Lesson 13

Topic: Introduce time-based calculations.
Prerequisites: Download Chocolate Sales.csv file and disable Auto DateTime options by Options in Current File and create new DATE table by using Calendarauto and Format functions.

Basic Level (1–5)

1. Total Sales Amount (All-Time)
   Total Sales = SUM('Chocolate Sales'[Amount])
2. Create a measure to calculate total sales for the current year.
   Current Year Sales =
   VAR MaxYear = YEAR(MAX('Calendar table'[Date]))
   RETURN
   CALCULATE([Total Sales], YEAR('Calendar table'[Date]) = MaxYear)
3. Create a measure to calculate total sales for the last year.
   Last Year Sales =
   VAR MaxYear = YEAR(MAX('Calendar table'[Date]))
   RETURN
   CALCULATE([Total Sales], YEAR('Calendar table'[Date]) = MaxYear - 1)
4. Create a measure to calculate total sales for the current month.
   Current Month Sales =
   VAR MaxDate = MAX('Calendar table'[Date])
   RETURN
   CALCULATE(
   [Total Sales],
   MONTH('Calendar table'[Date]) = MONTH(MaxDate) &&
   YEAR('Calendar table'[Date]) = YEAR(MaxDate)
)
5. Create a measure to calculate total sales for the current quarter.
   Current Quarter Sales =
   VAR MaxDate = MAX('Calendar table'[Date])
   RETURN
   CALCULATE(
   [Total Sales],
   QUARTER('Calendar table'[Date]) = QUARTER(MaxDate) &&
   YEAR('Calendar table'[Date]) = YEAR(MaxDate)
)

Intermediate (6–10)

6. Sales Growth % Compared to Last Year (%YoY)
   YoY Growth % =
   DIVIDE([Current Year Sales] - [Last Year Sales], [Last Year Sales])
7. Create a measure to calculate to retrieve sales from the last month.

   Last month Sales =

   VAR MaxMonth = MONTH(MAX('Calendar table'[Date]))

   RETURN

   CALCULATE(

   [Total Sales],

   MONTH('Calendar table'[Date]) = MaxMonth - 1

)
8. Create a measure to calculate a running total of sales using
   Running Total Sales =
   CALCULATE(
   [Total Sales],
   FILTER(
   ALLSELECTED('Calendar table'),
   'Calendar table'[Date] <= MAX('Calendar table'[Date])
)
)
9. Create a measure to compute sales for the last 3 months.

   Last 3 Months Sales =

   CALCULATE(

   [Total Sales],

   DATESINPERIOD('Calendar table'[Date], MAX('Calendar table'[Date]), -3, MONTH)

)
10. Create a measure to identify the month with the highest sales in the previous 12 months.
    Max Sales Month =
    CALCULATE(
    MAX('Chocolate Sales'[Amount]),

DATESINPERIOD('Calendar table'[Date], MAX('Calendar table'[Date]), -12, MONTH)

)

Advanced (11–15)

11. Create a measure to compare Q1 Sales of Each Year. Use time intelligence functions with filters to isolate and compare Q1 across years.
    Q1 Sales =
    CALCULATE(
    [Total Sales],
    QUARTER('Calendar table'[Date]) = 1
)
12. Create a measure to Show YoY Difference Only for December.

    December YoY Difference =

    VAR MaxDate = MAX('Calendar table'[Date])

    RETURN

    IF(

    MONTH(MaxDate) = 12,

    [Current Year Sales] - [Last Year Sales]

)
13. Create a measure that sums the last 12 months using.
    Last 12 Months Sales =
    CALCULATE(
    [Total Sales],
    DATESINPERIOD('Calendar table'[Date], MAX('Calendar table'[Date]), -12, MONTH)
)
14. Create a measure to identify sales Difference Between Current Quarter and Previous Quarter

    Quarter Difference =

    [Current Quarter Sales] -

    CALCULATE(

    [Total Sales],

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    PARALLELPERIOD('Calendar table'[Date], -1, QUARTER)
)
```

15. Create a measure to highlight Months Where Sales Exceeded Previous Year by 10%+

→ Compare monthly totals and return a flag when current > 110% of last year.

```
High Sales Flag =
IF(
    [Current Month Sales] > 1.1 * [Last Year Sales],
    1,
    0
)
```