EAV in Practice

Entity, attribute, value: how to choose the attributes that matter, write real values instead of descriptions, and put them where people and machines can compare them.

Teaching series · Lesson 3 · intermediate

ONE ENTITY, DESCRIBED BY ATTRIBUTES AND VALUES

ENTITY	Family walking tour of Rome
ATTRIBUTE	**VALUE**
Duration ★	**3 hours**
Languages	**Italian, English**
Price ★	**€180 per group**
Max group size	**8 people**
Suitable for ★	**Families, ages 6+**
Free cancellation ★	**Up to 24 hours before**

★ key attributes: the ones that change a buyer's decision. Illustrative example.

45	8	1
minutes	attribute types	EAV sheet to build

Ameneh Saeednia
Senior SEO and Generative Search Strategist

Before you start

What this lesson covers

Lesson 2 showed that facts are triples. **EAV is the same idea organized as a table**: one entity, many attributes, one value each. It's how product catalogs, databases and knowledge graphs store what they know.

By the end of this lesson you can

- Explain **entity, attribute and value**, and how EAV relates to a triple.
- Recognize the main **attribute types**: simple, composite, single-valued, multivalued, derived and key.
- Tell the difference between **describing an attribute** and **stating its value**.
- Choose the **key attributes** for a page from real decision evidence.
- Publish values in **tables, copy and schema** consistently.

Before this lesson

Lesson 2, *Semantic Triples, Knowledge Graphs and Schema*. An EAV row is a triple: **entity → attribute → value**.

How to use it

Read Parts 1 to 5, build your own **EAV sheet on page 8**, then take the **quiz on page 9**.

Part 1

The model in one table

An **entity** is a uniquely identifiable thing. An **attribute** is a property it has. A **value** is that property's content for this specific entity.

Entity	Attribute	Value	As a triple
Family walking tour of Rome	Duration	3 hours	Tour → lasts → 3 hours
Family walking tour of Rome	Languages	Italian, English	Tour → offered in → Italian, English
Trail Shell rain jacket	Waterproof rating	20,000 mm	Jacket → has waterproof rating → 20,000 mm
Vancouver	Population (2021 census)	662,248	Vancouver → had population → 662,248 in 2021

Why the format matters

EAV lets very different entities share one structure. A tour and a jacket have **different attributes**, but both are stored as attribute and value. That's why it scales across catalogs and knowledge bases.

Values can have context

Some values need a **date, unit or source** to be true. A population is true for a census year. A price is true for a currency and a date. **Context is part of the value.**

Part 2

Not all attributes are the same

Knowing the attribute type tells you **how to write and store** the value.

Type	Meaning	Tour example
Simple	One indivisible value	Duration: 3 hours
Composite	Made of parts	Meeting point: Piazza Navona, fountain side, 9:00
Single-valued	Only one value at a time	Max group size: 8
Multivalued	Several values	Languages: Italian, English
Stored	Recorded directly	Price: €180 per group
Derived	Calculated from other values	Rating: 4.8 from 312 reviews
Key	Distinguishes this entity or drives the decision	Suitable for: families, ages 6+
Indirect	Belongs to a related entity	Guide's licence: city-certified

Teaching tip

Composite attributes cause the most errors. “Meeting point: central Rome” is incomplete. Break it into its **parts**, and each part becomes checkable.

Part 3

A value is a fact, not a description

The most common EAV mistake is filling the value column with a **description of the attribute**. A 2023 draft I wrote for an affiliate content team did exactly this.

Attribute	Written as (description)	Written as (value)
Rake and fees	“Information about the fees and rake structure”	“5% of each pot, capped at $3”
Payment options	“Availability of payment methods”	“Visa, Mastercard, Bitcoin; withdrawals in 1 to 3 days”
Waterproofing	“Details about how waterproof it is”	“20,000 mm rating; taped seams”
Cancellation	“Our flexible cancellation policy”	“Free up to 24 hours before start”

Why it matters

A description tells a reader **that** information exists. A value **is** the information. Search and AI systems comparing options can only compare values.

Quick test

Could a reader **check it**, **compare it** or **disagree with it**? If not, it's a description. Values in the right column above are illustrative, not real offers.

Part 4

Choosing the key attributes

A page can't list every attribute. Pick the ones that **change the decision**, using evidence, not guesswork.

1

Customer questions

Support tickets, reviews and sales calls show **what people actually ask** before buying.

2

Search Console queries

Queries with modifiers like **“for kids,” “how long,” “price”** point to attributes.

3

Comparison pages

The columns competitors and review sites compare are **the attributes the market uses**.

4

Schema.org properties

The type's properties show **what's commonly recorded** for that kind of entity.

Score each attribute	1	2	3
Decision weight	Nice to know	Considered	Deal-breaker
Variation between options	All the same	Some differ	Differs a lot
Value available and verified	No	Partly	Yes, with source

Attributes scoring **7 or more** are key attributes. Put them in the first screen, the comparison table and the markup.

Part 5

Publishing values consistently

Each key value should appear **the same way** in visible copy, a spec or comparison table, and structured data.

Product with additionalProperty (valid schema.org)

```
{
  "@context": "https://schema.org",
  "@type": "Product",
  "name": "[Brand] Trail Shell Rain Jacket",
  "additionalProperty": [
    {"@type": "PropertyValue",
     "name": "Waterproof rating",
     "value": 20000, "unitText": "mm"},
    {"@type": "PropertyValue",
     "name": "Weight", "value": 310, "unitCode":
"GRM"},
    {"@type": "PropertyValue",
     "name": "Pit zips", "value": true}
  ],
  "offers": {"@type": "Offer", "price": "249.00",
             "priceCurrency": "CAD"}
}
```

Three rules

Same value everywhere. If the copy says 310 g, the table and markup say 310 g.

Units stay explicit. “20,000” means nothing without **mm**.

Markup follows the page. Only mark up values the page visibly states. [2]

Product pages can use **additionalProperty** with **PropertyValue** for specs that have no dedicated property. [1]

Where this connects

AI answers that compare options **need values to compare**. My posts *Proof Exists. Can the Shopper Find It?* and *The Missing Product Detail That Can Change the Entire Recommendation* show what happens when values are missing or buried.

Exercise

Build an EAV sheet for one entity

Time: 20 minutes. Use one product, service, tour or location you know well.

Step	What to do
1	Name the **entity** precisely, including variant or edition.
2	List **10 to 15 attributes** from customer questions, queries and competitor comparisons.
3	Label each attribute's **type** (simple, composite, multivalued, derived and so on).
4	Write the **value**, with unit, date and source. Leave it blank if you can't verify it.
5	Score each attribute with the **3 by 3 grid** on page 6. Mark the key attributes.
6	Check the live page: is each key value **visible, consistent and marked up**?

What good looks like

Every key attribute has a **real value with a source**. No value column contains a description. The page, table and markup **agree**.

Discussion question

Which blank value would a customer most want filled? **Who in your organization owns that fact?**

Check your understanding

Quick quiz

Answers are on the next page.

1. In EAV, “3 hours” for a tour's duration is the:

a) Entity
b) Attribute
c) Value

2. Which is a value, not a description?

a) “Details about our cancellation policy”
b) “Free cancellation up to 24 hours before”
c) “Flexible options”

3. “Languages: Italian, English” is a:

a) Multivalued attribute
b) Derived attribute
c) Key entity

4. A rating calculated from reviews is a:

a) Stored attribute
b) Derived attribute
c) Composite entity

5. Which attribute should you mark up in schema?

a) One the page visibly states
b) One you'd like to rank for
c) One a competitor lists

Answers and sources

Answer key, glossary and further reading

Answer key

1: **c**. Value.
2: **b**. It can be checked and compared.
3: **a**. Several values at once.
4: **b**. Calculated from other data.
5: **a**. Markup must match visible content.

Glossary

Entity: a uniquely identifiable thing.
Attribute: a property of an entity.
Value: that property's content for one entity.
Key attribute: one that distinguishes or decides.
Composite attribute: made of several parts.
PropertyValue: schema.org type for a named value.

01 **PropertyValue and additionalProperty. Schema.org**
Used for named spec values on Product and other types.
https://schema.org/PropertyValue

02 **General structured data guidelines. Google Search Central**
Markup must represent the page's visible content.
https://developers.google.com/search/docs/appearance/structured-data/sd-policies

03 **Census Profile, 2021: Vancouver. Statistics Canada**
Source of the population example.
https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm

Lesson by Ameneh Saeednia, adapted from my 2023 EAV notes and prepared with AI assistance. Tour and product values are illustrative. Related reading on seogirl.ca: *Entity Types, Classes, and Attributes*.