

Animating Changes Over Time



Clipboard: Paste, Copy, Cut, Paste with styles, Paste as plain text, Paste as picture, Paste as picture with cell background colors.

Font: Calibri, 11, Bold, Italic, Underline, Text color, Background color, Font color, Font style (Normal, Bulleted list, Numbered list, Decrease indent, Increase indent), Font effects (Text to speech, Spelling, Grammar, Font color and highlighter).

Alignment: General, Left, Center, Right, Justify, Merge cells, Unmerge cells, Wrap text, Orientation (Horizontal, Vertical), Text direction (Upward, Downward, Left-to-right, Right-to-left).

Number: General, Currency, Percentage, Comma, Thousands separator, Fraction, Decimals, Increase decimal places, Decrease decimal places, Date, Time, Text format, Custom number format.

Styles: Conditional Formatting, Format as Table, Cell Styles.

Cells: Insert, Delete, Format.

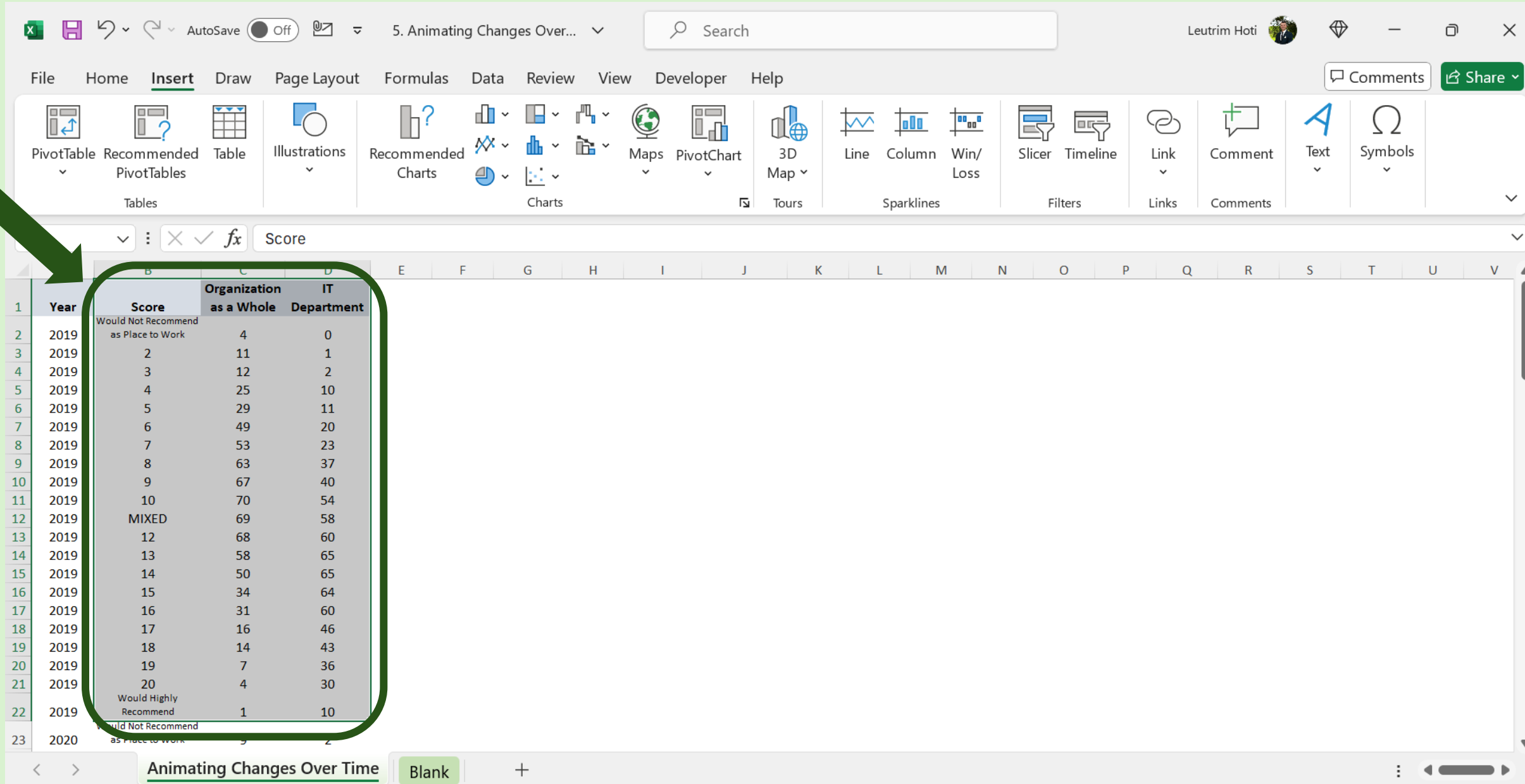
Editing: Sort & Filter, Find & Select.

Add-ins: Add-ins, Analyze Data.

O25

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Year	Score	Organization as a Whole	IT Department																			
2	2019	Would Not Recommend as Place to Work	4	0																			
3	2019	2	11	1																			
4	2019	3	12	2																			
5	2019	4	25	10																			
6	2019	5	29	11																			
7	2019	6	49	20																			
8	2019	7	53	23																			
9	2019	8	63	37																			
10	2019	9	67	40																			
11	2019	10	70	54																			
12	2019	MIXED	69	58																			
13	2019	12	68	60																			
14	2019	13	58	65																			
15	2019	14	50	65																			
16	2019	15	34	64																			
17	2019	16	31	60																			
18	2019	17	16	46																			
19	2019	18	14	43																			
20	2019	19	7	36																			
21	2019	20	4	30																			
22	2019	Would Highly Recommend	1	10																			
23	2020	Would Not Recommend as Place to Work	9	2																			

Step 1: Select Cells B1:D22



The screenshot displays the Microsoft Excel interface. The ribbon is set to the 'Insert' tab. The formula bar shows the active cell contains the text 'Score'. The data table below is highlighted with a green selection box, and a green arrow points to it from the left side of the image.

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	5	2

Step 2: Click Insert, Select 2-D Area Chart

The screenshot shows the Microsoft Excel interface with the 'Insert' tab selected. The '2-D Area' chart type is highlighted in the 'Charts' group. A green arrow points from the '2-D Area' chart icon to the data table below.

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

2-D Area

Use this chart type to:

- Show trends over time (years, months, and days) or categories.

Use it when:

- Category order is important.
- To highlight the magnitude of change over time.

Step 3: Delete Chart Title

The screenshot shows the Microsoft Excel interface with the Chart Design ribbon active. The ribbon includes options for Chart Layouts, Chart Styles, Data, Type, and Location. The chart area displays a 100-point chart with two data series: 'Organization as a Whole' (blue) and 'IT Department' (orange). A green arrow points to the 'Chart Title' text box, which is highlighted with a green border, indicating the step to delete the chart title.

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Step 4: Right-Click In The Chart, Format Chart

The screenshot displays the Microsoft Excel interface. A PivotTable is visible on the left, and a chart is on the right. A right-click context menu is open over the chart, with the 'Format Chart Area...' option highlighted. A green arrow points from the PivotTable area towards the 'Format Chart Area...' option in the menu.

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2019	Would Not Recommend as Place to Work	9	2

Step 5: Click The Chart, Select The Color

Microsoft Excel interface showing a chart and the Format Data Series task pane.

Chart 1 Formula Bar: `=SERIES('Animating Changes Over Time'!C1,'Animating Changes Over Time'!B2:B22,'Animating Changes Over Time'!C2:C22,1)`

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Format Data Series (Series Options)

- Solid fill
- Gradient fill
- Picture texture fill
- Pattern fill
- Automatic

Color: [Color Picker]

Transparency: 30%

Add 30% transparency

Step 6: Click The Chart, Select The Color

Microsoft Excel interface showing a chart and its data source. The chart is a stacked area chart with two series: "Organization as a Whole" (purple) and "IT Department" (orange). The x-axis represents years from 2019 to 2020, and the y-axis represents scores from 0 to 80. A green arrow points to the chart area.

The data source is a table with the following columns: Year, Score, Organization as a Whole, and IT Department.

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2019	Would Not Recommend as Place to Work	9	2
2020			

The chart formula is: `=SERIES('Animating Changes Over Time'!D1,'Animating Changes Over Time'!B2:B22,'Animating Changes Over Time'!D2:D22,2)`

The "Format Data Series" task pane is open, showing the "Series Options" tab. The "Fill" section is expanded, and the "Transparency" slider is set to 30%. A green arrow points to the transparency slider.

Add 30% transparency

Step 7: Add Select Year, Make It Bold & Italic

The screenshot displays the Microsoft Excel interface. The ribbon is set to the 'Home' tab, showing options for font (Calibri, size 11), alignment, and styles. The active cell is F4, containing the text 'Select Year', which is highlighted with a green border. A green arrow points to this cell. Below the ribbon, a table of data is visible, with columns for Year, Score, Organization as a Whole, and Department. A stacked area chart is positioned below the table, showing the distribution of scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) from 2019 to 2020. The x-axis of the chart is labeled with 'Not Recommend as Place...', 'MIXED', and 'Would Highly Recommend'. The y-axis represents the score, ranging from 2 to 20. The chart shows that the 'Organization as a Whole' score generally increases from 2019 to 2020, while the 'IT Department' score remains relatively stable.

Year	Score	Organization as a Whole	Department
2019	4	0	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Step 8: Insert Source List For Data Validation

The screenshot shows the Microsoft Excel interface. The ribbon is set to 'Home', and the 'Filter' button is highlighted with a green arrow. Below the ribbon, the spreadsheet data is visible. A dropdown menu is open, showing a list of years from 2019 to 2023, which is highlighted with a green box. The spreadsheet data includes columns for Year, Score, Organization as a Whole, and IT Department. A chart is also visible, showing the data for Organization as a Whole and IT Department over time.

Year	Score	Organization as a Whole	IT Department
2019	4	11	1
2019	2	12	2
2019	3	25	10
2019	4	29	11
2019	5	49	20
2019	6	53	23
2019	7	63	37
2019	8	67	40
2019	9	70	54
2019	10	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	1	1	10
2020	9	9	2

Step 9: Click Cell G4, Go Data Validation

The screenshot shows the Microsoft Excel interface with the 'Data' ribbon selected. The 'Data Validation' dropdown menu is open, showing options: 'Data Validation...', 'Circle Invalid Data', and 'Clear Validation Circles'. A green arrow points from the ribbon to the 'Data Validation...' option. Another green arrow points from the 'Data Validation...' option to cell G4 in the spreadsheet. Cell G4 contains the text 'Select Year' and is highlighted with a green border. The spreadsheet data is as follows:

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	11	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Below the spreadsheet is a stacked area chart showing the cumulative scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) from 2019 to 2020. The x-axis is labeled with scores from 2 to 20, and the y-axis represents the cumulative total. The chart shows that the 'Organization as a Whole' score increases significantly from 2019 to 2020, while the 'IT Department' score remains relatively stable.

Step 10: Select List, Click Source

The screenshot shows the Microsoft Excel interface with the Data Validation dialog box open. The dialog box is titled "Data Validation" and has three tabs: "Settings", "Input Message", and "Error Alert". The "Settings" tab is active. The "Validation criteria" section shows "Allow:" set to "List". The "Data:" section shows "between". The "Source:" field is empty. There are two green arrows: one pointing to the "List" dropdown menu and another pointing to the "Source" field. The spreadsheet background shows a table with columns for Year, Score, Organization as a Whole, and IT Department. The "Organization as a Whole" column has values ranging from 4 to 20, and the "IT Department" column has values ranging from 2 to 10. A chart is visible on the right side of the spreadsheet, showing a stacked area chart with two series: "Organization as a Whole" (purple) and "IT Department" (orange).

Year	Score	Organization as a Whole	IT Department
2019	2	11	2
2019	3	12	10
2019	4	25	11
2019	5	29	20
2019	6	49	23
2019	7	53	37
2019	8	63	40
2019	9	67	54
2019	10	70	58
2019	MIXED	69	60
2019	12	68	65
2019	13	58	65
2019	14	50	64
2019	15	34	60
2019	16	31	46
2019	17	16	43
2019	18	14	36
2019	19	7	30
2019	20	4	10
2020	Would Highly Recommend as Place to Work	1	2
2020	Would Not Recommend as Place to Work	9	

Step 11: Select The Range, Press OK

The screenshot shows the Microsoft Excel interface with the Data tab selected. A Data Validation dialog box is open, with the formula field containing `=:S1:S5`. A purple arrow points from the dialog box to the year list in column S, and another purple arrow points from the 'Forecast Sheet' button in the ribbon to the same year list. The year list is highlighted with a green dashed border.

Year	Score	Organization as a Whole	IT Department
2019	4	0	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

The Data Validation dialog box shows the following fields:

- Allow data entries for the cells in this range: `=:S1:S5`
- Criteria: (Empty)
- Options: (Checked)

The year list in column S is:

- 2019
- 2020
- 2021
- 2022
- 2023

Step 12: Make It Bold, Fill Color

The screenshot displays the Microsoft Excel interface with the following elements:

- File Name:** 5. Animating Changes Over...
- Home Tab:** Font (Calibri, size 11), Bold (B), Italic (I), Underline (U), Alignment, Number, Styles (Conditional Formatting, Format as Table, Cell Styles), Cells (Insert, Delete, Format), Editing (Sort & Filter, Find & Select), Add-ins, and Analyze Data.
- Formula Bar:** G4, fx, 2019
- Table:**

Year	Score	Organization as a Whole	IT Department
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2
- Chart:** A stacked area chart showing the distribution of scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) across the years 2019-2023. The x-axis is labeled with scores from 2 to 20, and the y-axis represents years. A legend at the bottom identifies the series.
- Annotations:** A green arrow points to a dropdown menu for the year 2019, which is highlighted with a green box. The text 'Select Year' is visible next to the dropdown.

Step 13: Select And Copy The Headers

The screenshot shows the Microsoft Excel interface. The ribbon is set to 'Home'. The spreadsheet contains a table with the following data:

Year	Score	Organization as a Whole	IT Department
2019	as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

A green arrow points to the header row of the table, which is highlighted with a green border. The chart below the table is a stacked area chart showing the scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) over time. The x-axis is labeled 'Select Year' and has a dropdown menu set to '2019'. The y-axis represents the score, ranging from 0 to 20. The chart shows that the 'Organization as a Whole' score starts at 4 in 2019 and increases to 10 by 2019, while the 'IT Department' score starts at 0 and increases to 10 by 2019. The total score for 2019 is 20. The chart also shows data for 2020, with a total score of 11.

Step 14: Paste Just Below The Chart

The screenshot shows the Microsoft Excel interface with the following data table and chart:

Year	Score	Organization as a Whole	IT Department
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend as Place to Work	1	10
2020	Would Not Recommend as Place to Work	9	2
2020	2	20	3
2020	3	23	4
2020	4	38	16
2020	5	45	19
2020	6	58	30
2020	7	61	36
2020	8	69	56
2020	9	72	57
2020	10	68	54
2020	MIXED	65	57
2020	12	63	60
2020	13	44	66
2020	14	39	63
2020	15	27	52

The chart is a stacked area chart showing scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) from 2019 to 2020. The x-axis is labeled 'Year' and the y-axis is labeled 'Score'. The chart shows a general upward trend in scores over time, with the IT Department consistently scoring higher than the Organization as a Whole. A green arrow points to a table being pasted below the chart, which is highlighted with a green border. The table has the following structure:

Year	Score	Organization as a Whole	IT Department
------	-------	-------------------------	---------------

Step 15: Select & Copy Cells B2:B22

Microsoft Excel interface showing a spreadsheet and a chart. The spreadsheet data is as follows:

Year	Organization as a Whole	IT Department
2019	4	0
2019	2	1
2019	3	2
2019	4	10
2019	5	11
2019	6	20
2019	7	23
2019	8	37
2019	9	40
2019	10	54
2019	MIXED	58
2019	12	60
2019	13	65
2019	14	65
2019	15	64
2019	16	60
2019	17	46
2019	18	43
2019	19	36
2019	20	30
2019	Would Highly Recommend	10
2020	Would Not Recommend as Place to Work	2

The chart is a stacked area chart titled "Animating Changes Over Time" showing the distribution of recommendations for "Organization as a Whole" (purple) and "IT Department" (orange) from 2019 to 2020. The x-axis represents recommendation levels from 2 (Not Recommend as Place to Work) to 20 (Would Highly Recommend). The y-axis represents the count of responses. A legend at the bottom identifies the two data series.

A green arrow points to the range B2:B22 in the spreadsheet, which is highlighted with a green border. The formula bar shows the active cell contains the text "Would Not Recommend as Place to Work".

Step 16: Paste Just Below The Chart

The screenshot shows the Microsoft Excel interface with the following data table:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
27	2020	5	45	19			Yes	Score	Organization as a Whole	IT Department											
28	2020	6	58	30				2													
29	2020	7	61	36				3													
30	2020	8	69	56				4													
31	2020	9	72	57				5													
32	2020	10	68	54				6													
33	2020	MIXED	65	57				7													
34	2020	12	63	60				8													
35	2020	13	44	66				9													
36	2020	14	39	63				10													
37	2020	15	27	52				MIXED													
38	2020	16	21	47				12													
39	2020	17	8	31				13													
40	2020	18	6	29				14													
41	2020	19	2	26				15													
42	2020	20	1	20				16													
43	2020	Would Highly Recommend	0	8				17													
44	2021	Would Not Recommend as Place to Work	15	1				18													
45	2021	2	28	5				19													
46	2021	3	31	7				20													
47	2021	4	50	16				Would Highly Recommend													
48	2021	5	59	15																	
49	2021	6	67	27																	

The chart area is located in the top right of the worksheet, with a green arrow pointing to the cell containing the text "Would Not Recommend as Place to Work". A green box highlights the range of cells in column H from row 28 to row 48, which contains the scores 2 through 20.

Step 17: Press "G4", Make Absolute Reference

The screenshot shows the Microsoft Excel interface with the following data table and chart:

Year	Score	Organization as a Whole	IT Department
2019	7	25	23
2019	8	37	20
2019	9	40	17
2019	10	54	14
2019	MIXED	58	12
2019	12	60	10
2019	13	65	8
2019	14	65	7
2019	15	64	6
2019	16	60	5
2019	17	46	4
2019	18	43	3
2019	19	36	2
2019	20	30	1
2019	Would Highly Recommend as Place to Work	10	2
2020	2	3	4
2020	3	4	3
2020	4	16	2
2020	5	19	1
2020	6	30	1
2020	7	36	1
2020	8	56	1
2020	9	57	1

The chart is a stacked area chart showing the scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) from 2019 to 2020. The x-axis represents the score, ranging from 2 to 20. The y-axis represents the year. The chart shows that the 'Organization as a Whole' score generally increases over time, while the 'IT Department' score remains relatively stable.

The formula bar shows the formula `=G4` in cell G4. A green arrow points to this cell, and a green callout box on the right explains the instruction: "In the cell just below the 'Year', Press G4, and then make it absolute reference G\$4\$."

Step 18: Drag this down

The screenshot shows the Microsoft Excel interface. The formula bar at the top displays the formula `=G$4` in cell G28. The data table below has columns for Year, Score, Organization as a Whole, and IT Department. A green box highlights the '2019' value in cell G28, and a green arrow points downwards from the formula bar to this cell. Another green arrow points downwards from the highlighted cell to the rest of the column, indicating a drag-down action. A callout box in the bottom right corner explains the importance of using absolute references.

	A	B	C	D	E	G	H	I	J
						Year	Score	Organization as a Whole	IT Department
27	2020	5	45	19		2019	2	Would Not Recommend as Place to Work	
28	2020	6	58	30		2019	3		
29	2020	7	61	36		2019	4		
30	2020	8	69	56		2019	5		
31	2020	9	72	57		2019	6		
32	2020	10	68	54		2019	7		
33	2020	MIXED	65	57		2019	8		
34	2020	12	63	60		2019	9		
35	2020	13	44	66		2019	10		
36	2020	14	39	63		2019	MIXED		
37	2020	15	27	52		2019	12		
38	2020	16	21	47		2019	13		
39	2020	17	8	31		2019	14		
40	2020	18	6	29		2019	15		
41	2020	19	2	26		2019	16		
42	2020	20	1	20		2019	17		
43	2020	Would Highly Recommend	0	8		2019	18		
44	2020	Would Not Recommend as Place to Work	15	1		2019	19		
45	2021	2	28	5		2019	20		
46	2021	3	31	7		2019	Would Highly Recommend		
47	2021	4	50	16		2019			
48	2021	5	59	15		2019			
49	2021	6	67	27		2019			

Drag this down by including absolute reference G\$4\$. The G4 cell will remain fix.

Step 19: In Cell I4, Insert SUMIFS formula

The screenshot shows the Microsoft Excel interface. The ribbon is set to 'Home'. The formula bar shows the formula `=SUMIFS(` being entered in cell I4. A green arrow points to cell I4, which is highlighted. The chart below the data table shows two data series: 'Organization as a Whole' (purple) and 'IT Department' (orange). The x-axis represents a score from 1 to 20, and the y-axis represents the count of responses. The data table shows the following data:

Year	Score	Organization as a Whole	IT Department
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2
2020	2	20	3
2020	3	23	4
2020	4	38	16
2020	5	45	19
2020	6	58	30
2020	7	61	36

Step 20: Insert Formula As Described

The screenshot shows the Microsoft Excel interface. The formula bar at the top displays the formula: `=SUMIFS($C:$C,$A:$A,$G28,$B:$B,$H28)`. The spreadsheet data is as follows:

Year	Score	Organization as a Whole	IT Department
2019	7	35	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2019	Would Not Recommend as Place to Work	9	2
2020	2	20	3
2020	3	23	4
2020	4	38	16
2020	5	45	19
2020	6	58	30
2020	7	61	36
2020	8	69	56
2020	9	72	57

The chart is a stacked area chart with the x-axis labeled 'Would Not Recommend as Place to Work' on the left and 'Would Highly Recommend' on the right. The y-axis represents the score. The chart shows two series: 'Organization as a Whole' (purple) and 'IT Department' (orange). A green arrow points from the formula bar to the chart area. A green box highlights the formula in the data table.

We want to sum values in **Organization as a whole**, we fix that (add \$ signs), Criteria range is Column A, we fix that too. Select G28, we fix the G. The second criteria is Column B, we fix that. Write H28, we fix the H. Close Parentheses. Press Enter.

Step 21: Drag this down

The screenshot shows the Microsoft Excel interface. The formula bar contains the formula: `=SUMIFS($C:$C,$A:$A,$G28,$B:$B,$H28)`. The spreadsheet data is as follows:

	A	B	C	D	E	F	G	H	I	J
							Year	Score	Organization as a Whole	IT Department
27	2020	5	45	19						
28	2020	6	58	30			2019	Would Not Recommend as Place to Work	4	
29	2020	7	61	36			2019	2	11	
30	2020	8	69	56			2019	3	12	
31	2020	9	72	57			2019	4	25	
32	2020	10	68	54			2019	5	29	
33	2020	MIXED	65	57			2019	6	49	
34	2020	12	63	60			2019	7	53	
35	2020	13	44	66			2019	8	63	
36	2020	14	39	63			2019	9	67	
37	2020	15	27	52			2019	10	70	
38	2020	16	21	47			2019	MIXED	69	
39	2020	17	8	31			2019	12	68	
40	2020	18	6	29			2019	13	58	
41	2020	19	2	26			2019	14	50	
42	2020	20	1	20			2019	15	34	
43	2020	Would Highly Recommend	0	8			2019	16	31	
44	2021	Would Not Recommend as Place to Work	15	1			2019	17	16	
45	2021	2	28	5			2019	18	14	
46	2021	3	31	7			2019	19	7	
47	2021	4	50	16			2019	20	4	
48	2021	5	59	15			2019	Would Highly Recommend	1	
49	2021	6	62	27						

At the bottom of the window, the active sheet is named "Animating Changes Over Time".

Drag this down by including absolute and relative references.

Step 22: Insert Formula As Described

The screenshot shows the Microsoft Excel interface with the following elements:

- Formula Bar:** Displays the formula `=SUMIFS($D:$D,$A:$A,$G28,$B:$B,$H28)`. A green arrow points to the `$D:$D` range, and a green box highlights it.
- Spreadsheet Data:**

Year	Score	Organization as a Whole	IT Department
2019	10	1	4
2020	2	9	11
2020	3	20	12
2020	4	23	25
2020	16	38	29
2020	19	45	31
2020	30	58	34
2020	36	61	36
2020	56	69	49
2020	57	72	53
2020	54	68	63
2020	57	65	67
2020	60	63	70
2020	66	44	69
2020	63	39	68
2020	63	27	58
2020	52	21	50
2020	47	8	34
2020	31	8	34
2020	29	6	31
2020	26	2	16
2020	20	1	8
2020	8	0	
- Callout Box:** A smaller version of the spreadsheet data is shown with a green box around the value '4' in the 'IT Department' column for the year 2019. A green arrow points from the formula bar to this cell. Another green box highlights the formula `=SUMIFS($D:$D,$A:$A,$G28,$B:$B,$H28)` in the callout, with a green arrow pointing to the `$D:$D` range.

We want to sum values in **IT Department**, we copy & paste the formula. We only change the sum range from Organization as a Whole, to **IT Department**. We replace C with D. Press Enter.

Step 23: Drag this down

The screenshot shows the Microsoft Excel interface. The formula bar contains the formula `=SUMIFS($D:$D,$A:$A,$G28,$B:$B,$H28)`. The spreadsheet displays data for years 2020 and 2021 across columns A to D. A table is embedded in the spreadsheet with the following structure:

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend		

A green arrow points to the cell containing '0' in the 'IT Department' column for the first row of the table. A green box highlights the entire 'IT Department' column. A green callout box in the bottom right corner contains the text: "Drag this down by including absolute and relative references."

Step 24: Click File Tab, Select More Options

The screenshot shows the Microsoft Excel interface. At the top, the title bar reads "5. Animating Changes Over Time". The user's name "Leutrim Hoti" and various icons are visible in the top right. The left sidebar contains the File tab, which is highlighted. The main area displays a "Good afternoon" greeting and a "New" section with several templates: "Blank workbook", "Welcome to Excel", "Formula tutorial", "PivotTable tutorial", and "Personal monthly budget". Below these is a search bar and a "Recent" section. The "Recent" section lists files, with the top entry being "Animating Changes Over Time" located on the Desktop. A green arrow points from the "More..." button in the File tab to the "Options" button in the context menu that appears over the "Animating Changes Over Time" file entry.

5. Animating Changes Over Time

Leutrim Hoti

Good afternoon

New

Blank workbook

Welcome to Excel

Formula tutorial

PivotTable tutorial

Personal monthly budget

More templates →

Search

Recent Pinned Shared with Me

Name	Date modified
Animating Changes Over Time Desktop » Data Visualization 22hrs » 5. Animating Changes Over Time	2h ago
Animating Changes Over Time » Data Visualization 22hrs » 5. Animating Changes Over Time	3h ago
Visualization Teaching File » Data Visualization 22hrs » 5. Animating Changes Over Time	3h ago

More...

Options

Step 25: Click Advanced, Uncheck The Box

The screenshot shows the Microsoft Excel interface with the 'Excel Options' dialog box open. The 'Advanced' tab is selected in the left sidebar. The 'Chart' section is expanded, and the checkbox 'Properties follow chart data point for current workbook' is unchecked. A green arrow points from the 'Advanced' tab to the checkbox. A green callout box in the bottom right corner contains the text: 'Click Advanced, Scroll down, to the Chart, and then uncheck the box. Press Ok.'

Year	Score	Organization as a Whole
2019	2	11
2019	3	12
2019	4	25
2019	5	29
2019	6	49
2019	7	53
2019	8	63
2019	9	67
2019	10	70
2019	MIXED	69
2019	12	68
2019	13	58
2019	14	50
2019	15	34
2019	16	31
2019	17	16
2019	18	14
2019	19	7
2019	20	4
2019	Would Highly Recommend	1
2020	Would Not Recommend as Place to Work	9

Step 26: Click Chart, Grab Source Array

5. Animating Changes Over Time • Saved to this PC

File Home Insert Draw Page Layout Formulas Data Review View Developer Help Chart Design Format

Chart 1: =SERIES('Animating Changes Over Time'!\$C\$1,'Animating Changes Over Time'!\$B\$2:\$B\$22,'Animating Changes Over Time'!\$C\$2:\$C\$22,1)

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Select Year: 2019

Organization as a Whole IT Department

Animating Changes Over Time Blank

Click in the chart and grab the source array.

Step 27: Change The Source Array Location

Microsoft Excel interface showing a chart and its data source. The chart is a stacked area chart with two series: "Organization as a Whole" (purple) and "IT Department" (orange). The x-axis represents years from 2019 to 2020, and the y-axis represents scores. The chart is titled "Chart 1" and the formula bar shows the source array: `=SERIES('Animating Changes Over Time'!I27,'Animating Changes Over Time'!H28:H48,'Animating Changes Over Time'!I28:I48,1)`.

The data source is located in the following table:

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1

Green arrows point to the source array location in the table and the chart's data source. A green box on the right contains the instruction: "Put the source array just below the chart."

Step 28: Click Chart, Grab Source Array

The screenshot shows the Microsoft Excel interface with the following elements:

- Formula Bar:** Contains the formula `=SERIES('Animating Changes Over Time'!D1,'Animating Changes Over Time'!H28:H48,'Animating Changes Over Time'!D2:D22,2)`. A green arrow points from the formula bar to the chart area.
- Worksheet:** Contains data for 'Animating Changes Over Time' with columns for Year, Score, Organization as a Whole, and IT Department. The data is for the year 2019.
- Chart:** A stacked area chart showing the distribution of scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) for the year 2019. A green arrow points to the chart area.
- Chart Design Tab:** Shows various options for formatting and editing the chart.
- Bottom Panel:** Shows the active workbook 'Animating Changes Over Time' and a 'Blank' sheet.

Year	Score	Organization as a Whole	IT Department
2019	4	11	0
2019	2	12	1
2019	3	25	2
2019	4	29	10
2019	5	49	11
2019	6	53	23
2019	7	63	37
2019	8	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Click in the chart and grab the source array.

Step 29: Change The Source Array Location

Microsoft Excel interface showing a chart and its data source. The chart is a stacked area chart with two series: "Organization as a Whole" (purple) and "IT Department" (orange). The x-axis represents years from 2019 to 2020, and the y-axis represents scores. A green arrow points to the source array location in the formula bar, and another green arrow points to the source array location in the data table below the chart.

Formula Bar: `=SERIES('Animating Changes Over Time'!J27,'Animating Changes Over Time'!H28:H48,'Animating Changes Over Time'!J28:J48,2)`

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1

Put the source array just below the chart.

Step 30: Click Developer Tab, Insert Spin Button

The screenshot shows the Microsoft Excel interface with the Developer tab selected. The 'Insert' button in the Developer ribbon is highlighted with a green box, and a green arrow points to the 'Spin Button (Form Control)' option in the dropdown menu. The spreadsheet data is as follows:

Year	Score	Organization as a Whole	IT Department
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

The chart below the table is a stacked area chart showing the distribution of scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) from 2019 to 2020. The x-axis represents the score (2 to 20) and the y-axis represents the count of responses. The legend indicates that the purple area represents 'Organization as a Whole' and the orange area represents 'IT Department'.

Step 31: Right-Click, Format Control

The screenshot shows the Microsoft Excel interface with the Developer tab selected. A right-click context menu is open over a chart, with the 'Format Control...' option highlighted. A green arrow points to the chart area, and another points to the 'Format Control...' option. The spreadsheet data is visible in the background.

Year	Score	Organization as a Whole	IT Department
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Step 32: Edit Format As Described

The screenshot shows the Microsoft Excel interface with the Developer tab selected. The Format Control dialog box is open, and the Control tab is active. The 'Cell link' button is highlighted with a green box and an arrow. The 'Minimum value' field is also highlighted with a green box and an arrow. The background shows a spreadsheet with columns for Year, Score, Organization as a Whole, and Department, and a chart showing data from 2019 to 2023.

Year	Score	Organization as a Whole	Department
2019	1	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Put 1 as minimum value. Put 5 as maximum value (there are 5 years data range). Put 1 as incremental change. Click cell link button for more.

Step 33: Link Q1 Cell, Press OK

The screenshot shows the Microsoft Excel interface with the 'Format Object' dialog box open. The 'Control' tab is selected, and the 'Cell link' field is set to '\$Q\$1'. A green arrow points to the 'OK' button. Another green arrow points to cell Q1 in the spreadsheet, which is highlighted with a green border. The spreadsheet data is as follows:

Year	Score	Organization as a Whole	IT Department
2019	0	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

The chart below the table shows the cumulative scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) over time. The x-axis represents the years from 2019 to 2020, and the y-axis represents the score. The legend indicates that purple represents 'Organization as a Whole' and orange represents 'IT Department'.

Step 34: Put index number

The screenshot shows the Microsoft Excel interface with the Developer tab active. The data table is as follows:

Year	Score	Organization as a Whole	IT Department
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

The chart below the table is a stacked area chart showing the scores for 'Organization as a Whole' (purple) and 'IT Department' (orange) over time. The x-axis is labeled with scores from 2 to 20, and the y-axis represents the number of years. A 'Select Year' dropdown is set to 2019.

A green arrow points to a column of index numbers (1, 2, 3, 4, 5) next to the years 2019-2023. A green box highlights this column, and a text box explains the purpose of the index numbers.

We put an index number (1,2,3,4,5) next to each of the year (2019, 2020, 2021,2022,2023) we have available.

Step 35: Change Data Validation to Any Value

The screenshot shows the Microsoft Excel interface with the 'Data' tab selected in the ribbon. The 'Data Validation' button in the 'Data Tools' group is highlighted with a green box. A 'Data Validation' dialog box is open, showing the 'Settings' tab. The 'Allow' dropdown is set to 'Any value', and the 'Ignore blank' checkbox is checked. The 'OK' button is highlighted with a green box. A green callout box in the bottom right corner contains the text: 'Click Data Tab, Click Data Validation button, Select Any value. Press Ok'.

Year	Score	Organization as a Whole	IT Department
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Step 36: Insert VLOOKUP function

The screenshot shows the Microsoft Excel interface with the following elements:

- Formula Bar:** Contains the formula `=VLOOKUP(Q1,R1:S5,2,0)`.
- Worksheet:** Displays a table with columns: Year, Score, Organization as a Whole, and Department. The data includes scores for the year 2019 and 2020, with a 'MIXED' category for 2019.
- Callout Box:** A green box containing the formula `=VLOOKUP(Q1,R1:S5,2,0)` and a description of its parts.

Year	Score	Organization as a Whole	Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Formula:
`=VLOOKUP(Q1,R1:S5,2,0)`

Description:
Click Cell G4, Insert VLOOKUP function. Look up the value the spinner is producing (Q1 cell), within an array (R1:S5). Make it absolute reference (\$R\$1:\$S\$5). Column index is 2, because we want to take the value from the year. The range is 0, because we want to find the exact match. Press Enter.

Step 37: Select & Hide Columns Q, R, S

Microsoft Excel interface showing the Data ribbon and a chart. The chart displays data for 2019, with a dropdown menu open over the chart area. The dropdown menu includes options like Cut, Copy, Paste Options, and Hide. The 'Hide' option is highlighted with a green box. A green arrow points to the 'Hide' option in the dropdown menu.

Excel Ribbon: Data

- Get & Transform Data
- Queries & Connections
- Data Types
- Sort & Filter
- Data Tools
- Forecast

Worksheet Data:

Year	Score	Organization as a Whole	IT Department
2019	Would Not Recommend as Place to Work	4	0
2019	2	11	1
2019	3	12	2
2019	4	25	10
2019	5	29	11
2019	6	49	20
2019	7	53	23
2019	8	63	37
2019	9	67	40
2019	10	70	54
2019	MIXED	69	58
2019	12	68	60
2019	13	58	65
2019	14	50	65
2019	15	34	64
2019	16	31	60
2019	17	16	46
2019	18	14	43
2019	19	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Chart Data (2019):

Score	Organization as a Whole	IT Department
2	11	1
3	12	2
4	25	10
5	29	11
6	49	20
7	53	23
8	63	37
9	67	40
10	70	54
MIXED	69	58
12	68	60
13	58	65
14	50	65
15	34	64
16	31	60
17	16	46
18	14	43
19	7	36
20	4	30

Dropdown Menu Options:

- Cut
- Copy
- Paste Options:
- Paste Special...
- Insert
- Delete
- Clear Contents
- Format Cells...
- Column Width...
- Hide**
- Unhide

Step 38: Completed

Microsoft Excel interface showing a data table and a stacked area chart. The ribbon is set to the **Data** tab. The chart is titled "Select Year" and is set to display data for the year 2019. The chart compares scores for "Organization as a Whole" (purple) and "IT Department" (orange) across a range of scores from 2 to 20. The x-axis is labeled with "Not Recommend as Place..." on the left and "Would Highly Recommend" on the right. The y-axis represents the count of responses.

Year	Score	Organization as a Whole	IT Department
2019	2	4	0
2019	3	11	1
2019	4	12	2
2019	5	25	10
2019	6	29	11
2019	7	49	20
2019	8	53	23
2019	9	63	37
2019	10	67	40
2019	11	70	54
2019	12	69	58
2019	13	68	60
2019	14	58	65
2019	15	50	65
2019	16	34	64
2019	17	31	60
2019	18	16	46
2019	19	14	43
2019	20	7	36
2019	20	4	30
2019	Would Highly Recommend	1	10
2020	Would Not Recommend as Place to Work	9	2

Organization as a Whole IT Department