What Entities & Knowledge Graphs Mean for AI Search

Live Webinar

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Co-founder & CEO
Schema App
Martha van Berkel

- **name**
- **founder**
- **jobTitle**: CEO & Co-founder
- **alumniOf**: Schema Markup
- **knowsAbout**: Cisco
- **owns**:
- **nationality**: Canada
- **mentions**:
- **directed**: "Losing Chase"

Graph:
- Cisco → name
- Schema Markup → knowsAbout → Cisco
- CEO & Co-founder → jobTitle
- Canada → nationality
- "Losing Chase" → directed
- "Losing Chase" → mentions
- "Losing Chase" → directed
- "Losing Chase" → mentions
- "Losing Chase" → directed
Schema App is a Scalable Knowledge Graph Solution for Enterprise SEO teams.

We are a semantic technology company that help organizations build their marketing knowledge graph with our Schema Markup solution to accelerate business results and stand out in search.

——— Trusted by Enterprises Worldwide ———
Context changing in SGE & the New Bing

In psychology, a schema is a cognitive framework or concept that helps organize and interpret information. It describes patterns of thinking and behavior that people use to interpret the world. Schemas are developed and based on life experiences and provide a guide to one's cognitive processes and behavior.

Schemas are also used to describe the specific actions or behaviors that babies, toddlers, and young children engage in as they explore the world around them and try to find out how things work.

Hello, this is Bing! I’m the new AI-powered chat mode of Microsoft Bing that can help you quickly get summarized answers and creative inspiration.

- **Got a question?** Ask me anything - short, long, or anything in between.
- **Dive deeper.** Simply ask follow-up questions to refine your results.
- **Looking for things to do?** I can help you plan trips or find new things to do where you live.
- **Feeling stuck?** Ask me to help with any project from meal planning to gift ideas.
- **Need Inspiration?** I can help you create a story, poem, essay, song, or picture.

Try clicking on some of these ideas below to find out why the new Bing is a smarter way to search.
Knowledge Graphs and LLMs work hand in hand

Source: Unifying Large Language Models and Knowledge Graphs: A Roadmap
It’s why we’ve been working on an intelligent model—in geek-speak, a “graph”—that understands real-world entities and their relationships to one another: things, not strings.”

– Google (2012)
What is a Knowledge Graph?

A collection of relationships between things defined using a standardized vocabulary, from which new knowledge can be gained through inferencing.
AI Systems in Google Search

**RankBrain**
- Understand how words relate to **concepts**
- Used to help rank or decide the best order for top search results

**BERT**
- Understand how combinations of words express different **meanings** and intent

**Neural Matching**
- Looks at an entire query or page rather than just keywords to understand the underlying **concepts**
October 2023 Search Update from Google

- Structured Data is a “Machine readable code that search engines can use to understand the content”

- New Types will be introduced and some might go away
  - How-to rich results deprecated from the SERP
  - FAQ rich results only shown for well known, authoritative, government and health sites

- Use a solution that makes it easy to change your structured data and saves you time
Schema Markup to achieve Rich Results

Schema Markup to build a Knowledge Graph
Search has moved from strings to things

Lexical search → Semantic search

Keywords → Entities & Knowledge Graphs
What is an Entity?

An entity is a thing with specific attributes.
Your Webpage = Entity Home
Schema Markup = Language to define Entities on your website
Entity Maturity Scale

Topics are a group of keywords

Entities relate topics with context (triples)

Linked Entities to Wikipedia or Google Knowledge Graph

Linked Entities within your Knowledge Graph
Help Google Understand Who Your Authors Are

The Person / Expert

Questions Google Is Trying To Answer

Who Is This Person?

Why Are They An Expert In This Industry?

Why Are They An Expert On This Topic?

How You Can Help Answer Those Questions

Create An Author Page

Link To LinkedIn Profile

Link To / From Wikipedia

Link To Other Articles & Publications

Author Schema
What is Semantics?

Semantics is a term for the study of language, how it expresses meaning, and the rules it must abide by in order to convey this meaning.
Do search engines care about semantic Schema Markup?

In short, yes.

Google
Also, over time richer/correct semantics will favour more connected graphs.”
– Ryan Levering, Google (Source: Mastodon)

Bing
Write great content annotated with schema markup... use Semantic Markup to convey information about the page.”
– Fabrice Canel, Bing (Source: Pubcon Austin 2023)
Schema Markup builds Marketing Knowledge Graphs
Why should you implement Semantic Schema Markup?

- Develop your knowledge graph by connecting the various entities to your organization.
- Help AI search engines understand and contextualize your content to provide searchers with more relevant results.
- Train AI search engines to provide more accurate results by grounding the LLM with your knowledge graph.
How to make your entities connected within your brand knowledge graph

1. Design your content to talk about specific topics/entities.

2. Use Schema Markup to describe the entity and its relationship to other things on the page and on your site for greater context.

3. Connect known entities on your page with Wikidata, Wikipedia or Google Knowledge Graph.
Schema Markup is a team sport

SEO Team
Visibility in Search + Results

Content Team
Write High Performing Content

IT Team
Website Architecture & Taxonomy

Results
PROBLEM:
NOT EVERYONE KNOWS THEY’RE ON THE TEAM
SEO

Content Ideas / Optimizations

Technical Fixes

CONTENT

Content Creation / Updates

WEB

Implementation
It’s Time To Adopt An “Always On” Mentality

The best SEO programs in the world are “always on” and somewhat mechanical. When SEO is part of everyone’s job, more gets done more often.
This is a problem
How Most Companies Run Technical Site Audits

This is a problem

2-3 Days

1-2 Weeks

1-2 Weeks

This is a problem
How Companies That Are “Always On” Run Technical Site Audits

Technology Is Always Running

Preset Alerts Based On What You Want To Look Out For

Real-Time Alerting

Alerts Go Directly To The Web Team & Are Fixed

Monthly Meeting w/ SEO Team
1. Design your content to talk about specific topics/entities

Team: SEO + Content

Focus on one topic per page

● Provide search engines with clarity on what the page is mainly about. Be specific.

● Build pages in a scalable manner
  ○ Re-use the page architecture across page sets.
  ○ Example Topic Groups: Products, Services, Case studies, Events, People, Jobs
Then show what Conductor is doing with Draft Insights - where:

a) suggest a question your content should address
b) tell you if your content is delivering value.
HelloFresh vs. Goodfood vs. Chefs Plate Comparison (2023)

Canada's most distinguished meal kit delivery services are Goodfood, HelloFresh, and Chef's Plate. All three companies put an emphasis on quality and freshness. There are also a variety of dishes and delicious dinners on the menus, but who has the most, and who's the cheapest?

Chef's Plate is a subsidiary of HelloFresh; however, the two companies differ on several levels. Chef's Plate, for instance, provides the best value. HelloFresh offers the most variety on its menu so is good for families with fussy eaters or for people who like to try new dishes and cuisines. Goodfood has the fastest recipes around, with some starting at just 10 minutes, although Chef's Plate also has a fast recipe option.

Examine the content below to compare Canada's three top leading meal kit services. We discuss every aspect of these three meal kit companies, from their intriguing weekly meals to places where free shipping is available (and which of the companies even offers this), to customer reviews. We also have some discount codes for you to enjoy along the way so stick with us.
Specificity Will Be Key Moving Forward

Questions to Answer
Answer some of the questions people are asking about this topic. Answering these questions may help you rank in People Also Ask results for related queries.

Do you really save money on meal delivery?
What is better than HelloFresh?
How much does Ilana meals cost?
Is HelloFresh for weight loss?
Example
2. Leverage Schema.org properties to describe entity

Team: SEO + Content + IT
Use Properties to describe the Product entity and its relationship to other entities on the page/the website.
3. Connect entities on a page to other entities within your organization / website

Team: SEO

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Nesting links to external authoritative knowledge bases

Team: SEO

@type: Product
@id
url
name
description
brand
aggregateRating
positiveNotes
category

@type: Thing
name: Solution
sameAs: https://www.wikidata.org/wiki/Q21075690
Connect the primary entity on a page to the relevant rich result

Team: SEO + Content
We analyze your content on site and create a custom Schema Markup strategy that aligns with your business goals.

1. Strategy

Bring your knowledge graph to life by creating your Schema Markup using our Highlighter and Editor tools.

2. Authoring

Integrate once with Schema App and gain agility to deploy new markup or updates in minutes.

3. Deployment

Evolve your Schema Markup with your content and page architecture. Update your Content to gain more results and test what works in changing search engine landscape.

4. Maintenance

Use Schema Performance Analytics and Google Search Console to measure the performance against your desired outcome.

5. Measurement
New Measures for AI Search

**Structured data helps search engines understand content.**

**Metric:**
- Click-through rate

CTR increases with more qualified traffic.

**Introduce Agility Into Your Team.**

**Metric:**
- Time to Update/Value
- Reduced IT Dependency

Move quickly with content updates and have your structured data dynamically update to show new context.

**The future of search requires more than keywords. It requires a knowledge graph.**

**Metric:**
- Schema Markup coverage
- Health of Knowledge Graph

Schema App creates knowledge graphs. You own the data and can reuse it for AI.
Create a Knowledge Graph with Schema Markup

Search Engines Understand Content & Provide More Quality Traffic