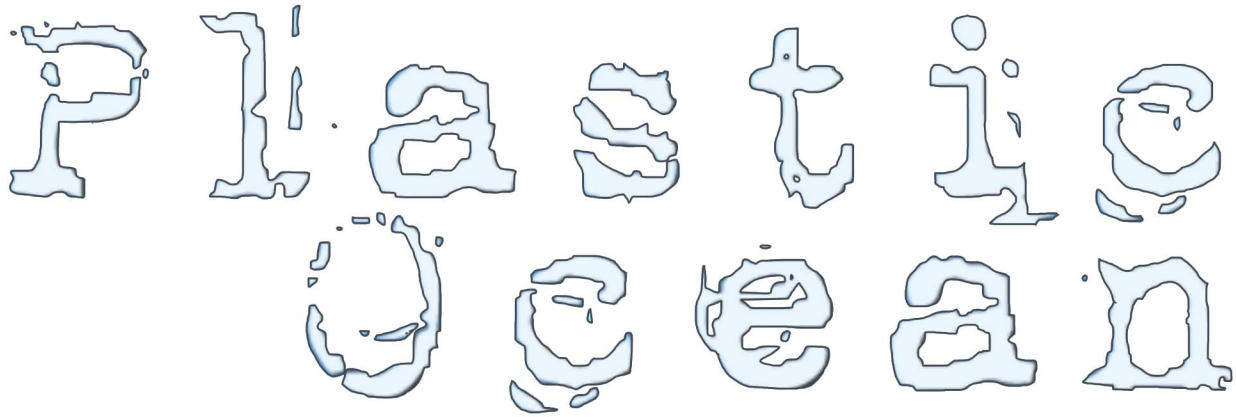
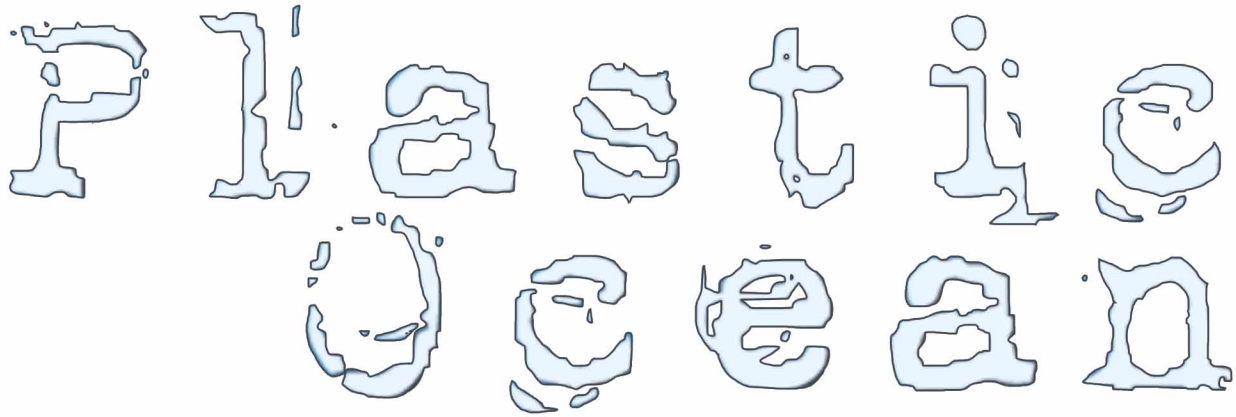


the Water Brothers EPISODE GUIDE QUESTIONS



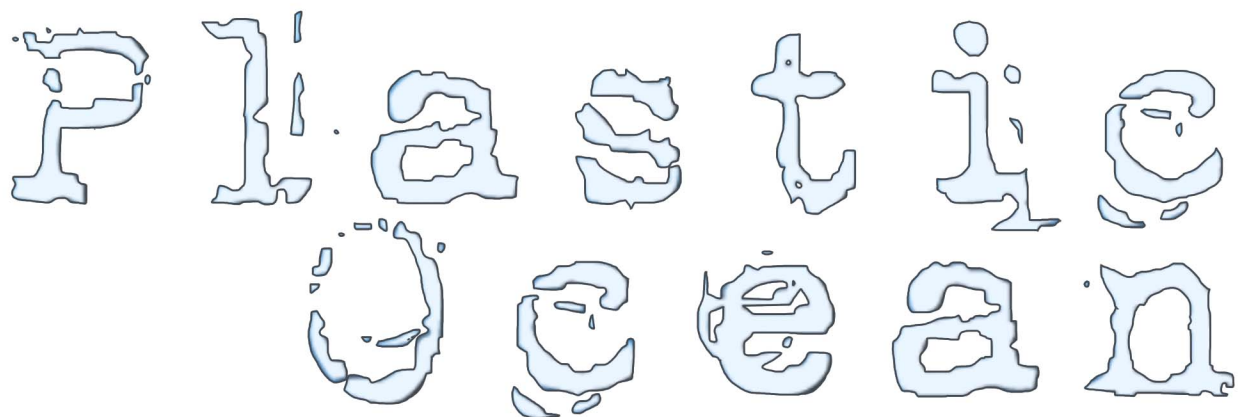
1. Where did The Water Brothers sail to in this episode? Which ocean did they sail on?
2. How big is the plastic island in the North Pacific gyre said to be?
3. Where does the plastic concentrate in the ocean?
4. How many of these concentration zones are there in the oceans?
5. How did the plastic pieces in the ocean get so small?
6. How many plastic pieces are floating in every square mile of ocean surface?
7. How much plastic is produced each year around the world?
8. What percentage of plastic sinks in seawater?
9. What percentage of plastic in the oceans comes from land? What percentage comes from activities at sea (commercial shipping and fishing)?
10. How does plastic affect wildlife? Provide an example.
11. What can you do to help the problem of plastic in the oceans?

the Water Brothers EPISODE GUIDE ANSWERS



- 1. Where did The Water Brothers sail to in this episode? Which ocean did they sail on?** The Water Brothers sailed to the western garbage patch of the North Pacific Garbage Patch. They sailed across the Pacific Ocean.
- 2. How big is the plastic island in the North Pacific gyre said to be?** The plastic island in the North Pacific gyre is said to be twice the size of Texas.
- 3. Where does the plastic concentrate in the ocean?** Plastic collects in gyres in the oceans.
- 4. How many of these concentration zones are there in the oceans?** There are 5 large concentration zones (gyres) in the ocean.
- 5. How did the plastic pieces in the ocean get so small?** Over time, the combination of waves and sunlight break the plastic down into smaller pieces.
- 6. How many plastic pieces are floating in every square mile of ocean surface?** The United Nations estimates over 46,000 pieces of plastic float in every square mile of the ocean surface.
- 7. How much plastic is produced each year around the world?** Globally, over 3 million tons of new plastic is produced every year.
- 8. What percentage of plastic sinks in seawater?** 50% of plastic sinks in the water; the rest floats.
- 9. What percentage of plastic in the oceans comes from land? What percentage comes from activities at sea (commercial shipping and fishing)?** 80% of plastic comes from land. 20% of plastic comes from activities at sea (commercial shipping and fishing).
- 10. How does plastic affect wildlife? Provide an example.** On a seabird colony of Midway in Hawaii, not far from the garbage patch, tens of thousands of seabirds die of starvation every year after eating things like plastic lighters and bottle-caps they mistake as a meal.
- 11. What can you do to help the problem of plastic in the oceans?** To help reduce the problem of plastic in the oceans, you can use biodegradable bio plastic. Bio plastics break down faster than normal plastics. You can also recycle plastic. However, recycling is only part of the solution, as not all plastics are recyclable, and many plastics that are recyclable are not recovered. The number one solution is to not use single use disposable plastics and reduce your plastic use altogether.

the Water Brothers EPISODE GUIDE ACTIVITIES



Great Pacific Garbage Patch

- <http://education.nationalgeographic.org/encyclopedia/great-pacific-garbage-patch/>
- <http://ocean.si.edu/ocean-news/ocean-trash-plaguing-our-sea>
- <http://science.howstuffworks.com/environmental/earth/oceanography/great-pacific-garbage-patch.htm>
- <http://science.howstuffworks.com/environmental/green-science/clean-up-garbage-patch.htm>

Plastic in Oceans

- <http://www.nrdc.org/oceans/plastic-ocean/>
- <http://news.nationalgeographic.com/news/2015/02/150212-ocean-debris-plastic-garbage-patches-science/>
- <http://www.5gyres.org/>