Finding Trends with Visualizations

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Warm-Up

Write 913 in binary. 1 1 1 0 0 1 0 0 0 1

	2^9	2^8	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
	512	256	128	64	32	16	8	4	2	1
	1	1	1	0	0	1	0	0	0	1

Why did we stop at 2^9?

Start with 913 and subtract the value of the largest power, and repeat….

913 - 512 - 256 - 128 - 16 - 1

= 401 = 145 = 17 = 2 = 0

Unit 4 Lesson 2 (U4L2)
Finding Trends with Visualizations

Please complete the survey

bit.ly/CSP_Survey

Yesterday we started to collect data about ourselves so that we could learn about trends and patterns in our behavior. Today we're going to look at another tool that has collected a lot more data about you, me, and everyone else in this room. We're going to start thinking about **how to tell stories** with data, **what data we need**, and **how best to use and present it**.

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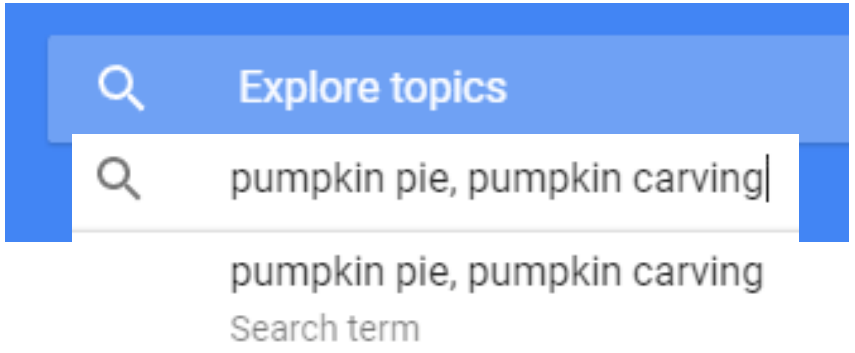
Finding Trends with Visualizations

Go to google.com/trends

Explore and discover what this tool does and how to use it. (5 mins)

Let’s compare some data….



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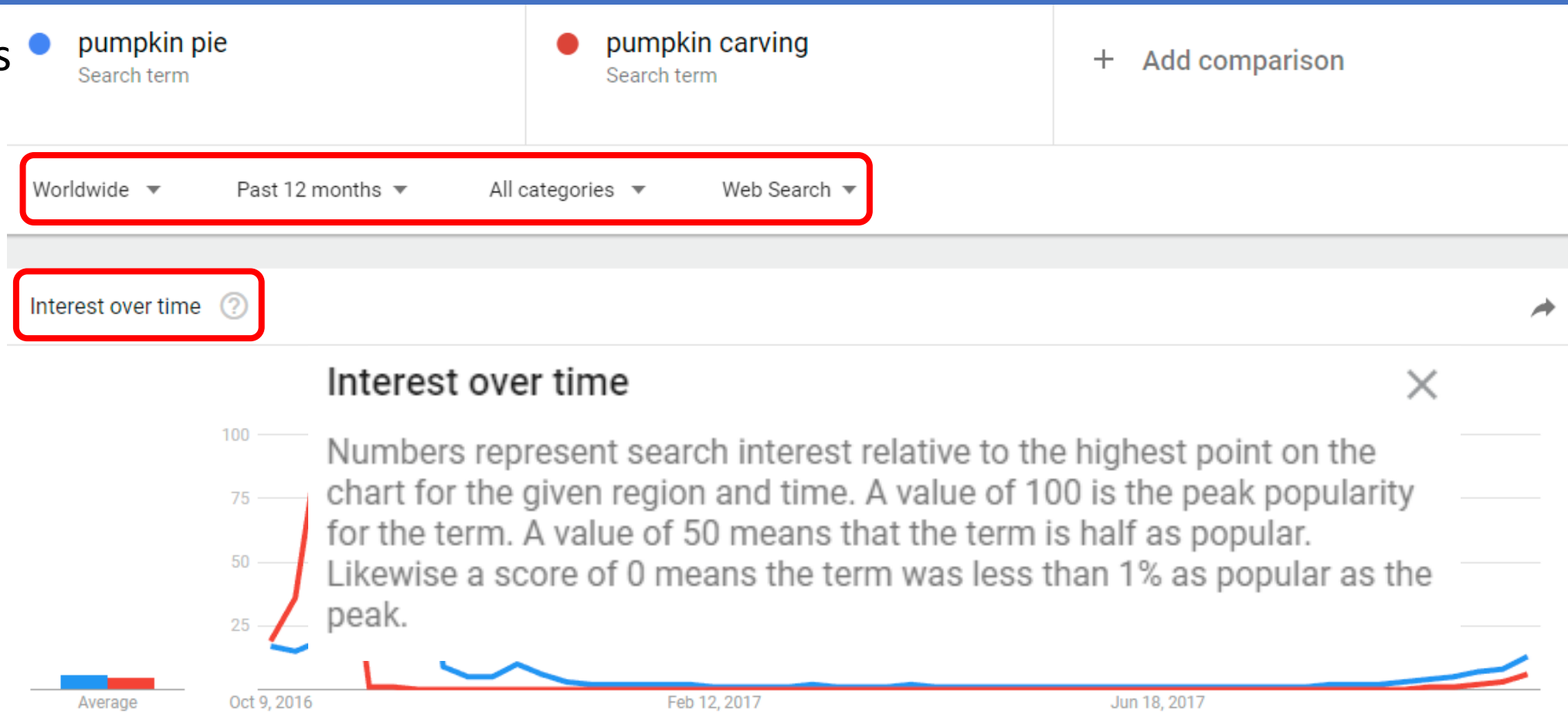
What do the results show?

What do the numbers on the graph represent?



Can you tell how many searches were made for each topic?

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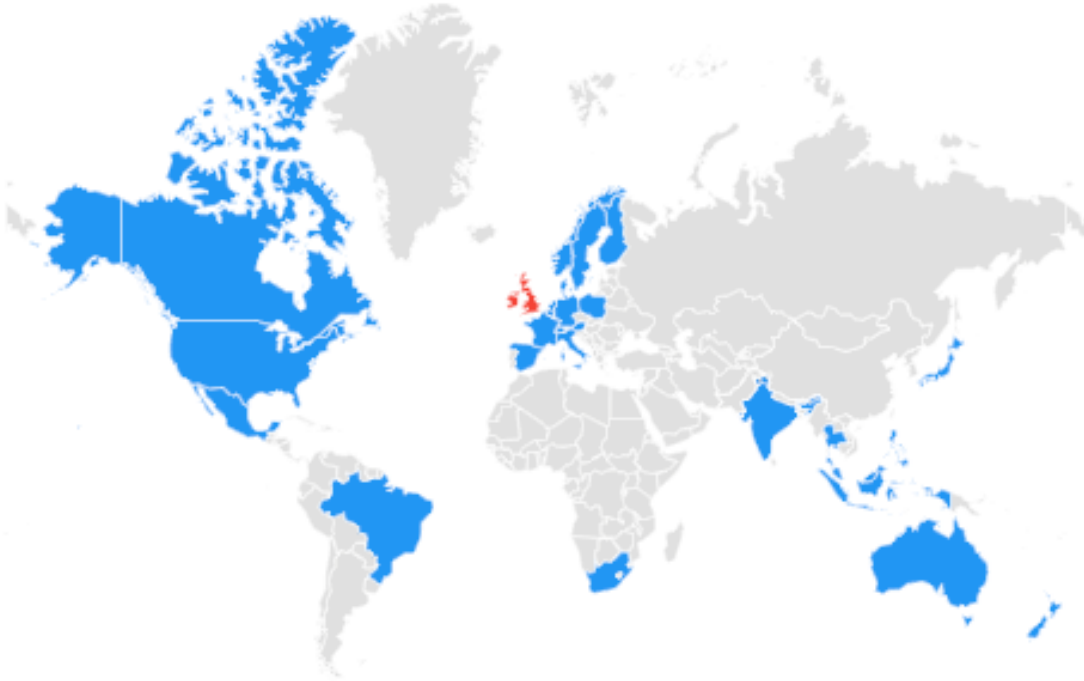
What do the results show?

Why do you think it looks like this?

Interest by region



Interest by region

See which term ranked highest in each region during the specified time frame. Values are scaled from 0 to 100, where 100 is the region with peak popularity, a value of 50 is the region where the term is half as popular, and a value of 0 means that term was less than 1% as popular as the peak.

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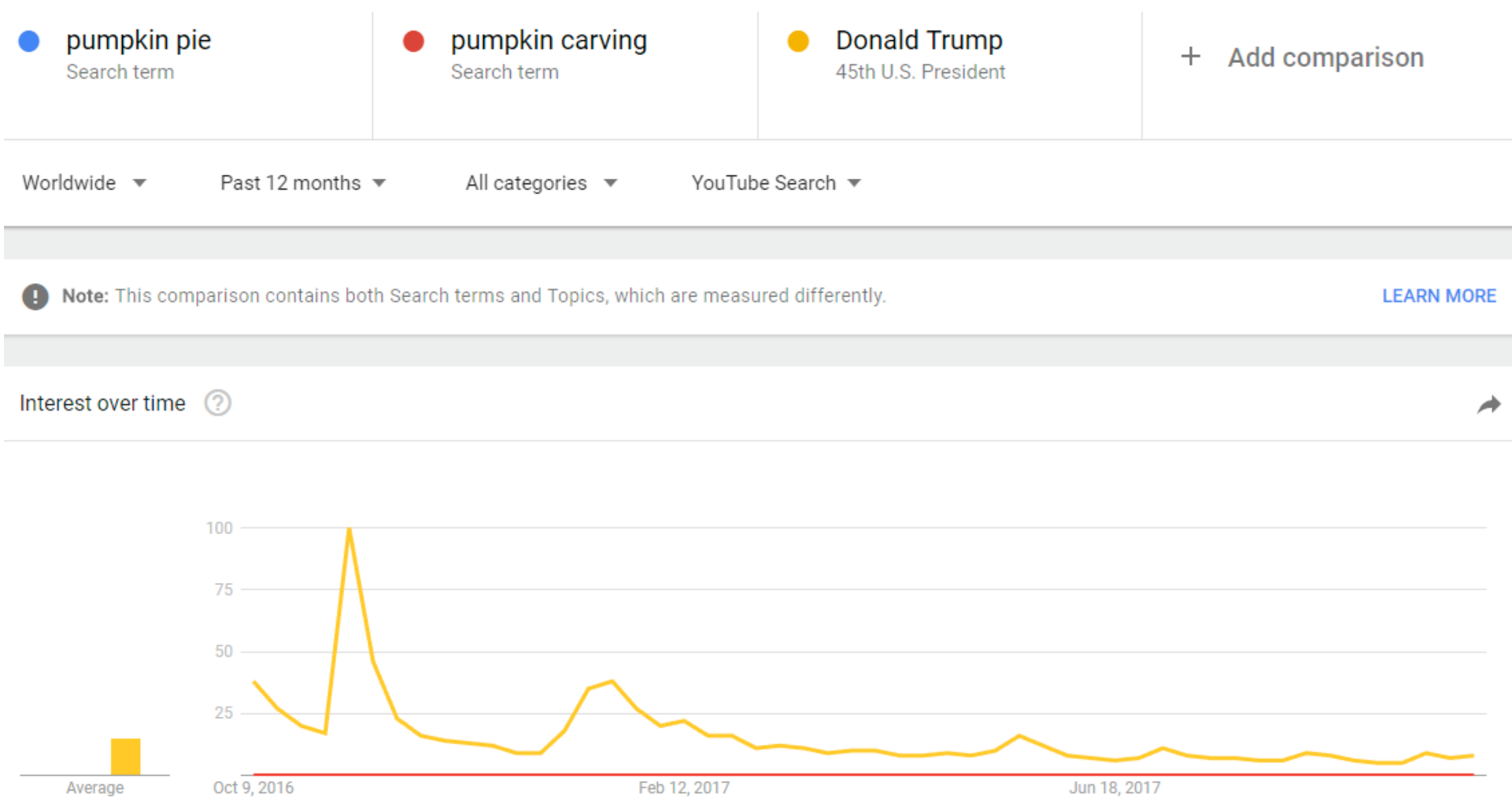
It is important that you are comparing "similar" things.

Why do you think this changed the look of the graph?



Exploring Trends On Your Own

Continue exploring comparisons of search trends **that are interesting to you**.

You might start by looking up:

- a current event / social movement / hashtag / meme
- your favorite hobby / movie / song / book / celebrity
- popular apps / businesses / products / websites

As you try different terms, here are some things to look for:

Long-term trends: Is your topic becoming more popular over time? Less?

Short-term trends: Does your topic suddenly spike or dip in popularity?

Patterns: Does your topic follow some predictable repeated pattern?

Relationships: Does one topic increase or decrease in popularity when another one does?

Zoom-in: You can narrow your search to particular regions, times, and categories

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Complete the Activity Guide - Exploring Trends
Describe what terms you compared and whether you narrowed your search by using filters.

Accurately describe what the charts or other visualizations are showing.

Come up with a possible story or explanation of why the trend you described might have happened.

When you have finished your activity, post a screenshot of the graph and the map on the Google Slides posted in Classroom.

ECV Period 3

ECV Period 5

Share Data Stories

Is the story the student told supported by the chart?
Are there other ways to interpret the chart?
Are there additional terms you'd also like to see shown on the chart?

It's exciting to be able to look at so much data in such a concise way, and it certainly feels like we've seen a lot of good stories here. As we start thinking more about how we use data, however, we'll need to make sure that the assumptions we're making about our data are correct.

Please complete the Check Your Understanding.