



# Ontology Evaluation

# About the experiment

In this experiment, you'll work with Protege in two different modes:

A) Protege

B) Protege + Suggestions

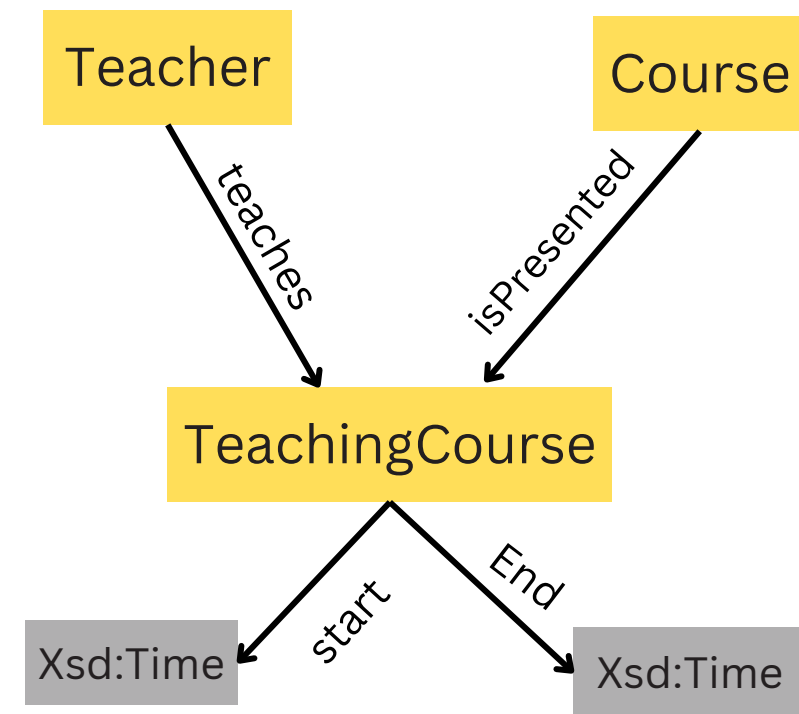
Your task is to decide whether a competency question, a natural language question outlining and constraining the scope of knowledge represented in an ontology, is modelled in a given ontology or not.

Closed world assumption: take into account only elements in the ontology.

The interface offers suggestions about whether a CQ is modelled or not.

# CQ verification

In short: a competency question is modelled by an ontology if you could write a SPARQL query to extract the answer. Note: you don't need to write a SPARQL query



## Story:

The context is about university courses given by different teachers.

## Competency Question:

What courses did Eva teach in this period?

```
PREFIX ex: <http://example.org/ontology#>
SELECT ?course
WHERE {
  ?course ex:isPresented ?tc .
  ?teacher ex:teaches ?tc .
  ?tc ex:start ?start ;
      ex:end ?end .

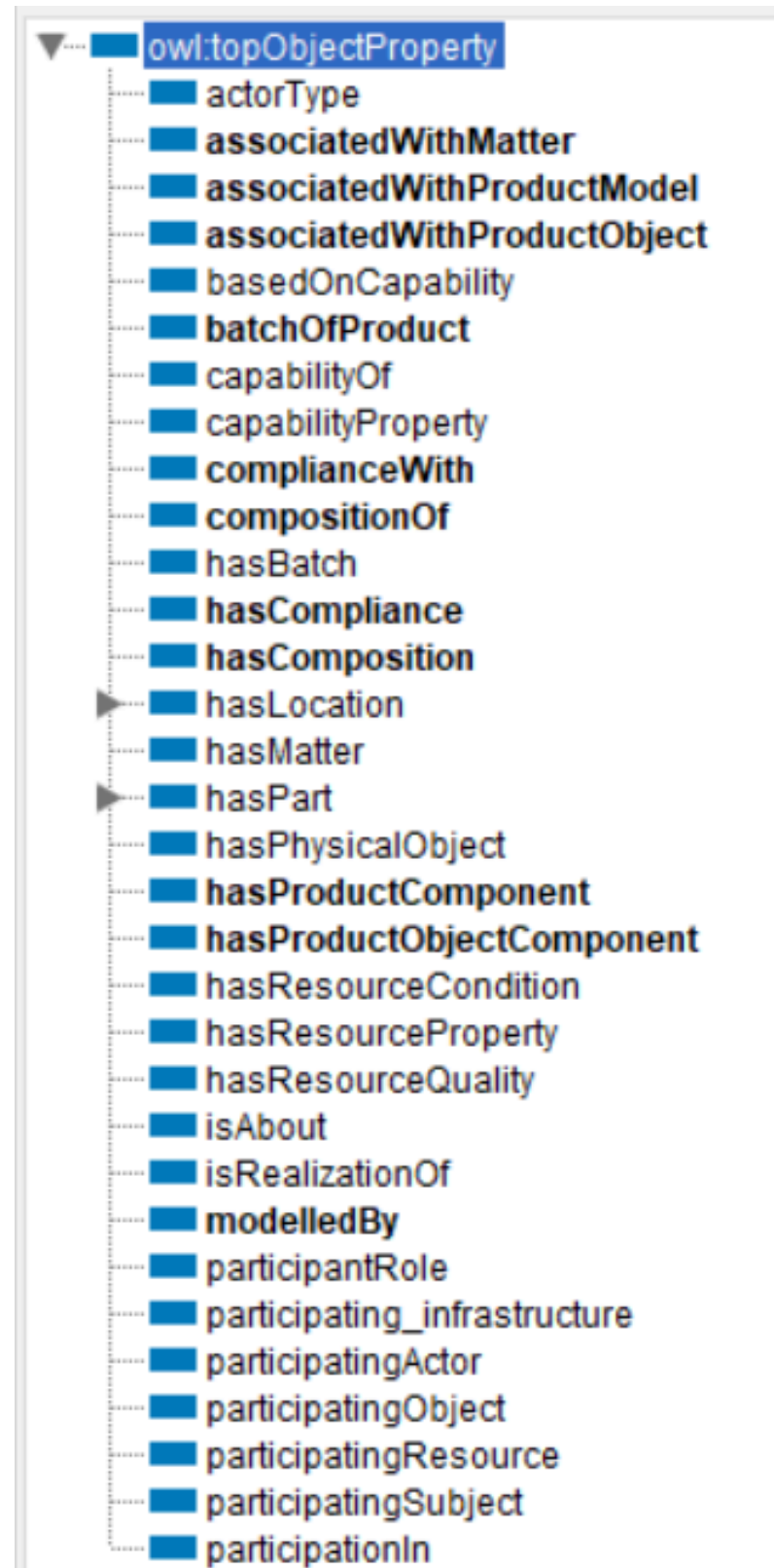
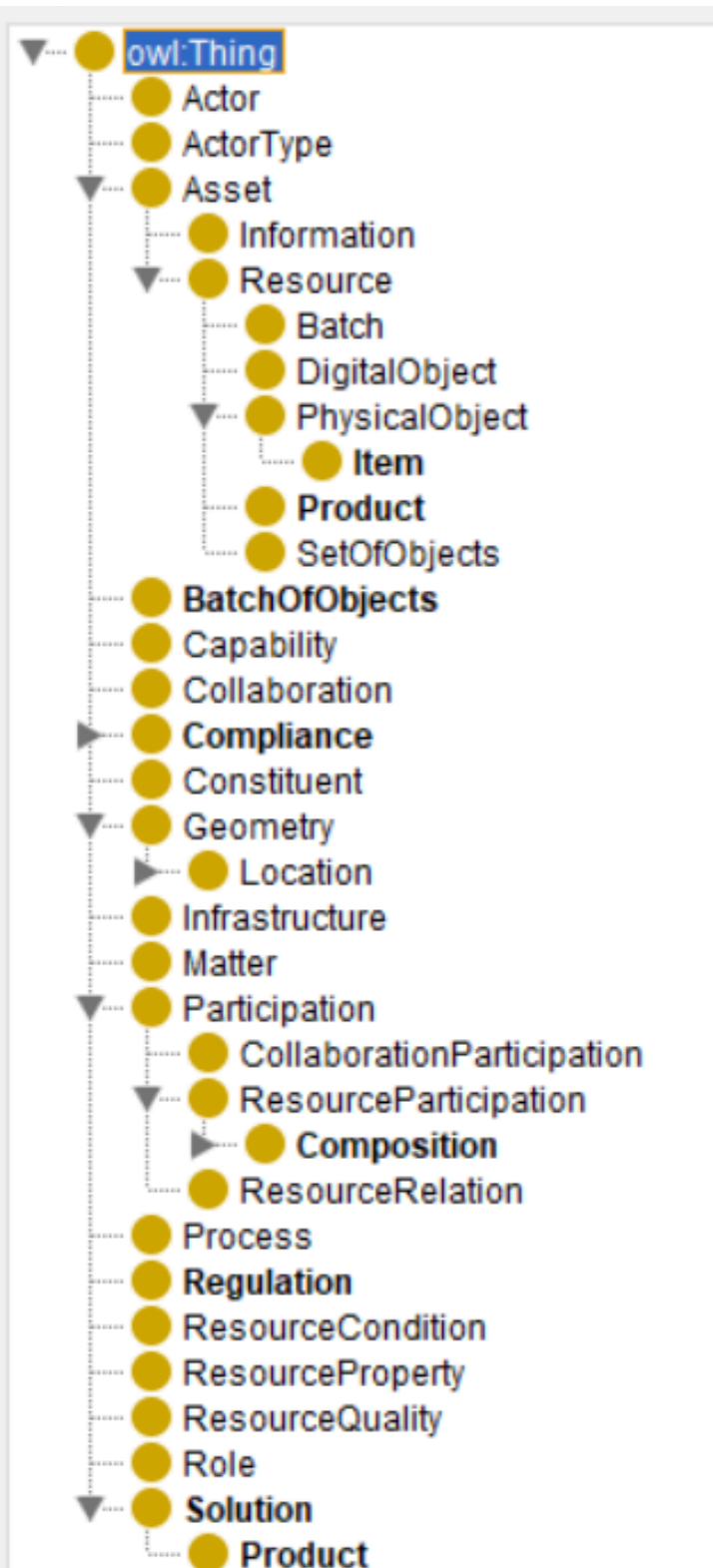
  FILTER(?teacher = ex:Eva)

  FILTER(?start >= "09:00:00"^^xsd:time && ?end <=
"17:00:00"^^xsd:time)
}
```

# Setup

- 20 CQs in total; do not have to solve all
- Each CQ has to be solved in 7 minutes maximum, otherwise, we will ask you to skip it.
- If you feel like the CQ is too hard, you can skip it.
- you cannot go back to previous CQs
- you should think out loud while solving it

# Example: without suggestions



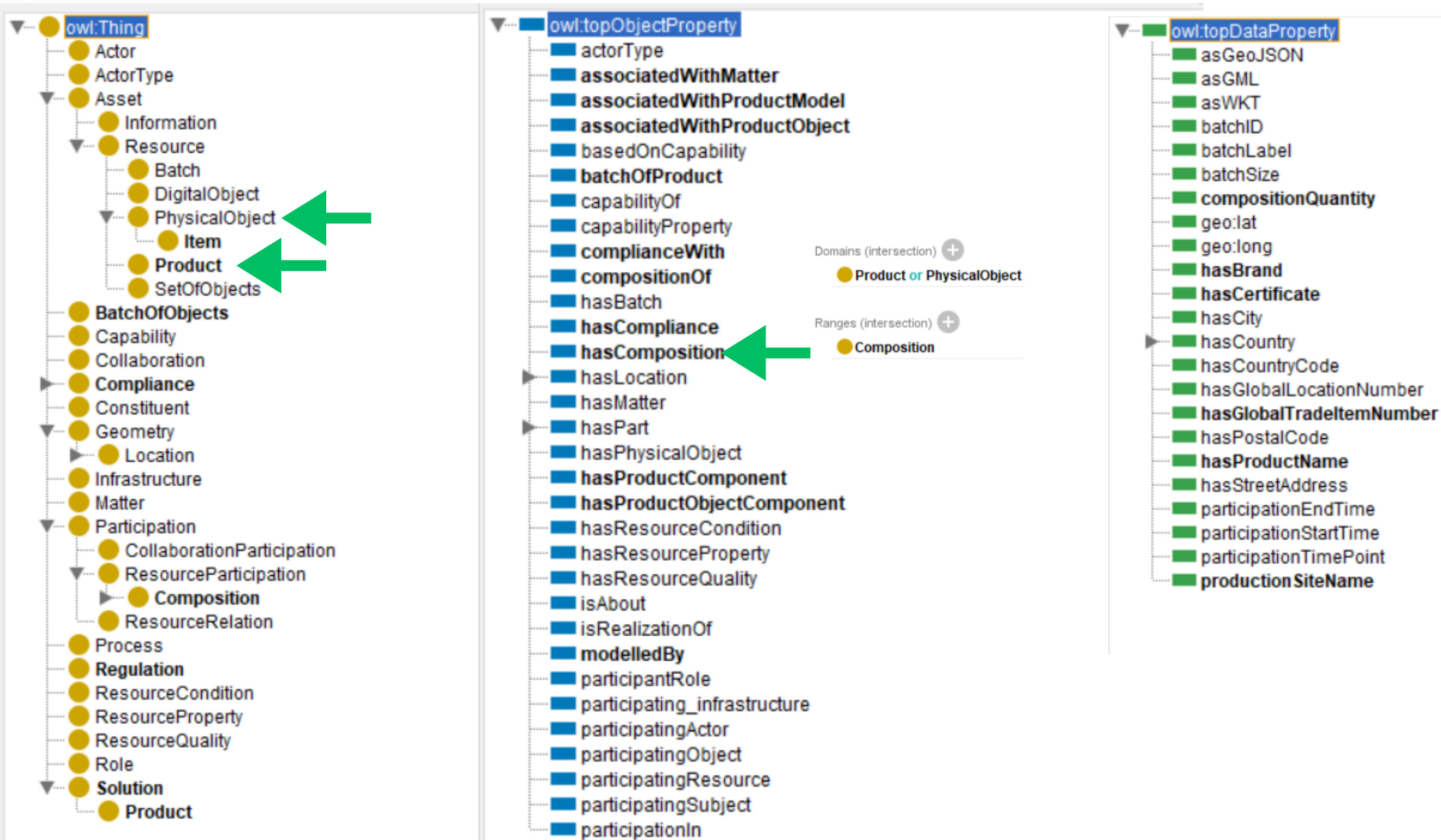
CQ: What are the components of a product?

Story: The context is about products and what they are made of.

So you start finding concepts mentioned in the CQ to see can this CQ be answered by the ontology or not.



# Example: without suggestions



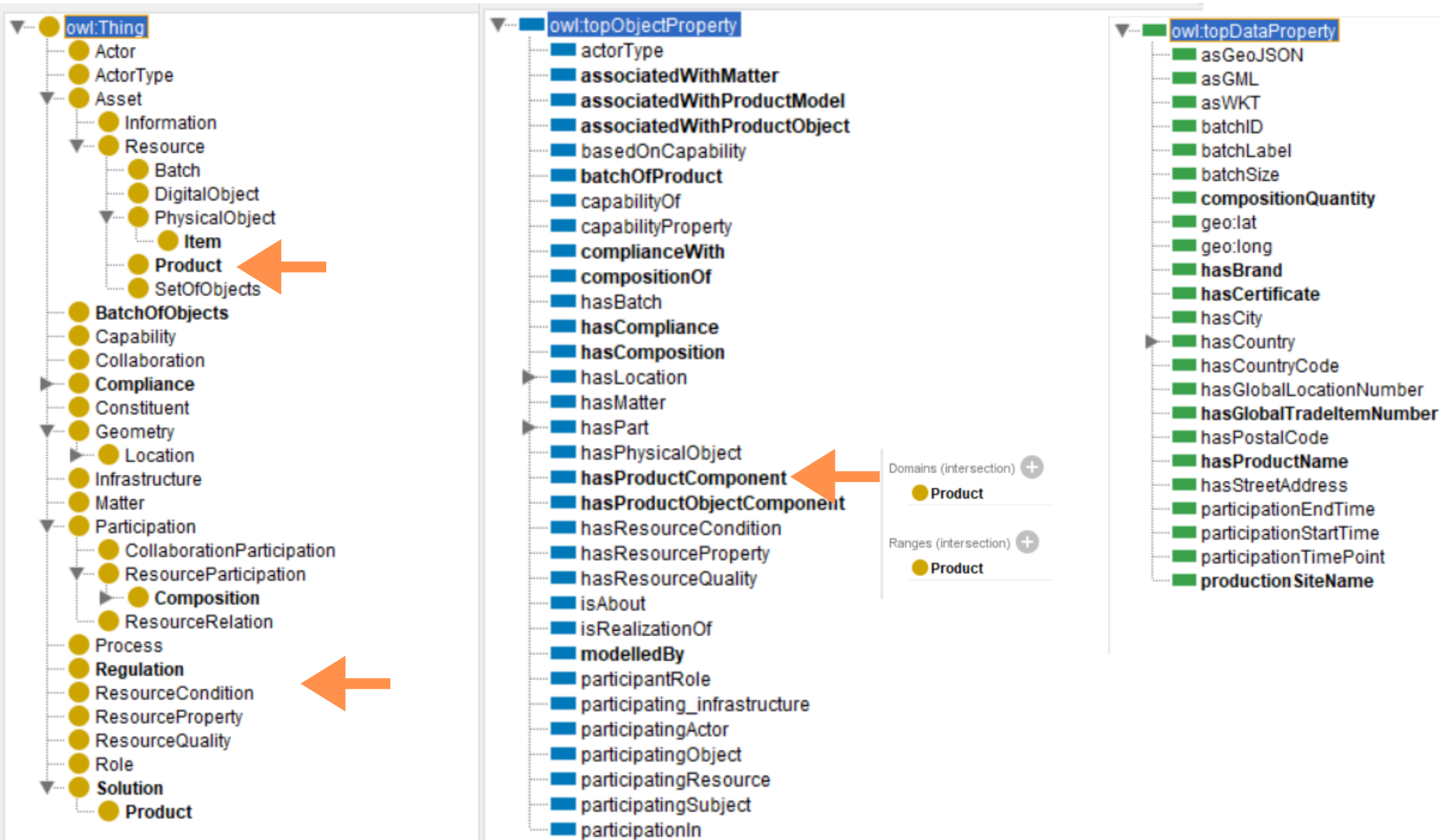
CQ: What are the components of a product?

Story: The context is about products and what they are made of.

Answer: Yes

Because:  
Green Arrows

# Example: without suggestions



CQ: What are the components of a product?

Story: The context is about products and what they are made of.

Answer: Yes

Because:  
Green Arrows

or

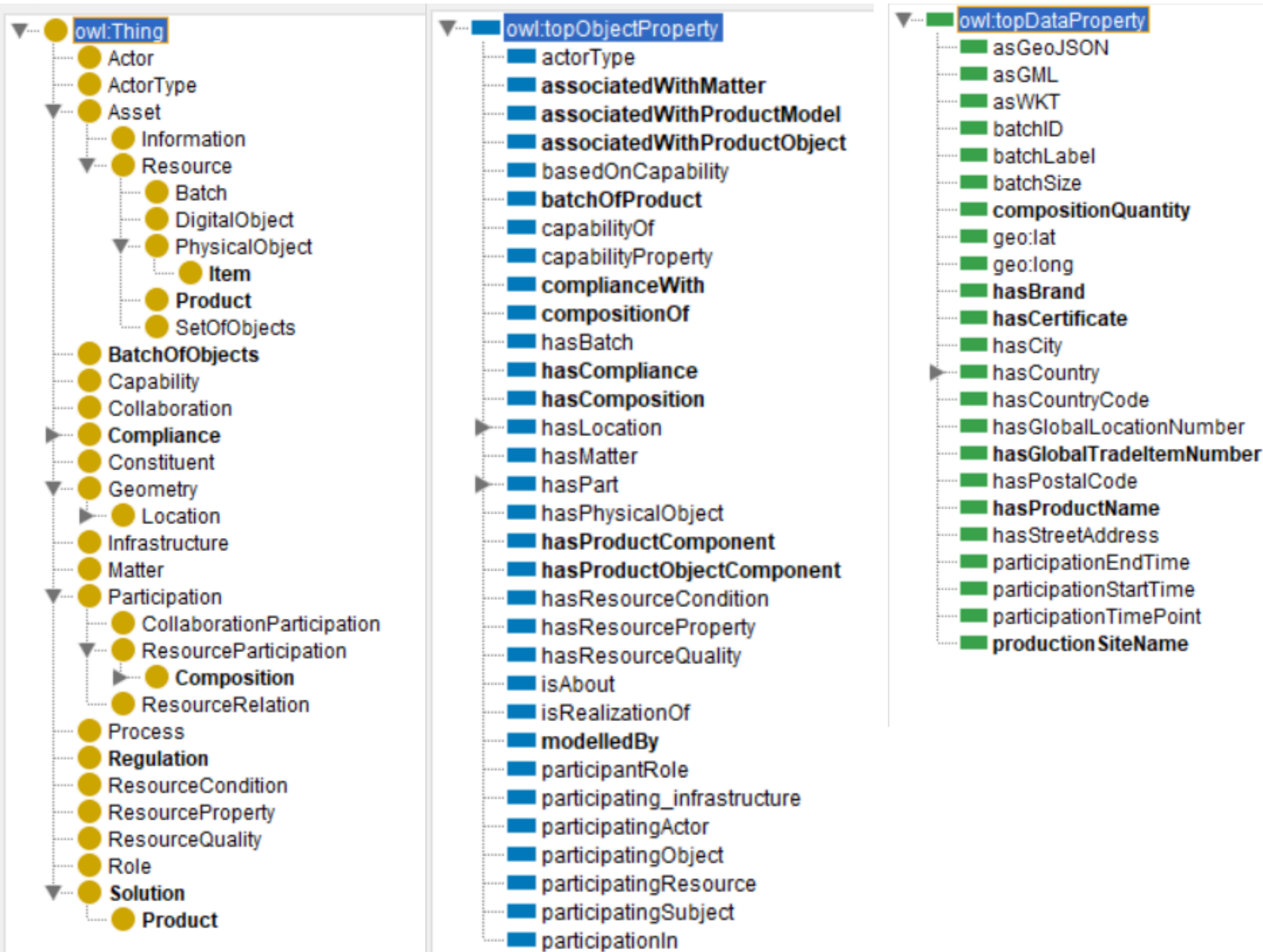
Yes

Because:  
Orange arrows

and there are more



# Example: with suggestions



CQ: What are the components of a product?

Story: The context is about products and what they are made of.

Yes

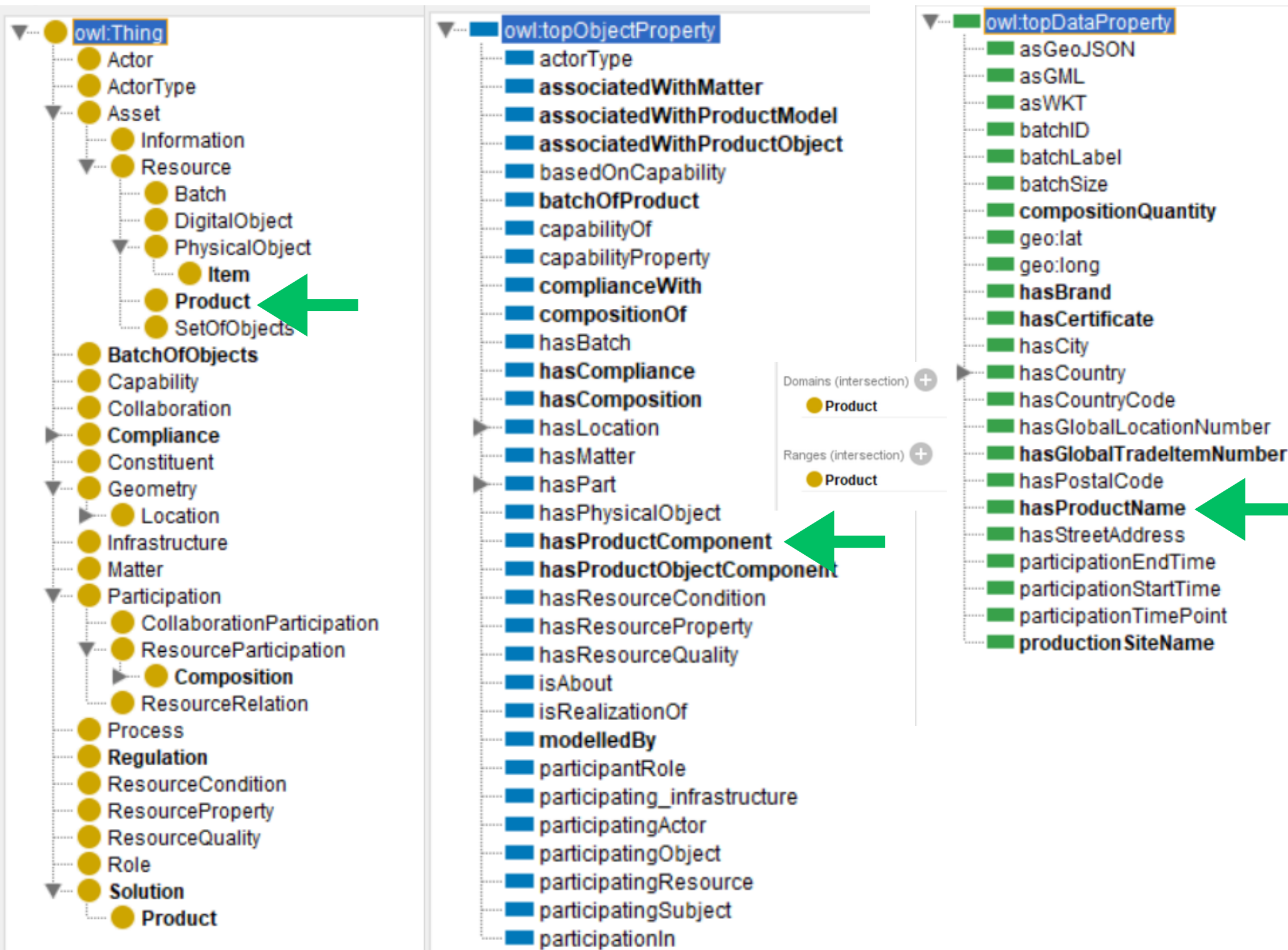
```
PREFIX : <http://w3id.org/CEON/ontology/product/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?product ?productName ?component ?componentName
WHERE {
  ?product a :Product .
  OPTIONAL { ?product :hasProductName ?productName. }

  ?product :hasProductComponent ?component .
  OPTIONAL { ?component :hasProductName ?componentName. }
}
```



# Example: with suggestions



CQ: What are the **components** of a **product**?

Story: The context is about products and what they are made of.

Yes

```
PREFIX : <http://w3id.org/CEON/ontology/product/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?product ?productName ?component ?componentName
WHERE {
  ?product a :Product .
  OPTIONAL { ?product :hasProductName ?productName. }

  ?product :hasProductComponent ?component .
  OPTIONAL { ?component :hasProductName ?componentName. }
}
```

# Asking questions

Feel free to ask questions

- You can't understand some functionalities of the prototype or Protégé
- Forgot what the task is
- Can't find a tab in Protégé...
- It is not a test, don't feel nervous; Any output is still valuable for us. It is fine if you select all wrong.