Seating



1	1	2	2	3	3	4	4	
1	1	2	2	3	3	4	4	
5	5					6	6	
5	5					6	6	

makeameme.org

Searching For Information Tool



- **Due tonight by midnight; do the work in a Word file and upload it to Canvas; worth 20 points.
- **Remember to check out the grading rubric on Canvas.

Searching For Information Tool

In Groups:

- Any questions about the Searching for Information Tool?
- What was difficult about finding the information?
- What strategies do you think work best?
- **Due tonight by midnight; do the work in a Word file and upload it to Canvas; worth 20 points.
- **Remember to check out the grading rubric on Canvas.

Searching For Information Tool

Boolean Search Engine Terms:

Google:

https://www.lifehack.org/articles/technology/20-tips-use-google-search-efficiently.html

Google Scholar:

https://scholar.google.com/intl/en/scholar/help.html

Web of Science:

https://researchguides.library.tufts.edu/c.php?g=24 9270&p=1660077

Evaluating Information

How do we best evaluate specific information that we find, especially on general media?



Two Types of Information

General Information

- News articles
- Popular media
- Organization's websites

Evidence

 Data in peerreviewed journal articles and technical reports



How can we tell if information we found online is reliable?

Student Responses:

- Whether the website is a .com / .gov / .org
- If the website has lots of advertisements
- Which search engine you were using when you found it

The C.R.A.P. Test

Currency

 How current is the information? How recently has the website been updated?

Reliability

- What kind of information is included in the resource?
- Does the creator provide references or sources for data or quotations?

Authority

- Who is the creator or author? What are their credentials and background?
- Who is the publisher or sponsor? Are they reputable?
- What is the publisher's interest (if any) in this information?

Purpose/Point of View

- Is this opinion? Is it biased? Does the author seem to be trying to push an agenda or particular side?
- Is the creator/author trying to sell you something? If so, is it clearly stated?

How many plastic bags are in the ocean?



What comes up in a Google search?

Pick one website and spend 2-3 minutes discussing with your group what you notice about the site in terms of Currency, Reliability, Authority, Purpose/point of view.



number of plastic bags in the ocean





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About 45,500,000 results (0.63 seconds)

Plastic Statistics | Ocean Crusaders

oceancrusaders.org/plastic-crusades/plastic-statistics/ ▼

It is now believed that there are **5.25 trillion** pieces of plastic debris in the ocean. Of that mass, **269,000** tons float on the surface, while some **four billion** plastic microfibers per square kilometer litter the deep sea. (1) Shoppers worldwide are using approximately **500 billion** single-use plastic bags per year.

[PDF] Top Ten Facts about Plastic Bags in our Oceans 1) Americans use ...

https://environmentmassachusetts.org/sites/.../Bag%20Ban%20Fact%20Sheet%20_0.pd... ▼ Mar 21, 2013 - 5) Marine wildlife often mistake plastic bags for food, especially sea turtles ... found blocking the breathing passages and stomachs of many ...

Ocean Plastic — SEE Turtles

https://www.seeturtles.org/ocean-plastic/ •

According to the US EPA, Americans use more than **380 billion** plastic bags and wraps each year. It takes **12 million** barrels of oil to produce this many bags. Worldwide, as many as **one trillion** plastic bags are used each year. This equates to **100 million** barrels of oil!

Plastic Pollution

plastic-pollution.org/ ▼

The results: every year, **8 million** metric tons of plastic end up in our oceans. It's equivalent to **five** grocery bags filled with plastic for every foot of coastline in the world. In 2025, the annual input is estimated to be about twice greater, or 10 bags full of plastic per foot of coastline.

How does plastic get in the ocean? 5 questions we need to answer to ... https://www.vox.com/science-and-health/.../how-much-plastic-is-in-the-ocean-2018 ▼



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Plastic Statistics

You are here: Home / Plastic Crusades / Instic Statistics

Plastic Ain't so Fantastic

It is now believed that there are 5.25 trillion pieces of plastic debris in the ocean. Of that mass 269,000 tons float on the surface, while some four billion plastic microfibers per square kilometer litter the deep sea. (1)

Shoppers worldwide are using approximately 500 billion single-use plastic bags for year.

This translates to about a million bags every minute across the globe, 150 bags a year for every person on earth. And the number is rising.

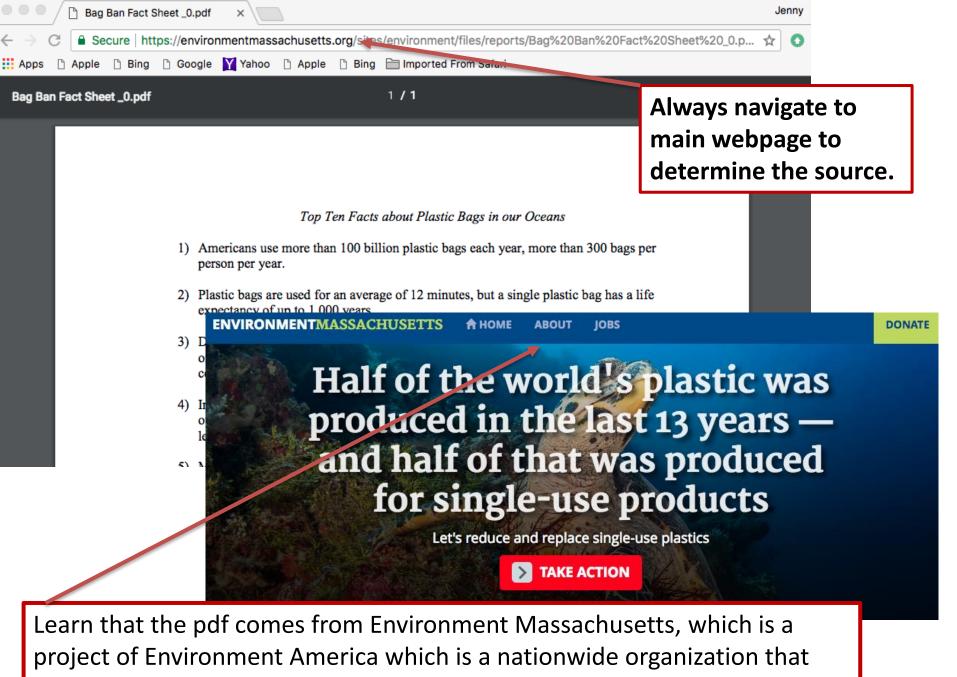
- If you joined them end on end they would circumpavigate the globe 4,200 times.
- 100,000 marine creatures a year die from platic entanglement and these are the ones found.
- Approximately 1 million sea hirds also die from plastic

Read the "About" section of the homepage, or Google the company and read about it.

This organization was founded by a person who set the world record for circumnavigating Australia and used his profile to raise awareness. The mission is to provide educational resources to parents and teachers. They get \$ from sponsor companies who sell outdoor equipment. The team includes scientists, educators and others.







lobbies for environmental action

13



Half of the world's plastic was produced in the last 13 years and half of that was produced for single-use products

Let's reduce and replace single-use plastics

Interaction

Contact page

Upload file

Wikidata item Cite this page



Google or search in Wikipedia for the name of the organization to learn more about it.

> Learn that **Environment America** is an advocacy group active in lobbying, litigation & mobilizing public support



Compare Sources

- Ocean Crusaders & Environment Massachusetts
- Would you expect one to do a better job passing the C.R.A.P. test? Why?

Student Responses:

- Enviro. Mass. might be better because the lobbyists have to find facts (although some don't)
- Enviro. Mass. has a higher quality website so they have more time/resources to find facts
- Lobbyists are more active so need to stay more upto-date
- Neither website necessarily has the authority to speak on the topic (but we could find out if they do)

15

Finding Primary Sources

Guided example:

http://www.fox2detroit.com/news/us-and-world-news/holiday-inn-owner-ditches-mini-shampoos-to-save-oceans-and-curb-plastic-pollution

Finding Primary Sources

Guided example:

Kosuth M, Mason SA, and Wattenberg EV (2018) Anthropogenic contamination of tap water, beer, and sea salt. *PLoS One* 13:e0194970

Advice

It's okay to use Google, when you first start learning about a subject, some general information you can find by searching here is fine, reading Wikipedia pages can be super helpful. The point is that citing these sources for your homework or any future science you do isn't going to cut it. You have to find primary sources of information.

Evaluate Information Tool



**Recitation Homework due Friday Sept 13th by midnight. Complete in Word, then upload to Canvas; 20 points.

Select one of the following questions to pursue for the Evaluate Information Tool

- How do microplastics impact wildlife?
- What are the potential health impacts on humans of plastics in the environment?
- How is biodegradable plastic different from other types of plastic?
- Do biodegradable plastics work (i.e. do they break down in oceans or on land)?