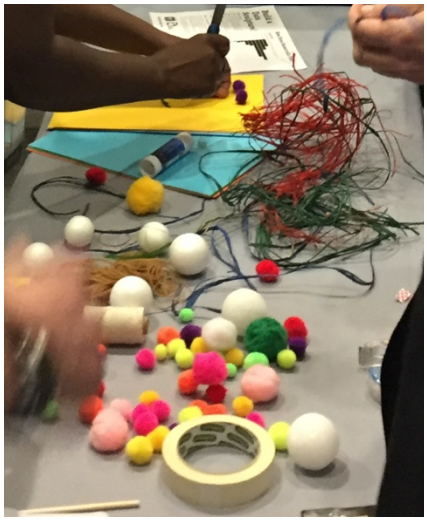
Build a Data Sculpture

Use physical craft materials to tell a data story in 3D

This activity will take 20 to 30 minutes. You should have these materials on hand:

- Local craft materials (plastic bottle tops, wire, fuzzy balls, colored paper, wood blocks, construction paper)
- Tape, glue, scissors
- DO NOT include pens, crayons, or anything else to write with (otherwise people just draw instead of building)
- DO NOT include LEGO bricks (otherwise people just build bar charts)



Background

The idea of playing with data is new to most folks. This activity lets people quickly build sculptures that tell a simple data story with craft materials. The playful approach to the data helps engage the participants in thinking about how stories can be found and presented quickly, and helps people feel more freedom and flexibility about data presentations. It builds a notion of "presentation" instead of "visualization". The activity also builds the ability to translate words and numbers into structural forms. In addition, playing with these materials at the start of a workshop can break down power dynamics that might exist within the group.

Kick off the Activity

Introduce the group to two related “normal” charts of data. One can be a single fact, and the other a medium-sized set of information. If you make your own, be sure to avoid data that the audience knows too well - we find that leads people to get lost in the nuances and intimate details. We suggest using more generic or high-level data. Here are a few handouts you are welcome to download, print, and use:

- US Ice Cream Consumption
- Happiness in the Town of Somerville, MA, USA

Ask the group to pair up, preferably with someone they don't know. Show participants a large central table full of the materials you have gathered. Give them 6 minutes to quickly build a physical representation of the data you presented earlier. Don't give them too long, otherwise they will get stuck on nuances instead of just getting their creative juices flowing. Remind them they are creative, and that pipe cleaner bar charts are NOT allowed!

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Have Everyone Share Back

Stop everyone when the time is up. Give each group 1 minute to share what they made. You can summarize by pointing out similarities and differences in the pieces folks made. Often you'll see some people focusing on one data point, while others look at a broader picture. With the happiness data, some people try to merge to two datasets, while others just focus on one. Point out any physical versions of traditional charts to point out how entrenched our current visual presentation techniques are! Try to identify patterns in how the numbers were mapped onto physical objects.

Build a Data Sculpture

Find a Story

Data is most useful when you can use it to tell a story about something. Using the data on this handout, try to find a story that you can tell by building a mini sculpture.

- Does one piece of data jump out at you?
- If you take a step back is there a pattern in the data?
- Do you see a story when comparing one part to another?

Make a Sculpture

Data visualization is very popular right now, but sometimes is hard to digest. Making a "sculpture" is a fun way to start playing with how to present your data story to other people.

- What symbols can you build to represent your data?
- How can you attract attention with this stuff?
- Can you tell simple and complex stories?

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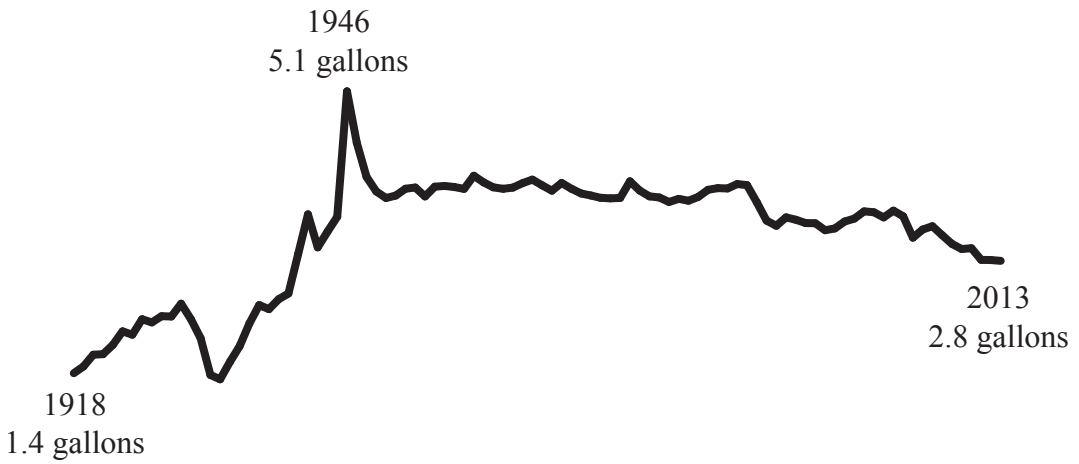
Ice Cream In the US

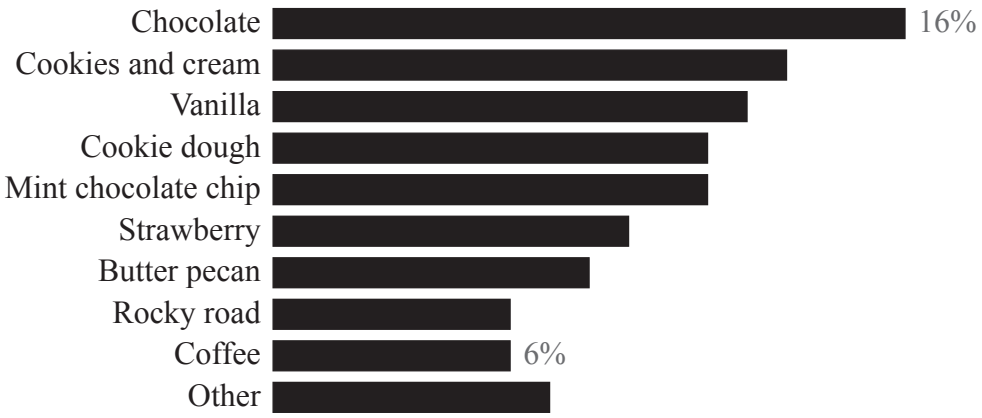
How Much Do We Eat?

This chart shows the gallons of ice cream an average person would eat in a year.



Our Favorite Flavors

This survey asked 1000 people what their favorite flavor of iceam was in 2014



Sources: USDA, Vission Critical

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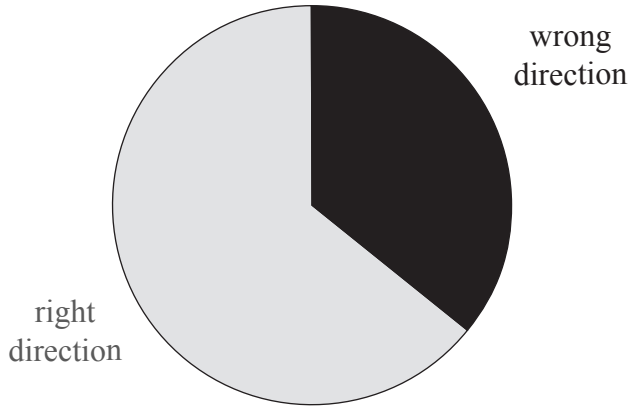
How Does Somerville Feel?

Happiness

Somerville asked its residents "How happy are you right now?"

The Future

Overall, would you say Somerville is moving in the right direction, or the wrong direction?



Sources:
- Somerville Wellbeing Survey

Sketch a Visual Word Web

Practice translating abstract ideas into concrete images

This activity will take 15 to 20 minutes. You should have these materials on hand:

- Big sheets of paper
- Lots of pens of different colors
- Sticky notes

Background

Sometimes your data story is centered around an abstract idea, such as "climate", "injustice", or "rights". Abstract ideas are hard to picture, and even harder to draw. This activity helps you brainstorm more concrete ideas that are related to the abstract concepts. It also helps you come up with visual symbols you could later incorporate into a visual design that tells your data story. Making word webs encourages collaborative teamwork and collective brainstorming.

Kick off the Activity

Begin by spreading out large pieces of paper, each with an abstract concept written in the middle. The concepts should be from a data-driven story you are working with. Words like "poverty", "injustice", and "happiness" are all good examples of abstract concepts that come from data-driven stories.

Give each participant a pen and break them up into groups of 5 or 6, with each group assigned to one of the pieces of paper you just showed. Tell the participants they should start by drawing a line from the central word and writing another word that they associate with the first one. Keep adding words connected to the first word or to the ones that other people add. Give the groups 6 minutes to brainstorm and write words. Each paper should end up looking like a web of words, connected by lines.

Once the time is up, hand out the sticky notes. Give folks another five minutes to identify any words that can easily be sketched out, and then have them draw those on a note and stick it next to the word.

Have Everyone Share Back

Bring everyone back together, and have each group hang the sheets of paper on the wall. Give participants a few minutes to walk around looking at what other groups created.

Ask the full group about the connections they saw, the unique or unconventional ideas conveyed, and the pictures that stood out to them as iconic or effective. Highlight any drawings that carry a particular tone, or ones that may only make sense in certain contexts or cultures. Discuss which pictures are most effective for conveying the concept of the data-driven story you started with.

Note that there are online sources which can help you brainstorm, such as the Noun Project.