

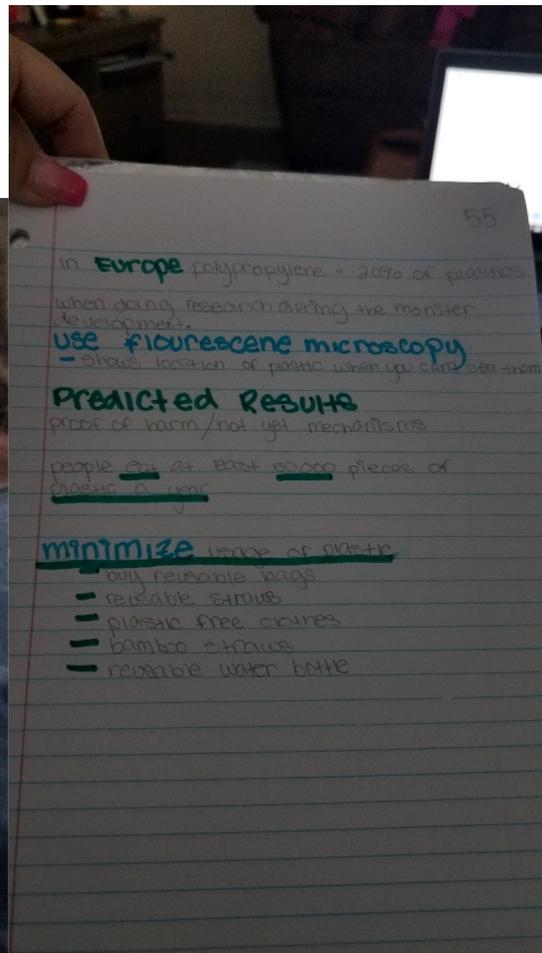
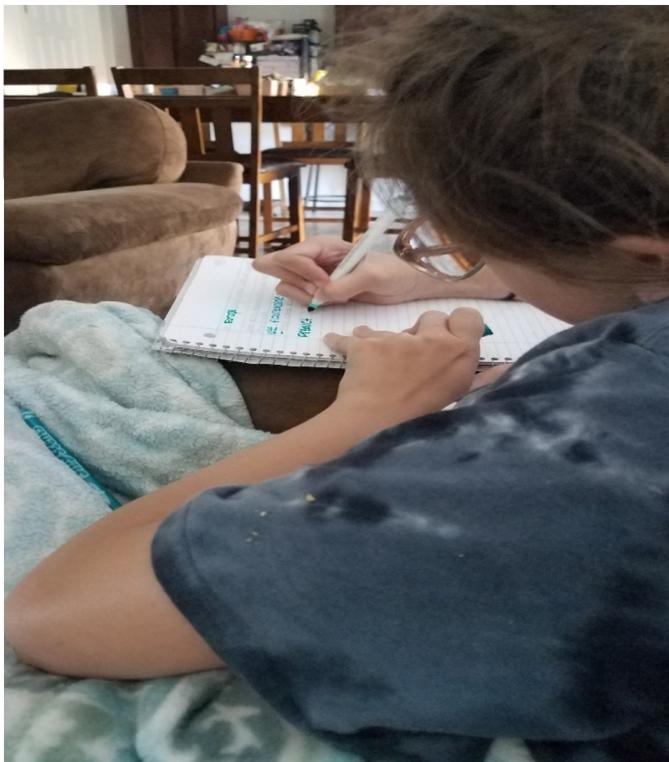
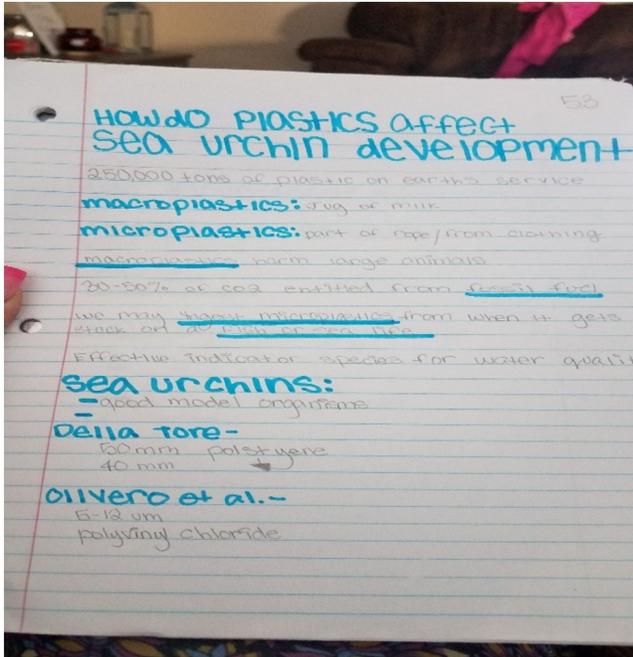
Today (5/15/20), my 14 year old daughter (Hope) and I participated in the webinar, "How do Plastics Affect Sea Urchin Development". We really enjoyed the webinar and found it very informative. We have seen the effects on ocean wildlife like the turtle with a straw in it's nose, dolphins with things wrapped around fins, and birds with plastic wrapped around beaks or feet, but we had no idea how grand scale the problem is.

We learned that over 250 tons of plastic is spread across the ocean's surface. The U.S. produces a lot of plastic waste per year. Plastic ends up in the ocean and can be in many forms, including whole, Microplastics (plastic broken down by waves), and nanoplastics (broken down even further). Microplastics are less than 5mm and nanoplastics are less than one-thousandth of the width of hair. Microplastics harm smaller animals by ingestion and entanglement. Nanoplastics can harm wildlife by being ingested and embedding into the animal's tissue. Humans eat over 50,000 plastic particles yearly.

Mikayla Hyman did a wonderful job of demonstrating and explaining their research with sea urchins and the affects of plastic on their development. Sea urchins were used because they are inexpensive, external fertilization, develop quickly 3 to 4 days, and have translucent embryos. She walked us through the process of collecting sperm and embryos. She showed diagrams of their fertilization process and how the micro and nano plastics affected the embryos development and growth. Some embryos had rigged edges and some appeared to have crushed cells. They used Fluorescence Microscopy to observe the embryos and the changes.

Humans can help to reduce the plastic impact by using reusable bags, water bottle, straws, and cutlery. I will be encouraging my family and classes to try to make these changes to help our oceans.

Attached are pictures of my daughter taking notes from the webinar and her notes.



Heather Wetzel

