

WHAT IS MARINE DEBRIS?

- SOLID; PERSISTENT.
- MAN MADE.
- IN OCEAN AND WATERWAYS.
- WHO HAS BEEN TO THE BEACH?***
- WHAT DID YOU SEE?***

TOP 10 ITEMS COLLECTED



1
Cigarette Butts
2,043,470



6
Grocery Bags
(Plastic)
441,493



2
Food Wrappers
(Candy, chips, etc.)
1,685,422



7
Beverage Bottles
(Glass)
394,796



3
Beverage Bottles
(Plastic)
940,170



8
Other Plastic Bags
389,088



4
Bottle Caps
(Plastic)
847,972



9
Paper Bags
368,746



5
Straws, Stirrers
555,007



10
Beverage Cans
339,170

Is That All?

**What
About
This?**



Wood, Glass, Metal, Plastic.



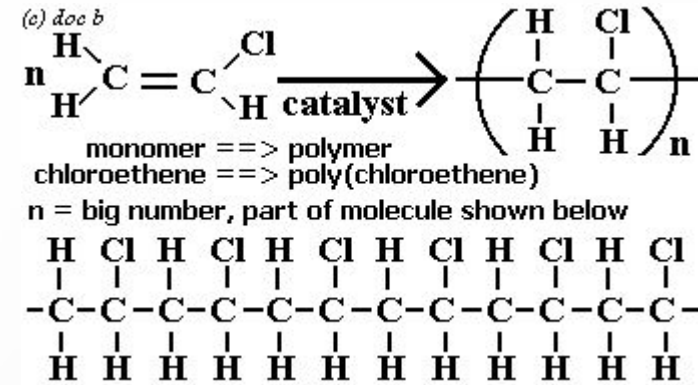
- Which is the worst?
- Why? How is it different from the others?



HINT: How does it go away?



WHAT IS PLASTIC?



- MAN MADE, PERSISTANT, HYDROCARBON...

POLY!

...ESTER, STYRENE, ETHYLENE, PROPYLENE, VINYL

WHAT ARE SOME POLY EXAMPLES?

Sources of Marine Debris



- 1 LITTER DROPPED IN TOWNS AND CITIES
- 2 OVERFLOWING LITTER BINS
- 3 LITTER DROPPED AT THE BEACH
- 4 POORLY MANAGED INDUSTRIAL WASTE DISCHARGES
- 5 LOST SHIPPING CONTAINERS
- 6 LOST/DISCHARGED FISHING GEAR
- 7 RECREATIONAL LITTER BLOWN BY THE WIND
- 8 POORLY MANAGED LANDFILL SITES
- 9 MICROBEADS FROM PERSONAL CARE PRODUCTS
- 10 SEWAGE RELATED LITTER

Where Does it
Come from?

WHY IS IT A PROBLEM?





Entanglements



Who is Most At Risk For Entanglement?

MARINE WILDLIFE FOUND ENTANGLED IN MARINE DEBRIS

WILDLIFE	BEVERAGE BOTTLES	BEVERAGE CANS	CRAB, LOBSTER, & FISH TRAPS	FISHING HOOKS	FISHING LINE	FISHING NETS	PLASTIC BAGS	RIBBON/STRINGS	ROPE	6-PACK HOLDERS	WIRES	TOTAL
AMPHIBIANS	1	0	0	0	3	1	6	0	0	1	0	12
BIRDS	2	0	0	5	45	53	19	5	5	1	3	138
FISH	5	1	2	1	48	11	11	2	5	1	2	89
INVERTEBRATES	6	2	1	1	14	12	6	7	6	0	0	55
MAMMALS	0	0	0	3	6	1	6	1	5	1	0	23
REPTILES	0	0	0	0	10	4	1	1	2	0	1	19
TOTAL DEBRIS ITEMS	14	3	3	10	126	82	49	16	23	4	6	336

138

BIRDS



89

FISH



55

INVERTEBRATES



19

REPTILES



23

MAMMALS



12

AMPHIBIANS



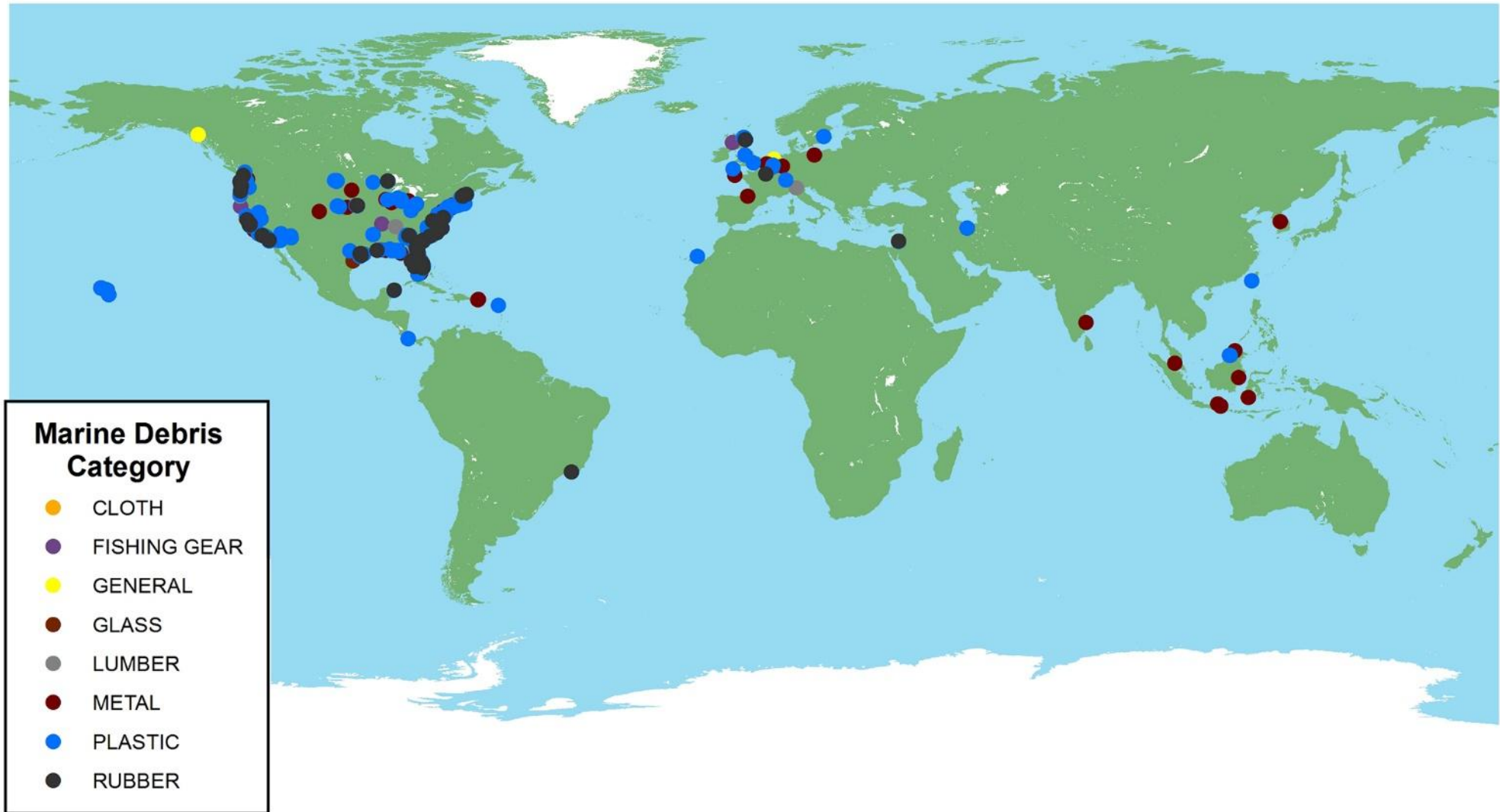



Ingestion...

The image features a light gray gradient background with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the page.

Who Is Most At Risk For Ingestion?

Locations and Types of Debris Tracked



The background features a light gray gradient with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

Plastic Challenge!
Divide into 2 teams...

WASTE TIMELINE

Activity

- You have given been eight picture cards.

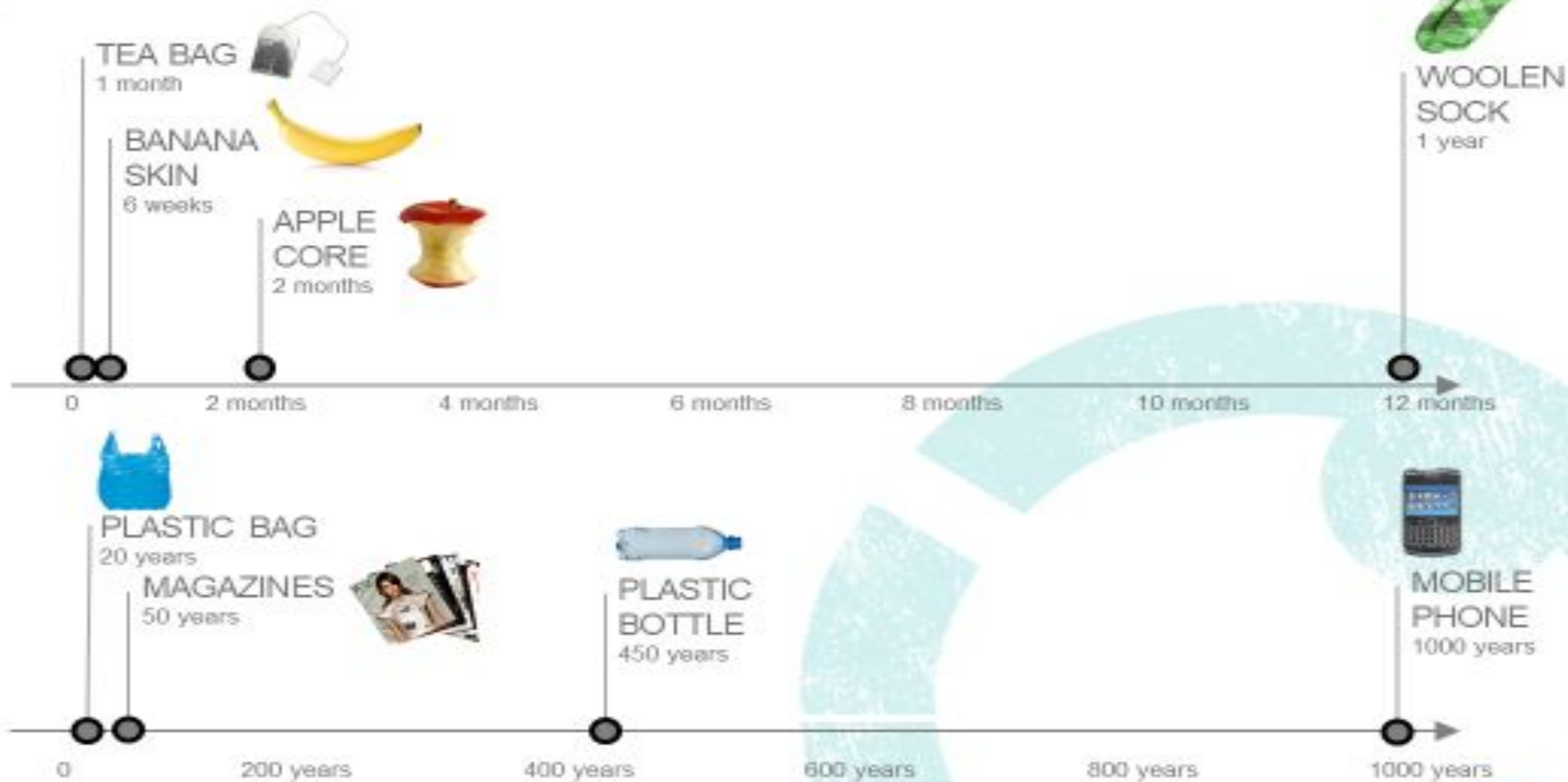



- Place them in a timeline on your desk, from the fastest to the slowest item to decompose.

2014

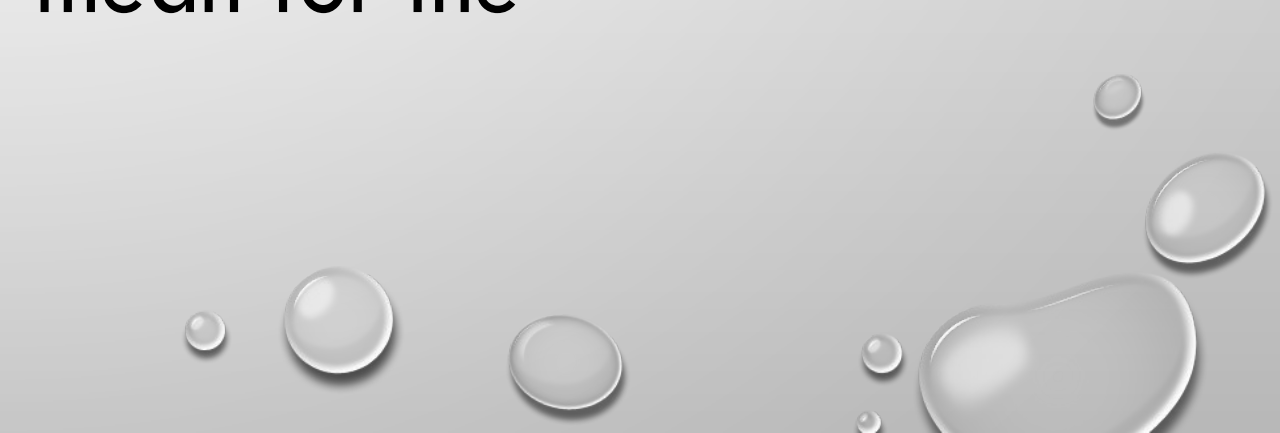
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TIME TO DECOMPOSE





Yeah, that last picture was wrong. New Research Suggests Something a Bit Different...

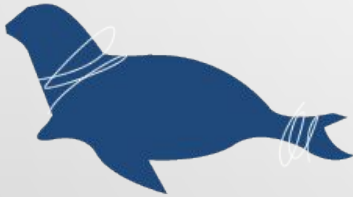
- Remember what we said about plastic being persistent?
 - What does that mean?
 - What does that mean for the oceans?
- 

IMPACTS OF MARINE DEBRIS



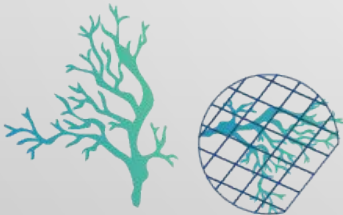
INGESTION

Animals mistakenly eat plastic and other debris.



ENTANGLEMENT & GHOSTFISHING

Marine life gets caught and killed in ghost nets, trapped in derelict gear, and entangled in plastic bands and other marine debris.



HABITAT DAMAGE

Heavy marine debris crushes sensitive habitat, such as coral reefs and sea grass.



NON-NATIVE SPECIES

Marine debris transports alien and invasive species from one region to another.

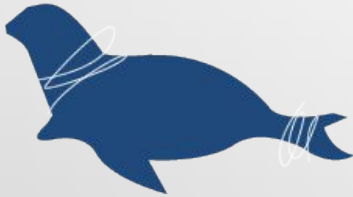


IMPACTS OF MARINE DEBRIS



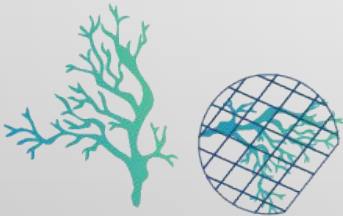
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It doesn't
have to be
heavy to do
damage...



**But Does
Plastic
Float?
Sink?**



WHAT ABOUT THE SMALL STUFF?

SMALLER AND

SMALLER AND

SMALLER AND

SMALLER AND

SMALLER AND

SMALLER

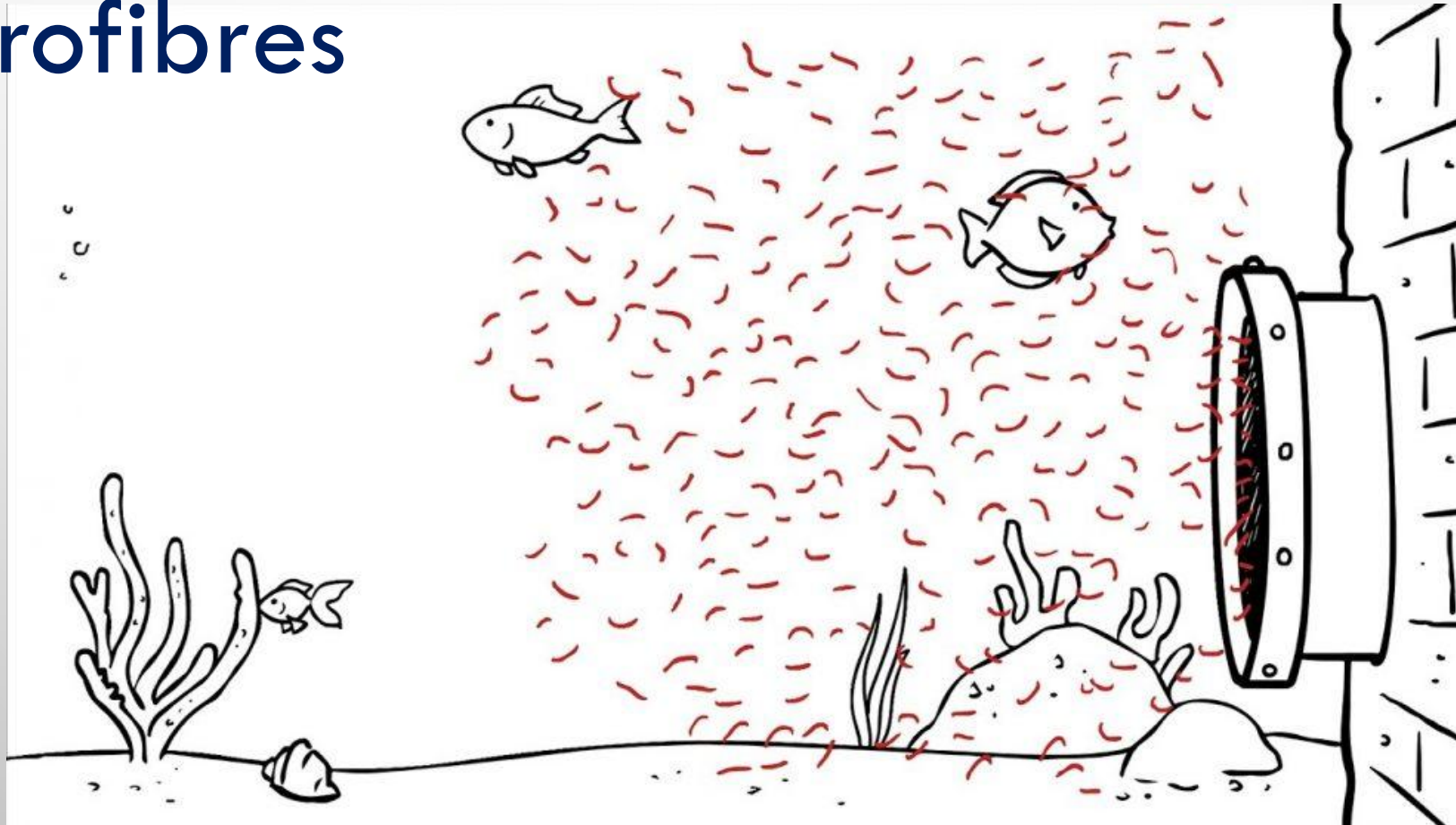


Microplastics

- Makeup
- Toothpaste
- Soap
- Scrubs



Plastic In Your Clothes: Microfibres



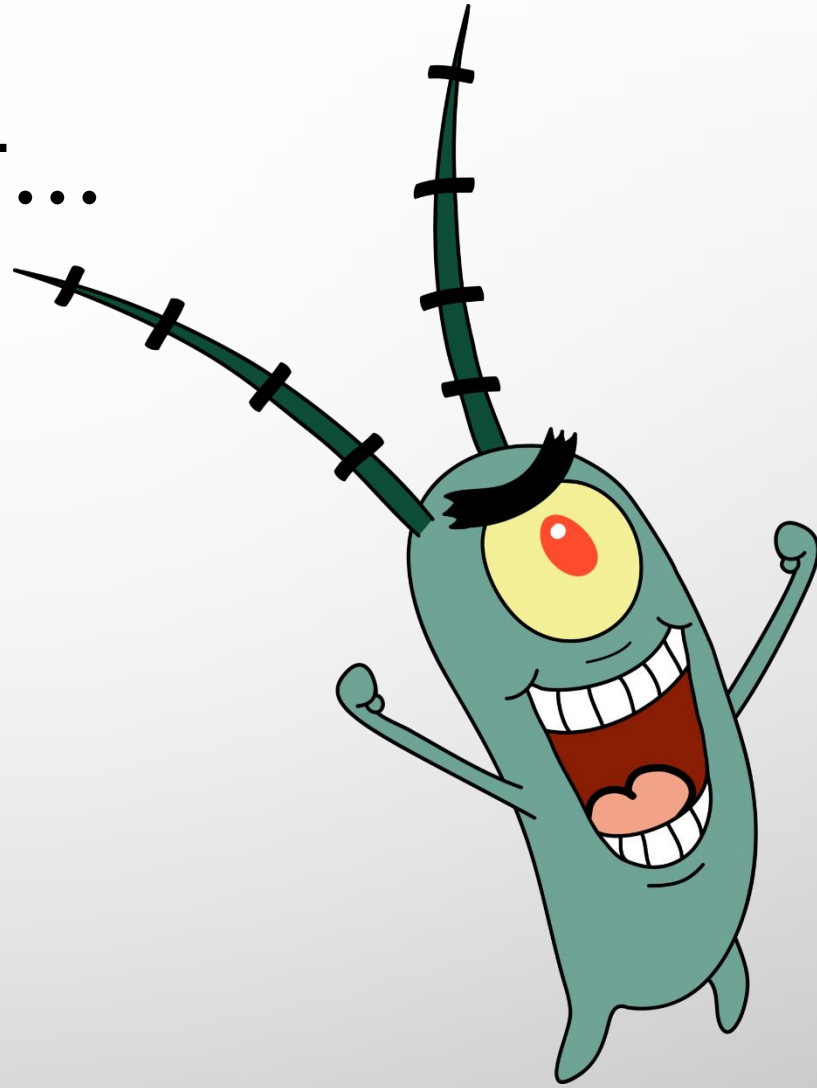


Poly...esters

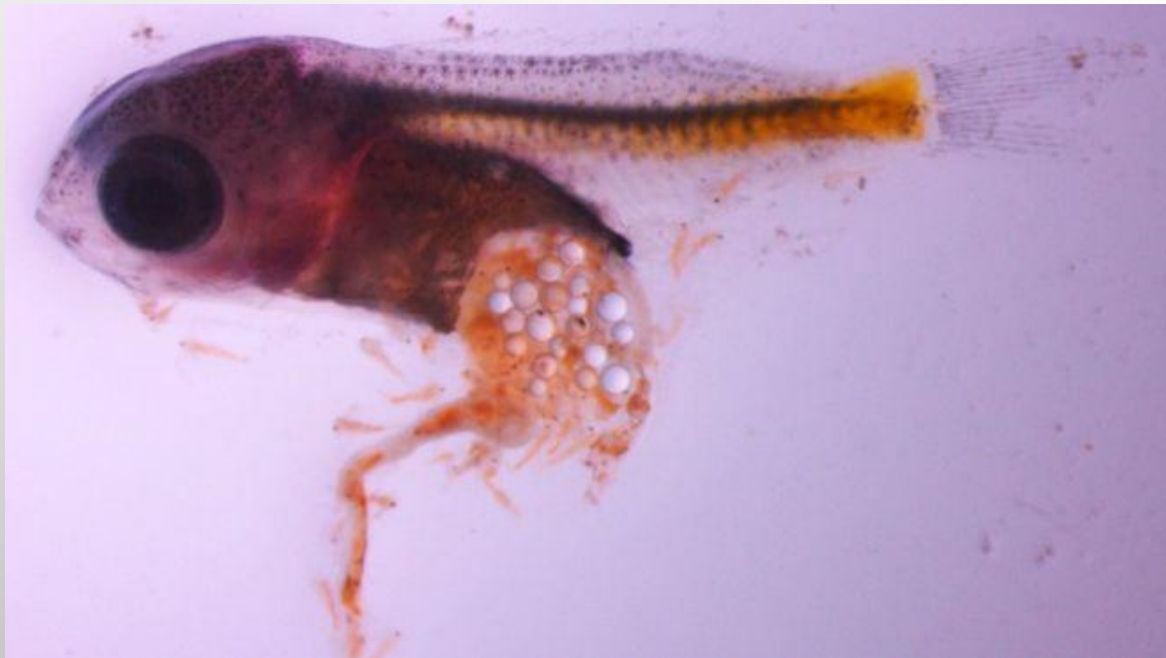
WHAT'S WORSE? BIG OR SMALL? ITS COMPLICATED...

- IN THE END, ITS ALL SMALL.
- EVEN THOUGH ITS SUPER SMALL IT'S STILL THERE.
- INCREASE SURFACE AREA = TOXIC ABSORPTION
- DECREASE SIZE = MORE ORGANISMS CAN EAT/FILTER/ABSORB IT.
- **WHAT'S ONE OF THE MOST IMPORTANT CREATURES IN THE OCEAN? BIG OR SMALL?**

HINT...



WHAT'S ON YOUR PLATE?





**PLASTIC PRODUCTS AND CHEMICAL ADDITIVES HAVE
NEGATIVE HUMAN HEALTH EFFECTS INCLUDING:**

DIRECT TOXICITY: COMPOUNDS CONTAINING LEAD, CADMIUM, MERCURY

CARCINOGENS: AS IN THE CASE OF DIETHYLHEXYL PHTHALATE (DEHP)

ENDOCRINE DISRUPTION: WHICH CAN LEAD TO CANCERS, BIRTH DEFECTS,
IMMUNE SYSTEM SUPPRESSION AND DEVELOPMENTAL PROBLEMS IN CHILDREN.



10 THINGS YOU CAN DO FOR TRASH FREE SEAS

- CAN IT**
USE A TRASH CAN WITH LID
- TAP IT**
DRINK TAP WATER IN A REUSABLE BOTTLE
- STOW IT**
BE A GREEN BOATER WITH OCEAN CONSERVANCY'S GOOD MATE PROGRAM
- BUTT IN**
WRITE YOUR LEGISLATOR ASKING FOR POLICIES THAT ADDRESS OCEAN TRASH
- REMOVE IT**
CLEAN UP WITH THE INTERNATIONAL COASTAL CLEANUP
WWW.SIGNUPTOCLEANUP.ORG
- BUTT OUT**
USE AN ASHTRAY SO CIGARETTE BUTTS DON'T REACH WATERWAYS AND THE OCEAN
- RECYCLE IT**
GO THE EXTRA MILE TO SORT AND SEPARATE ITEMS THAT CAN BE RECYCLED
- REUSE IT**
TAKE ALONG YOUR REUSABLE COFFEE MUG, PICNIC SUPPLIES OR SHOPPING BAG
- REFUSE IT**
BUY LESS TO REDUCE THE AMOUNT OF MANUFACTURED ITEMS WINDING UP AS TRASH IN THE OCEAN
- REINVENT IT**
ASK COMPANIES TO OPTIMIZE PACKAGING AND CREATE NEW OCEAN-FRIENDLY MATERIALS



What Can We Do?



Keep the Sea Free of Debris!

Join the International Coastal Cleanup



volunteer

**at a local beach or
neighborhood cleanup**



come prepared

**bring your gloves, drinking
water, and a bucket or bag
to collect debris**



clean-up

**don't forget to sort
and recycle what you can**

www.Shorelinecleanup.ca

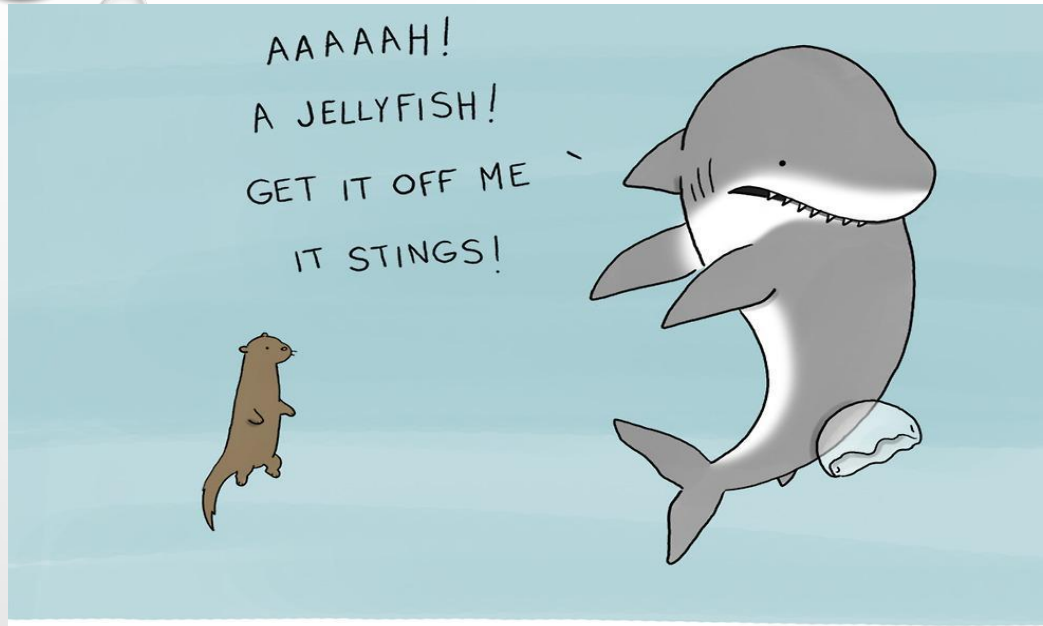
This Is What
I Chose To
Do...





**It's a Small Thing,
But Like Many
Small Actions, It
Makes a
Difference!**





Thanks
Everyone!