



## TED Connection: Big Data Is Better Data

### Overview

Mensa for Kids' TED Connections are short, easy to use guides that help teachers, parents and youth use TED talks in a classroom or home setting. Rather than a lesson plan format, they have a list of discussion questions, all at higher levels of thinking.



**Kenneth Cukier** challenges the future of big data in the modern age, giving a glimpse into its uses and possible abuses in a way that invites you to rethink what you thought you knew about computers, modern life, and information.



*The Economist*

**WATCH THE TED TALK AT:**

[ted.com/talks/kenneth\\_cukier\\_big\\_data\\_is\\_better\\_data](http://ted.com/talks/kenneth_cukier_big_data_is_better_data)



## Think about it

1. Apple pie is America's favorite pie when sold as an entire pie, but Cukier asserts that is not the case when supermarkets sell smaller, individual-sized pies. He says, "Everyone has to agree that apple is everyone's second favorite." How is this similar to the idea that compromise really means that no one is happy? Do you agree with that idea?

---

---

---

2. According to Cukier, more data "doesn't just let us see more of the same thing we were looking at. More data allows us to see new. It allows us to see better. It allows us to see different. In this case, it allows us to see what America's favorite pie is: not apple." Explain the irony in the idea that bigger data actually lets you see smaller ideas.

---

---

---

3. He calls big data an "extremely important tool by which society is going to advance," and then specifies the areas of global food insecurity, medical care, energy and climate change. Think of three other areas in which big data may be used to benefit mankind or specific ways in which it may help in the domains defined by Cukier.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_



4. In the past, information looked very different from the way it looks today. Describe some differences in the information storage devices pictured here. Use Cukier’s ideas that new storage systems are easier to search, copy, share and process data.



---

---

---

5. One of the changes Cukier describes is that, in addition to collecting information we’ve always collected, we can also take thing that haven’t been “rendered into a data format and we are putting it into data.”The example he uses is the location of Martin Luther’s whereabouts in the 1500s. List three other things you can think of that you can easily find now with an internet search that would have been impossible to find 100 years ago.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

6. The idea that we could use a driver’s posture to prevent someone from stealing a car or to prevent an accident sounds promising, positive, and full of potential. What are some possible pitfalls?

---

---

7. Machine learning, the idea that a computer can get “smarter” by “throwing data” at the computer and letting it solve the issue itself appears to challenge the ideas we have of what it means to be able to learn. If you could have a computer “learn” to help you do one thing you do in your school or work, what would it be and why? Would it make you smarter, too, or just the machine?

---

---



**8.** Cukier asserts that big data will improve our lives, but that improvement may come at a price. He describes “predictive policing” or algorithmic criminology,” in which police can take data about past crimes and behaviors and predict what and when and where new crime will occur. Describe the pros and cons of this form of civil safety.

---

---

**9.** Privacy was the problem with small data, says Cukier, and safeguarding human agency will be the problem with big data. Do you agree or disagree with this? On a scale of 1 to 10, how big of a problem do you think it is? At what point do problems outweigh benefits?

---

---

---

---

**10.** The loss of jobs is another problem discussed by Cukier. He says that although we often think technology will create jobs, and that was true of the Industrial Revolution, but that will not be as true of the information revolution. Certain types of jobs go away and never come back, and he uses the example of a horse and how the Industrial Revolution changed the use of horses forever. Can you think of three jobs that could disappear because of the information revolution?

**1** \_\_\_\_\_

**2** \_\_\_\_\_

**3** \_\_\_\_\_

**11.** Cukier argues that big data is going to “transform how we live, how we work, and how we think.” He lists multiple benefits and challenges associated with it. Which of the benefits he describes (careers, satisfaction, hope, happiness, health) do you think is most important?

---

---

---

---

---



**12.** He says we need to stop focusing only on the “T” in “IT” and look at the “I” that he argues is “in some ways more important. Do you agree? In what ways is this true?

---

---

---

---

**13.** Do you agree with his final assertion that big data is a big deal? Were you persuaded? Of the common rhetorical techniques (ethos, logos, and pathos) which do you think he uses most often? Which does he use most persuasively?

---

---

---

---



## Do it

- Visit [dactionforchildren.org/node/357](http://dactionforchildren.org/node/357). Scroll over the different neighborhoods and look at the amount and types of data that has been collected. How could this information be used to benefit the people living in those neighborhoods?
- Did the talk make you hungry for apple pie? If so, there's a recipe at [kingarthurfour.com/recipes/apple-pie-recipe](http://kingarthurfour.com/recipes/apple-pie-recipe).

## Read about it

- Read Cukier's books he co-wrote with Viktor Mayer-Schönberger, *Big Data: a revolution that will transform how we live, work, and think* and *Learning with Big Data*.
- Read the government's report on big data and privacy at [bit.ly/big-data-gov](http://bit.ly/big-data-gov).
- Read Cukier's papers on big data [cukier.com/papers.html](http://cukier.com/papers.html).
- Read about the use of big data in school at [bit.ly/big-data-school](http://bit.ly/big-data-school) or at [bit.ly/big-data-classroom](http://bit.ly/big-data-classroom).

## Watch it

- Watch the TED talk by David McCandless on making data beautiful at [bit.ly/big-beautiful-data](http://bit.ly/big-beautiful-data).
- Watch one of these big data movies: *Minority Report* (PG-13), *I, Robot* (PG-13), *War Games* (PG), or *Eagle Eye* (PG-13).

## Surf it

- Visit the Census Bureau's statistics site and explore the amount and types of data gleaned from the census: [census.gov/data/data-tools.html#](http://census.gov/data/data-tools.html#)
- Read about predictive policing at work in America's largest cities at [bit.ly/predict-police](http://bit.ly/predict-police) and the new career of computational criminology at [bit.ly/comp-crim](http://bit.ly/comp-crim).