

Which table gets the numbers?

D8A.ACADEMY/RESOURCES/FACT-VS-DIMENSION

01 The two-question test

Any column, sorted in five seconds.

measured?	Recorded per event, and you would SUM or AVG it: fact.
describes?	A property of a person, product or place you GROUP BY: dimension.
the grain	One fact row = one event. Say it out loud: "one row per order line".
the keys	Facts carry foreign keys to every dimension that gives them context.

02 The quiz, answered

Eight columns from an orders warehouse. Sort before you peek.

COLUMN	GOES TO	BECAUSE
amount	fact	you sum it
quantity	fact	measured per order
customer_city	dimension	you group by it
product_color	dimension	describes the product
discount	fact	an amount, per event
order_date	both	date_key in fact, dim_date describes it
unit_price	fact	copy it at sale time
customer_age	neither	store birth_date, derive age

03 The join pattern

Facts bring the numbers, dimensions bring the words. Every BI query is this.

```
SELECT d.city,
       SUM(f.amount) AS revenue
FROM fact_orders f
JOIN dim_customer d
  ON f.customer_key = d.customer_key
GROUP BY d.city
ORDER BY revenue DESC;
```

→ Numbers from the fact, labels from the dimension. If you are summing a dimension column, stop.

COMMON TRAPS

04 Trap: numbers in dimensions

Two famous ones, both look reasonable, both bite later.

price in dim_product	Prices change. Last year's orders now report this year's price. Copy price into the fact at sale time.
age in dim_customer	Ages itself stale in twelve months. Store birth_date, compute age in the query.
the smell	A numeric column in a dimension that changes over time is a slowly changing fact in disguise.

→ Sheet 007 (star vs snowflake) covers where these tables live; this one covers what goes inside.