DATA USE ACADEMY & CONSULTING LTD

CHEAT SHEET · 1 TO 10

EXCEL FUNCTIONS

The ones we reach for most when cleaning, summarising and reporting data. Every example below runs on the small table on the right, so you can type it in and check the answer.

SAMPLE TABLE USED IN EVERY EXAMPLE

	A	B	C	D	E
1	**Facility**	**State**	**Date**	**Tested**	**Positive**
2	Kubwa PHC	FCT	15/03/2026	120	48
3	Gwale MCH	Kano	22/03/2026	95	52
4	Nyanya GH	FCT	04/04/2026	0	0
5	Fagge PHC	Kano	11/04/2026	140	61
6	Ikeja GH	Lagos	18/04/2026	110	23

01 LOOK UP

XLOOKUP

Finds a value in one column and brings back the matching value from another.

`XLOOKUP(lookup_value, lookup_array, return_array, [if_not_found])`

```
=XLOOKUP("Fagge PHC",A:A,D:D)
```

RETURNS **140**

TIP Add `"Not found"` as the fourth argument, so a name that is missing shows that instead of #N/A.

02 SUMMARISE

SUMIFS

Adds up the numbers in rows that meet one or more conditions.

`SUMIFS(sum_range, criteria_range1, criteria1, ...)`

```
=SUMIFS(D:D,B:B,"Kano")
```

RETURNS **235**

TIP The column you add up comes first. Each condition after it is a pair: the range, then what to look for.

03 SUMMARISE

COUNTIFS

Counts the rows that meet every condition you give it.

`COUNTIFS(criteria_range1, criteria1, ...)`

```
=COUNTIFS(B:B,"FCT",D:D,">0")
```

RETURNS **1** only Kubwa PHC

TIP Comparisons go inside the quotes: `">0"`, `"<>Kano"`, `">=100"`.

04 SUMMARISE

AVERAGEIFS

Averages the numbers in rows that meet your conditions.

`AVERAGEIFS(average_range, criteria_range1, criteria1, ...)`

```
=AVERAGEIFS(D:D,B:B,"FCT")
```

RETURNS **60**

TIP A zero is averaged in; a blank cell is skipped. Nyanya GH's 0 takes FCT from 120 down to 60.

05 DECIDE

IF

Gives one result when a test is true and another when it is false.

`IF(logical_test, value_if_true, value_if_false)`

```
=IF(D2>=100,"High","Normal")
```

RETURNS **High**

TIP Text results need quotes; numbers and cell references do not. More than two outcomes? See IFS, number 15.

06 DECIDE

IFERROR

Swaps an error for a value you choose, such as 0 or a blank.

`IFERROR(value, value_if_error)`

```
=IFERROR(E4/D4,0)
```

RETURNS **0** not ~~#DIV/0!~~

TIP Wrap a formula only once it works. Added too early, it hides real mistakes along with the expected ones.

07 LISTS

UNIQUE

Lists each different value once, in the order it first appears.

`UNIQUE(array, [by_col], [exactly_once])`

```
=UNIQUE(B2:B6)
```

RETURNS **FCT**, **Kano**, **Lagos** spills down

TIP Keep the cells below it empty. Anything in the way gives #SPILL!.

08 LISTS

FILTER

Brings back only the rows that meet a condition.

`FILTER(array, include, [if_empty])`

```
=FILTER(A2:A6,B2:B6="Kano")
```

RETURNS **Gwale MCH**, **Fagge PHC** spills down

TIP Give it a third argument such as `"None"`. Without one, no match means #CALC!.

09 TIDY

TRIM

Removes spaces at the start and end, and leaves one space between words.

`TRIM(text)`

```
=TRIM(A8)
```

where A8 holds `··Gwale···MCH·`

RETURNS **Gwale MCH**

TIP Trim names before a lookup. "Kano" with a space after it will never match "Kano".

10 TIDY

TEXT

Shows a date or number in the format you choose, for labels and reports.

`TEXT(value, format_text)`

```
=TEXT(C2,"mmm yyyy")
```

RETURNS **Mar 2026**

TIP The result is text, not a date. Sort and calculate on the original Date column.

Which Excel? XLOOKUP, UNIQUE and FILTER need Excel 2021 or later, Microsoft 365, or the free Excel for the web. On older versions, INDEX with MATCH (number 11) does XLOOKUP's job.

LOOK UP · SUMMARISE · DECIDE · LISTS · TIDY

DATA USE ACADEMY & CONSULTING LTD

CHEAT SHEET · 11 TO 20

EXCEL FUNCTIONS

Ten more: lookups that work in any version of Excel, cleaner text, sorted lists and reporting dates. The same sample table, so you can keep checking your answers.

SAMPLE TABLE USED IN EVERY EXAMPLE

	A	B	C	D	E
1	**Facility**	**State**	**Date**	**Tested**	**Positive**
2	Kubwa PHC	FCT	15/03/2026	120	48
3	Gwale MCH	Kano	22/03/2026	95	52
4	Nyanya GH	FCT	04/04/2026	0	0
5	Fagge PHC	Kano	11/04/2026	140	61
6	Ikeja GH	Lagos	18/04/2026	110	23

11 LOOK UP

INDEX + MATCH

The lookup that works in every version of Excel. MATCH finds the row; INDEX reads it.

`INDEX(array, row_num)`
`MATCH(lookup_value, lookup_array, 0)`

```
=INDEX(D2:D6,MATCH("Fagge PHC",A2:A6,0))
```

RETURNS **140**

TIP Always end MATCH with 0 for an exact match. Leave it out and you can get the wrong row with no error.

12 SUMMARISE

MAXIFS

The largest number among the rows that meet your conditions. MINIFS finds the smallest.

`MAXIFS(max_range, criteria_range1, criteria1, ...)`

```
=MAXIFS(D:D,B:B,"Kano")
```

RETURNS **140**

TIP If no row meets the conditions it returns 0, not an error, so a 0 can mean "nothing found".

13 SUMMARISE

COUNTA

Counts the cells that are not empty, whatever they hold. Useful for checking how complete a report is.

`COUNTA(value1, [value2], ...)`

```
=COUNTA(A2:A6)
```

RETURNS **5** facilities listed

TIP COUNT counts numbers only. COUNTA counts text too, and COUNTBLANK counts the gaps.

14 TIDY

ROUND

Rounds a number to the number of decimal places you choose.

`ROUND(number, num_digits)`

```
=ROUND(E3/D3*100,1)
```

RETURNS **54.7** positivity, %

TIP Round the final figure, not the steps. Rounding along the way makes totals drift.

15 DECIDE

IFS

Checks conditions in order and returns the result for the first one that is true.

`IFS(test1, value1, test2, value2, ...)`

```
=IFS(D3>=100,"High",D3>=50,"Medium",TRUE,"Low")
```

RETURNS **Medium**

TIP End with `TRUE,"Low"` as a catch-all. Without it, a value that fits nothing gives #N/A.

16 LISTS

SORTBY

Sorts a list by another column, leaving the original data as it is.

`SORTBY(array, by_array1, [sort_order1], ...)`

```
=SORTBY(A2:A6,D2:D6,-1)
```

RETURNS **Fagge PHC**, **Kubwa PHC**, **Ikeja GH** and 2 more below

TIP -1 puts the largest first, 1 the smallest. SORT sorts by one of the list's own columns.

17 TIDY

TEXTJOIN

Joins values into one cell, with a separator you choose.

`TEXTJOIN(delimiter, ignore_empty, text1, ...)`

```
=TEXTJOIN(", ",TRUE,UNIQUE(B2:B6))
```

RETURNS **FCT, Kano, Lagos**

TIP TRUE skips blank cells, so you don't get ", ," where data is missing.

18 TIDY

RIGHT LEFT MID

Takes characters from the end of a text. LEFT and MID work the same way.

`RIGHT(text, num_chars)`

```
=RIGHT(A2,3)
```

RETURNS **PHC** the facility type

TIP The result is text, even when it looks like a number. Wrap it in VALUE() to calculate.

19 TIDY

SUBSTITUTE

Replaces every copy of one piece of text with another, or with nothing.

`SUBSTITUTE(text, old_text, new_text, [instance])`

```
=SUBSTITUTE(A9,"-","")
```

where A9 holds `0803-123-4567`

RETURNS **08031234567**

TIP It matches capitals exactly: "fct" will not replace "FCT".

20 DATES

EOMONTH

The last day of the month, a set number of months away.

`EOMONTH(start_date, months)`

```
=EOMONTH(C2,0)
```

RETURNS **31/03/2026**

TIP Shows 46112 until you format the cell as a date. Use 1 for the end of next month.

Which Excel? IFS, MAXIFS and TEXTJOIN need Excel 2019 or later; SORTBY and UNIQUE need Excel 2021, Microsoft 365 or Excel for the web.

LOOK UP · SUMMARISE · DECIDE · LISTS · TIDY · DATES