make sure to use the edit sheet when entering values. On the very bottom of the screen there are two sheets, they are the editing sheet and the Gantt Chart sheet. Click on the editing sheet tab to ensure edits are made to the correct one. Editing the Gantt Chart sheet can cause many issues with the formulas. **VERY IMPORTANT!!!!!!!!!**

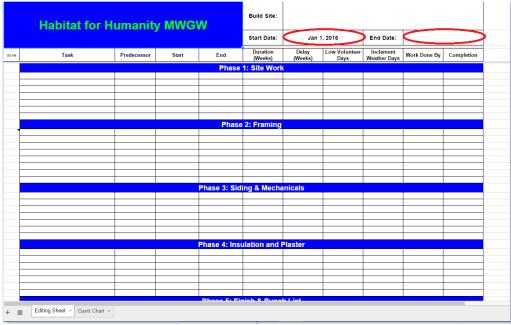


## Editing the Document Title and Overall Start and End Date

1. Located in cell G1, is the place to edit the title next to the column that says Build Site. Put the name of the build site here. (1:30)

Habitat for H				Start Date:	Jan 1	, 2016	End Date:		
Task	Predecessor	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
			Phase	1: Site Work					
			Phase	2: Framing					
			Phase 3: Sid	ng & Mecha	nicals				
			Phase 4: Inst	lation and I	Plaster				
	-								

2. Next, under the G1 cell is the place to enter the start date. This is the date when the first task will begin. To the right of the start date is the cell to enter the end date. This is the end date when you plan the entire house will be finished. (1:38)



## Updating the Phases

- 1. The phases that are listed in the document are not going to be the same for each project and therefore can be easily edited. (2:25)
- 2. Click anywhere in the blue cell and type the title of the phase that you wish to have.

	Habitat for Huma	anity M\	wgw	Build Site: Start Date:	Feb 1	1, 2016	Auburn End Date:	Nov 30	, 2016
done	Task	Start	End	Duration (Wooks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
			P	hase 1: Site	Work				
d	Excavate for foundation	Feb 1, 2016	Feb 8, 2016	1.0				Pike	DONE
d	Foundation	Feb 8, 2016	Feb 15, 2016	1.0					DONE
d	Back fill	Feb 15, 2016	Feb 22, 2016	1.0					DONE
d	Drainage	Feb 22, 2016	Feb 29, 2016	1.0					DONE

3. There is no need to use the backspace key. The text that you want will automatically replace the existing text.

# **Entering and Updating Tasks**

1. Located in column B are the tasks that need to be performed to finish the project at the build site. (2:40)

	Habitat for H	umanit	y MWGI	N	Build Site:					
					Start Date:	Jan 1	1, 2016	End Date:		
ne	Task	Predecessor	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
				Phase	1: Site Work					
<del>     </del>										
	<del></del>									
				Phase	2: Framing					
1				Filase	Z. Framing					
+										
-										
				Phase 3: Sidi	ng & Mecha	nicals				
1										
1	<del>- 1</del>									
1										
				Phase 4: Inst	lation and F	lactor				
				rilase 4. Ilist	nation and i	lastel				
<del>  \</del>										
	\									
-	$\overline{}$									
				Phase 5: Fir	iah <sup>©</sup> Bunal	Lint	<u> </u>			
■ E	diting Sheet  Gantt Chart									

- 2. The tasks are broken up into five phases that are titled site work, framing, siding and mechanicals, insulation and plaster and finish and punch list but they can be changed to anything desired as explained in the previous section.
- 3. Start by entering a task in cell B6. Here it is referred to it as task 1.

	Habitat for H	umanit	v MWGI	W	Build Site:					
					Start Date:	Jan 1	, 2016	End Date:		
done	Task	Predecessor	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
				Phase	1: Site Work					
	$\overline{}$									
-										
				Dhasa	Or Examina					
-				Phase	2: Framing					
-										
-										
				Phase 3: Sid	ng & Mecha	nicals				
-										
				Phase 4: Insu	ılation and I	Plaster				
- +							<u> </u>			
-										
				Phone 5: Eir	ioh <sup>©</sup> Buno	a Liet				
. =	Editing Sheet - Gantt Chart -									
≡	Editing Sheet - Gantt Chart -									

#### Updating Start, End and Task Duration and Linking Tasks

- 1. Next, enter a date in the same row as the task in the first column. The first task will most likely have the same start date as the overall project. (2:55)
- 2. Then enter the duration of the task in the duration column located two columns to the right of the start column. Enter the duration in weeks as indicated in the column heading. (3:05)

	Habitat for H	umanıt	MWG	N	Start Date:	Jan 1	, 2016	End Date:		
					Duration Duration	Delay	Low Volunteer	Inclement		
٠	Task	Predecessor	Start	End	(Weeks)	(Weeks)	Days Days	Weather Days	Work Done By	Completion
				Phase	1: Site Work					
-										
J				Phase	2: Framing					
-1										
				Phase 3: Sidi	ng & Mecha	nicals				
-										
				Phase 4: Inst	lation and F	Plaster				
-										
_				Phone & Fir						

- 3. Once the first task has been entered, it is very easy to link tasks together so that they change when previous tasks are updated. (3:50)
- 4. On the second task, enter the task name and then enter an equal symbol in the start date of task two.

done	Task	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
			P	hase 1: Site	Work				
d	Excavate for foundation	Feb 1, 2010	Feb 8, 2016	1.0				Pike	DONE
d	Foundation	= _	Feb 15, 2016	1.0					DONE
d	Back fill	Fub 15, 2016	Feb 22, 2016	1.0					DONE
d	Drainage	Feb 22, 2016	Feb 29, 2016	1.0					DONE

5. Then click on the end date of the first task or the task that it needs to be linked to. The date will appear in the start date of task 2.

do	e Task	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
			F	hase 1: Site	Work				
d	Excavate for foundation	Feb 1, 2016	Feb 8, 2016	1.0				Pike	DONE
d	Foundation	= L	Feb 15, 2016	1.0					DONE
d	Back fill	Feb 15, 2016	Feb 22, 2016	1.0					DONE
d	Drainage	Feb 22, 2016	Feb 29, 2016	1.0					DONE

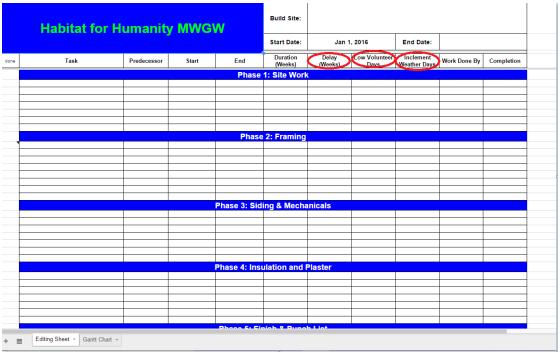
- 6. The cell number will appear and then press enter.
- 7. Repeat this process for each task if they need to be linked together.

done	Task	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
			F	hase 1: Site	Work				
d	Excavate for foundation	Feb 1, 2016	Feb 8, 2016	1.0				Pike	DONE
d	Foundation	Feb.8 2016	Feb 15, 2016	1.0					DONE
d	Back fill	Feb 15, 2016	Feb 22, 2016	1.0					DONE
d	Drainage	Feb 22, 2010	Feb 29, 2016	1.0					DONE

8. If the tasks do not need to be linked, simply enter the date and do not use the equal sign to link them. This will create an independent task.

#### **Delay Columns**

- 1. Once all of the tasks have been entered and the work has commenced, the project manager can easily update the tasks as the build site progresses.
- 2. Located to the right of the duration column are the delay, low volunteer days, and inclement weather days columns. These columns are used to help the project manager push the project dates back because of delays that occur for many reasons. Low volunteer days can be added if work is delayed because of a shortage of labor. Put a 1 here when a day is lost due to low volunteers. Do the same for the inclement weather days when work cannot be performed. If more than one day is lost due to inclement weather or low volunteers, increase the number in the column to push back the Gantt chart (4:30).



3. The delay column is measured in weeks and is used in the same way that the low volunteer days and inclement weather days is used. However, this column is for delays that are due to another issue. Entering a 1 here will push the Gantt chart back a week.

# Using the Work Done By Column

1. The user can add who completed the task if the work needs to be done by an outside contractor. This can be done in the column that is titled "work done by". It is located all to the left of the completion column. (5:45)

	Habitat for H				Start Date:	Jan 1	, 2016	End Date:		
ne	Task	Predecessor	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
				Phase	1: Site Work					
										,
-										
$\vdash$										
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$\perp$										
				Phase	2: Framing					
					Ĭ					
-										
				Phase 3: Sidi	ing & Mecha	nicals				
-										
-										
				Phase 4: Insu	lation and F	Plaster				
						Taroto:				
-										
										===
				Phage 5: Fir						

# **Completion Column**

1. As the tasks start to be completed, the project manager can specify which projects have been completed by putting a "d" in the done column. The done column is located all the way to the right in the editing chart. This will automatically show "DONE" under the completion column which is located all the way to the right. **Do not edit the Completion column!!!!!** (7:20)

	Habitat for Huma	anity M\	NGW	Build Site: Start Date:	Feb 1	, 2016	Auburn	Nov 30	), 2016	
done	Task	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion	Completion
			F	hase 1: Site	Work					
d	Excavate for foundation	Feb 1, 2016	Feb 8, 2016	1.0				Pike	DONE	
d	Foundation	Feb 8, 2016	Feb 15, 2016	1.0					DONE	
d	Back fill	Feb 15, 2016	Feb 22, 2016	1.0					DONE	
d	Drainage	Feb 22, 2016	Feb 29, 2016	1.0					DONE	

#### Predecessor, End Date and Gantt Chart Intro

- 1. Do not edit the predecessor or end date cells. These cells contain very complicate formulas that will automatically calculate the correct value for the user. All the user needs to do is edit the start and duration.
- 2. The program will automatically produce a Gantt Chart on the other sheet showing the order or tasks in a very visually appealing manner. This can be seen by clicking on the Gantt Chart tab on the bottom of the page.

	Habitat for H	lumanit	MWG	N	Build Site:					
					Start Date:	Jan	1, 2016	End Date:		
	Task	Predecessor	Start	End	Duration (Weeks)	Delay (Weeks)	Low Volunteer Days	Inclement Weather Days	Work Done By	Completion
				Phase	1: Site Work					
_										
+										
				Phase	2: Framing					
1—										
				Phase 3: Sid	ng & Mecha	nicals				
-										
				Phase 4: Insu	ilation and I	laster				
+										
				Phone 5: Eir	siab 9 Busal	Lint				

#### Gantt Chart Key

1. At the bottom of the editing sheet, there is a Gantt chart key and top timeline key. This helps the user to identify what each color means. The Gantt chart key colors are located within the Gantt chart itself while the top timeline key colors show up above the chart where the dates are displayed.

Vacation Week	Start	End	Gantt Chart Key
Fourth of July 2016	Jul 4, 2016	Jul 10, 2016	More than 2 weeks left
Christmas 2016	Dec 22, 2016	Dec 29, 2016	1 to 2 weeks left
Thanksgiving 2016	Nov 20, 2016	Nov 29, 2016	Finish by this week
Fourth of July 2017	Jul 3, 2017	Jul 10, 2017	Task done
Christmas 2017	Dec 22, 2017	Dec 29, 2017	Holiday week
Thanksgiving 2017	Nov 20, 2017	Nov 29, 2017	
			Top Timeline Key
			Date has occured
			Today's date
			Over end date

- 2. Located to the left of the chart keys, is the vacation week chart. This chart updates the Gantt chart whenever a task occurs on the week of vacation. This chart automatically adds a week to the duration time of that task. The user does not need to factor this week into the duration time. (7:50)
- 3. The user needs to adjust the weeks of Thanksgiving, Christmas and July 4th each year to make sure that the correct week is accounted for. This can be done by simply entering the date in the start and end column of the vacation week chart.

Vacation Week	Start	End		Gantt Chart Key
Fourth of July 2016	Jul 4, 2016	Jul 10, 2016		More than 2 weeks left
Christmas 2016	Dec 22, 2016	Dec 29, 2016		1 to 2 weeks left
Thanksgiving 2016	Nov 20, 2016	Nov 29, 2016		Finish by this week
Fourth of July 2017	Jul 3, 2017	Jul 10, 2017	1	Task done
Christmas 2017	Dec 22, 2017	Dec 29, 2017		Holiday week
Thanksgiving 2017	Nov 20, 2017	Nov 29, 2017	/	
				Top Timeline Key
				Date has occured
				Today's date
				Over end date

#### **Gantt Chart Features**

1. While the editing is being done in the editing sheet, the visual is also being updated in the Gantt chart sheet. While there is no editing that can be done on this sheet, each feature should be explained to ensure the user understands the lay out.



- 2. Located on the top of the chart is the top timeline row which labels the date of each cell below it. The green highlight means that the week has already passed. The purple highlight means that it is the current day and the red means that this date has passed the final deadline.
- 3. As the dates are changed for each task in the editing sheet, each subsequent task in the Gantt chart is moved back.
- 4. Each task turns green once it is completed. A yellow box indicates that there are two weeks until completion, orange means 1-2 weeks until completion and red means there is less than one week until completion. (6:55)
- 5. The predecessor column is a feature of the Gantt Chart and the editing sheet. This shows the task that comes directly before the one that is being working on. (8:30)

#### Frequently Asked Questions

How do I add a new row in a phase with more than seven tasks?

1. Move the cursor over to the left of the screen and right click the row that needs an addition row above or below while in the editing sheet. Then click the option insert 1 above or insert 1 above. (9:15)

	_	
5		
6	d	Excavate for foundation
7	d	Foundation
8	d	Back fill
9	d	Drainage
10		
11 12	Cut	
13	Сору	
14 15	Paste	
16	Paste	special >
17	-	
18 19	Insert	1 above
20	Insert	1 below
21	Delete	row
22	Clear r	ow
24	Hide ro	w
25 26	Resize	row
27	D	

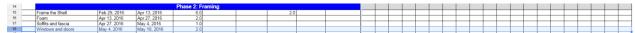
2. A new row will appear but the equations will not work in this row. Highlight the row, and move to the bottom right corner of the highlighted area. Move the cursor over the small blue box and wait until the cursor turns into a cross. Pull the highlighted area to the top or bottom.

Phase 1: Site Work									
Excavate for foundation	Feb 1, 2016	Feb 8, 2016	1.0				Pike	DONE	
f Foundation	Feb 8, 2016	Feb 15, 2016	1.0					DONE	
d Back fill	Feb 15, 2016	Feb 22, 2016	1.0					DONE	
Drainage	Feb 22, 2016	Feb 29, 2016	1.0					DONE	
			Phase 2: Fra	mina					

- 3. The equations have been copied to the next row and the user needs to click on the Gantt Chart sheet to finish copying the formula.
- 4. In order to get this inserted row to show up on the Gantt Chart, navigate to the Gantt Chart page and choose to add a row in the same spot. Do this by follow the same instructions for adding a row that was just discussed. (10:25)

3	Auburn Projec File Edit View				Help All change	es saved in Drive						
	5 c a 7	¢ %	000_ 123 -	Arial -	8 - B Z	5 A	- 88 -	<u></u> - <del>↓</del> -   <del>-</del>   -   -   -	co <u>II</u> <u>III</u> °	7 - Σ -		
	Cut					_						
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						Build Site:						
	Paste special	-						Auburn				
			r Hum	anity M\	WGW							
	Insert 1 above					Start Date:	Feb 1, 2016		End Date:	Nov 30, 2016		
C	Insert 1 below					otart bate.		1, 2010	Lina Date:			
	Delete row			Start	End	Duration	Delay	Low Volunteer	Inclement	Work Done By	Completic	
Į.	Clear row			- otart		(Weeks)	(Weeks)	Days	Weather Days	Trent Delie Dy	L	
						hase 1: Site	Work					
	Hide row			Feb 1, 2016	Feb 8, 2016	1.0				Pike	DONE	
	Resize row			Feb 8, 2016	Feb 15, 2016	1.0					DONE	
				Feb 15, 2016	Feb 22, 2016	1.0					DONE	
	Define named range			Feb 22, 2016	Feb 29, 2016	1.0					DONE	
2	Deline named range											
2	Protect range											
3	Conditional formatting					Phase 2: Fra	iming					
5	Data validation			Feb 29, 2016	Apr 13, 2016 Apr 27, 2016	6.0 2.0		-	2.0			
В				Apr 13, 2016 Apr 27, 2016	May 4, 2016	1.0						
7	Windows and					2.0						
8	vvindows and o	loors		May 4, 2016	May 18, 2016	2.0		1				
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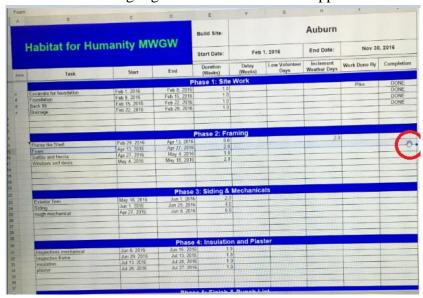
5. Then select the entire row that is above the row that was just added by hitting control, shift and the right arrow key at the same time. This will highlight the entire row in the Gantt Chart.



6. Once the row is highlighted, repeat the same process by dragging the small blue box in the bottom right hand corner of the highlighted area. The information will be copied onto the Gantt Chart sheet from the editing sheet. **Do not edit the Gantt Chart page!!!** 

How do I move a task because I have entered them out of order?

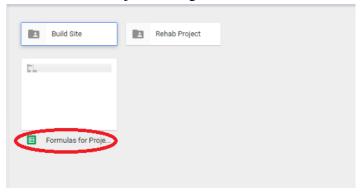
- 1. Highlight the row that needs to be moved.
- 2. Move the cursor over the highlighted row until the hand appears.



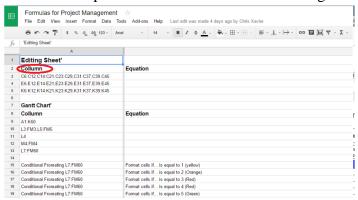
- 3. Move the cursor to the desired spot while holding down the mouse.
- 4. Let go of the mouse click to drop the above information into the highlighted boxes.

What do I do if I accidently change the code in the cells? (11:00)

1. If the user accidently changes the code in the cells refer to the Formulas document located in the HFH MWGW Project Management Folder.



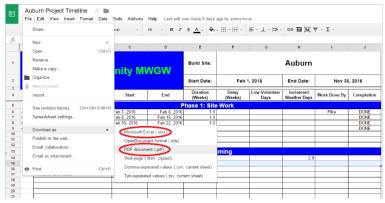
2. Find the formula that corresponds to the formula that was changed.



3. Copy the formula and paste it in the correct cell.

How do I download and print the sheet? (12:10)

1. Click the File button that is located in the top right hand corner of the screen and then choose Download as.



2. Then choose either to download the file as an excel file or a pdf document based on the type of document that you prefer.



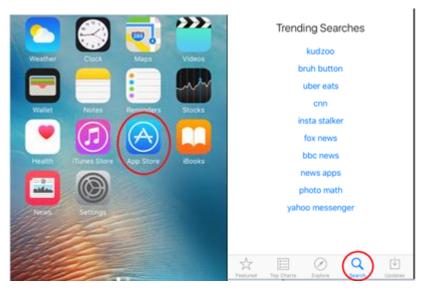
3. This download button will appear at the bottom of the screen and click it to view the downloaded document.

# Using Google Sheets Mobile App

Google sheets has a version that can be accessed on your smartphone using the google sheets app.

#### iPhone App Download:

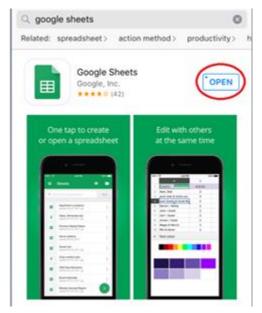
1. Access the App Store through the App on your phone and select the search tab on the bottom of the screen.



2. Search "google sheets" in the search bar, press the "get" button and then press "install".



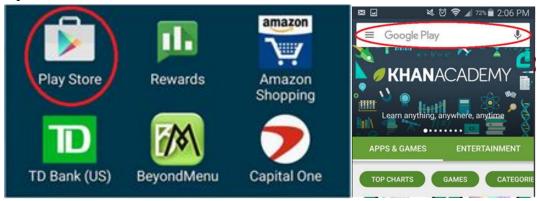
3. Open the google sheets app and sign into google mail (gmail).



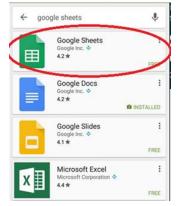
4. Using this app, all of your spreadsheet documents on google drive can be accessed and edited in real time.

#### Android App Download:

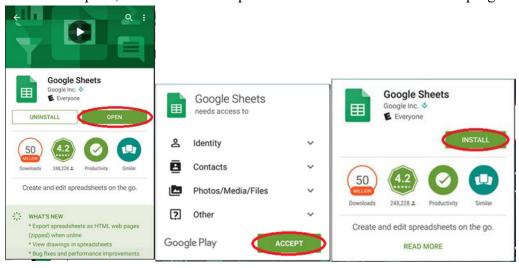
1. Access the Play Store app on an android phone and select the google play search bar at the top of the screen.



2. Search "google sheets" in the google play bar and click the google sheets icon.



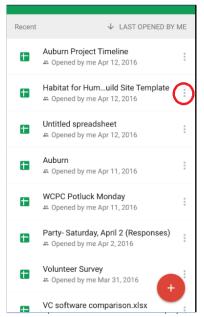
3. Click "open", then choose "accept" and then choose to "install" the program.



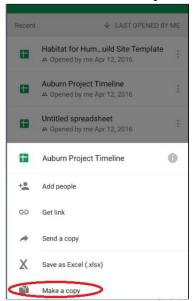
4. Sign in with google email (gmail) credentials. Using this app, all spreadsheet documents on google drive can be accessed and edited in real time.

#### Accessing your Timelines

1. Begin by selecting the 3 dots icon on the right of the screen next to the Habitat for Humanity Build Site Document.



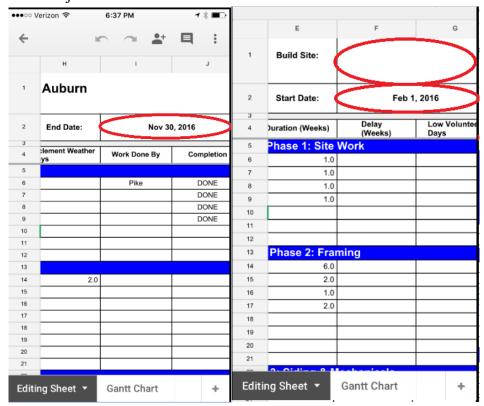
2. Then select the option that says make a copy. The general procedure will follow exactly how the user would work the software on the computer.



- 3. VERY IMPORTANT!!!!! The guide will walk the user through the basics of using the Google Sheets software using the mobile app. However, it is recommended that if changes are necessary, make them on the computer. The computer will make the task much easier to do. VERY IMPORTANT!!!!!!
- 4. When you open the sheet, it will look the same as the document that was opened on the computer.

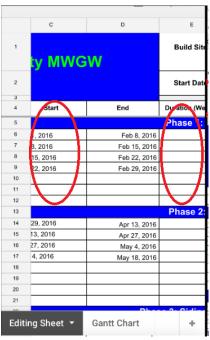
#### Creating a Title, Start and End Date

- 1. Notice that the top row with the titles for each column are locked meaning that the headings of each column will remain at the top when scrolling.
- 2. Start by editing the build site name in cell G1 and then enter the start date and end date of the build site just below it.



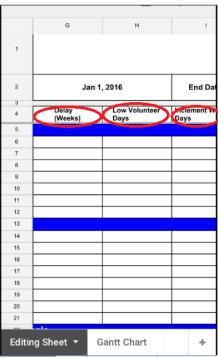
# Editing Start and Duration for Each Task

1. Next, enter the tasks in the far left column and the start date for each task in the column directly to the right.



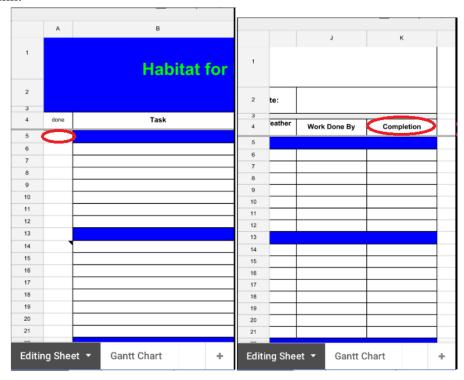
# Editing the Delay Columns

1. The other delay columns can be editing exactly the same as editing using Google Sheets on the computer.



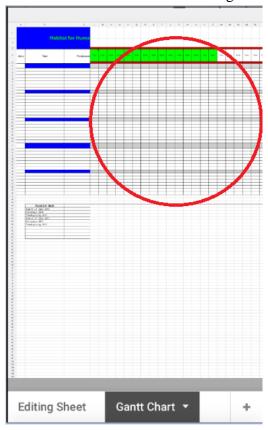
# **Completion Column**

- 1. The work done by column can also be editing the same way.
- 2. A "d" can be typed in the column to the far left and done will appear in the completion column.



#### **Gantt Chart**

- 1. Once all of the tasks have been entered in the editing sheet, all of the tasks and chart in the Gantt Chart tab can be viewed.
- 2. Click on the Gantt Chart tab and view the chart to the right.



5. The features of the Gantt Chart are the same in the Google Sheets app as when using a computer. The Gantt Chart will appear small on the mobile app but it is very easy to zoom in and out. Remember only edit when on the editing sheet.