# Excel Lookup Functions: VLOOKUP, HLOOKUP, XLOOKUP

## 1. VLOOKUP (Vertical Lookup)

VLOOKUP searches for a value vertically in the first column of a table and returns a value from another column in the same row.

Formula Syntax:

=VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])

Arguments:

- lookup\_value → The value to search for (must be in the first column).

- table\_array → The range of the table (including lookup and return columns).

- col\_index\_num → The column number from which to return the result.

- [range\_lookup] → FALSE = exact match, TRUE = approximate match.

Example:

=VLOOKUP("P103", A2:D6, 4, FALSE)

Result → 25

## 2. HLOOKUP (Horizontal Lookup)

HLOOKUP searches for a value horizontally in the first row of a table and returns a value from another row in the same column.

Formula Syntax:

=HLOOKUP(lookup\_value, table\_array, row\_index\_num, [range\_lookup])

Arguments:

- lookup\_value → The value to search for (must be in the first row).

- table\_array → The range of the table (including lookup and return rows).

- row\_index\_num → The row number from which to return the result.

- [range\_lookup] → FALSE = exact match, TRUE = approximate match.

Example:

=HLOOKUP("P103", A1:E2, 2, FALSE)

Result → 25

## 3. XLOOKUP (Modern Flexible Lookup)

XLOOKUP replaces both VLOOKUP and HLOOKUP. It can search in any direction: left, right, up, or down.

Formula Syntax:

=XLOOKUP(lookup\_value, lookup\_array, return\_array, [if\_not\_found], [match\_mode], [search\_mode])

Arguments:

- lookup\_value → The value to search for.

- lookup\_array → Range where Excel looks for the value.

- return\_array → Range from which to return result.

- [if\_not\_found] → Value/message if not found.

- [match\_mode] → 0 = exact (default), -1 = next smaller, 1 = next larger, 2 = wildcard.

- [search\_mode] → 1 = search first-to-last, -1 = search last-to-first.

Example:

=XLOOKUP("P104", A2:A6, B2:B6, "Not Found")

Result → Bag

## Quick Comparison

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| Feature | VLOOKUP | HLOOKUP | XLOOKUP |
| Direction | Vertical (down) | Horizontal (across) | Any direction |
| Lookup Position | Must be 1st column | Must be 1st row | Anywhere |
| Limitations | Can't look left | Can't look above | No limitation |
| Availability | All versions | All versions | Excel 365/2021+ |