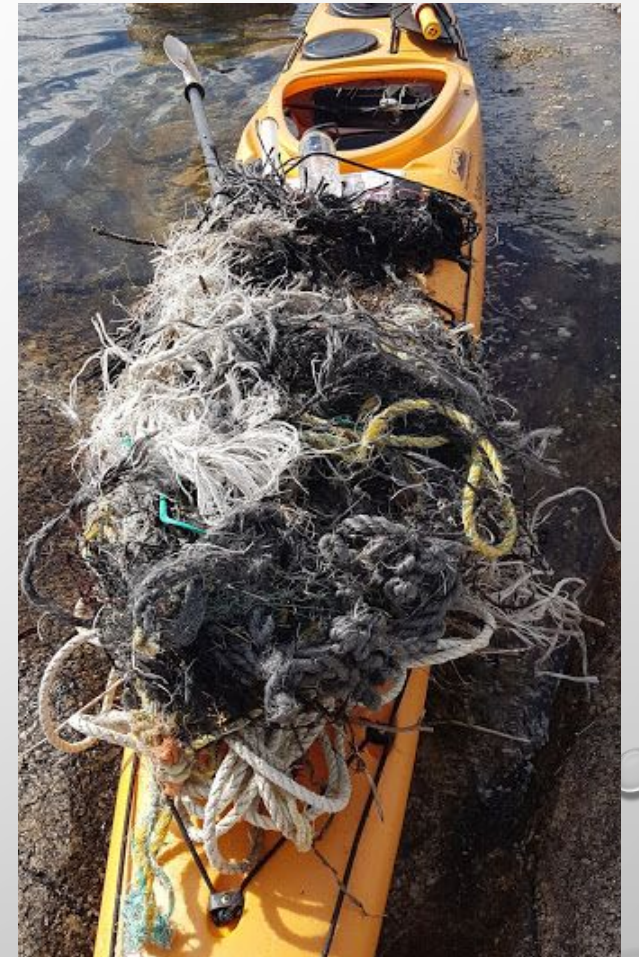


The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the slide.

Plastic Pollution in the Marine Environment

CANADA'S OCEAN PLAYGROUND?



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.



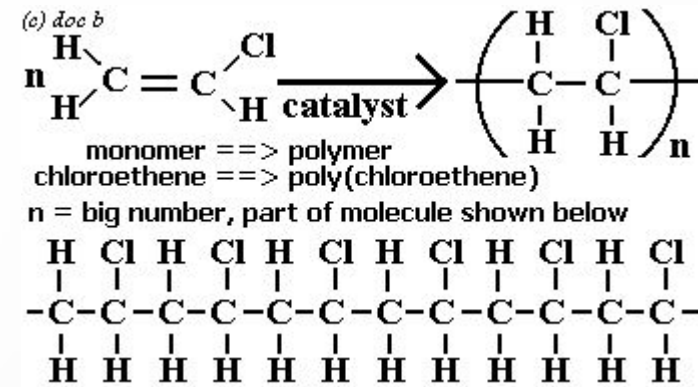
- Which is the worst?
- Why? How is it different from the others?



HINT: How does it go away?



WHAT IS PLASTIC?



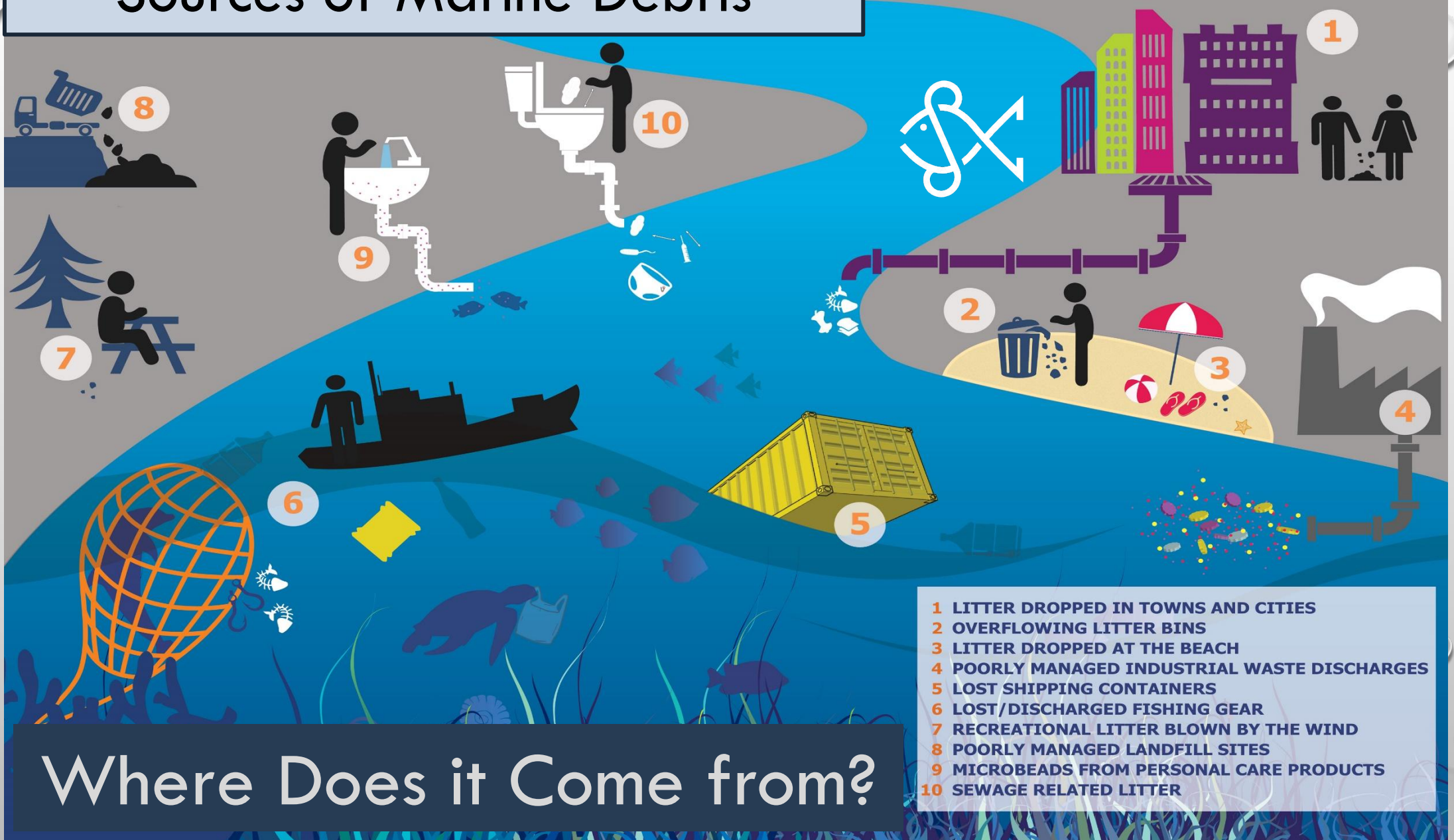
- MAN MADE, PERSISTENT, HYDROCARBON...

POLY---

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

WHAT ARE SOME POLY EXAMPLES?

Sources of Marine Debris



Where Does it Come from?

WHY IS IT A PROBLEM?



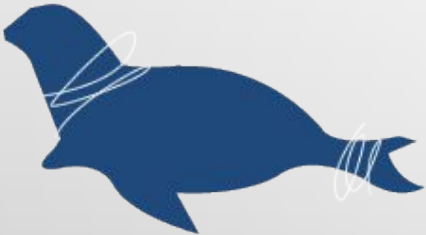
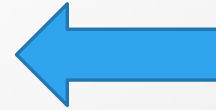
IMPACTS

OF MARINE DEBRIS



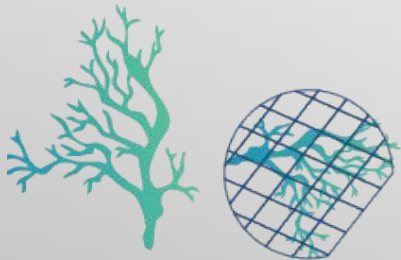
INGESTION

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.



Who Is Most At Risk For Ingestion?



Ingestion...



Who is Most At Risk For Entanglement?



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

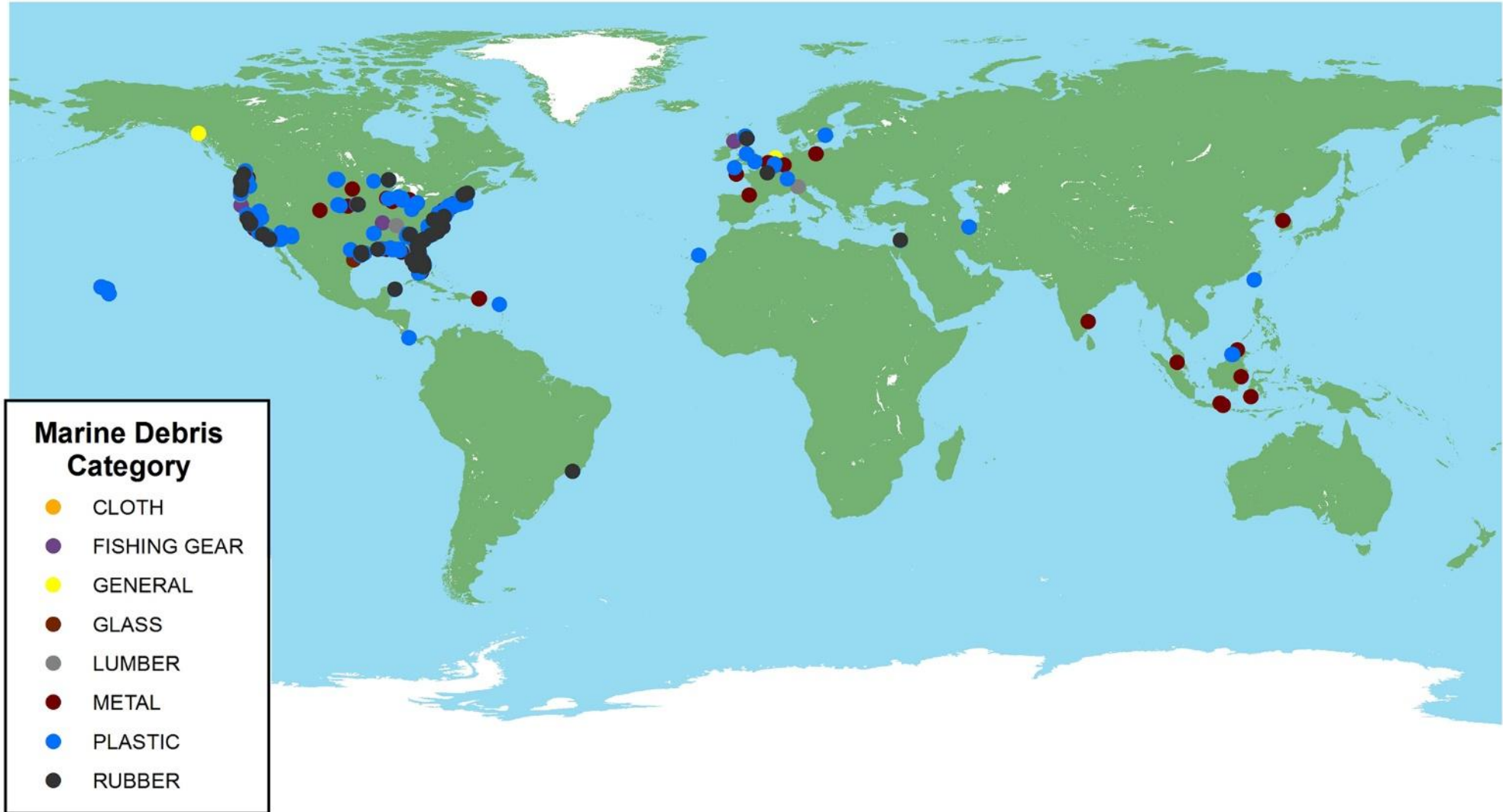


12

AMPHIBIANS



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.

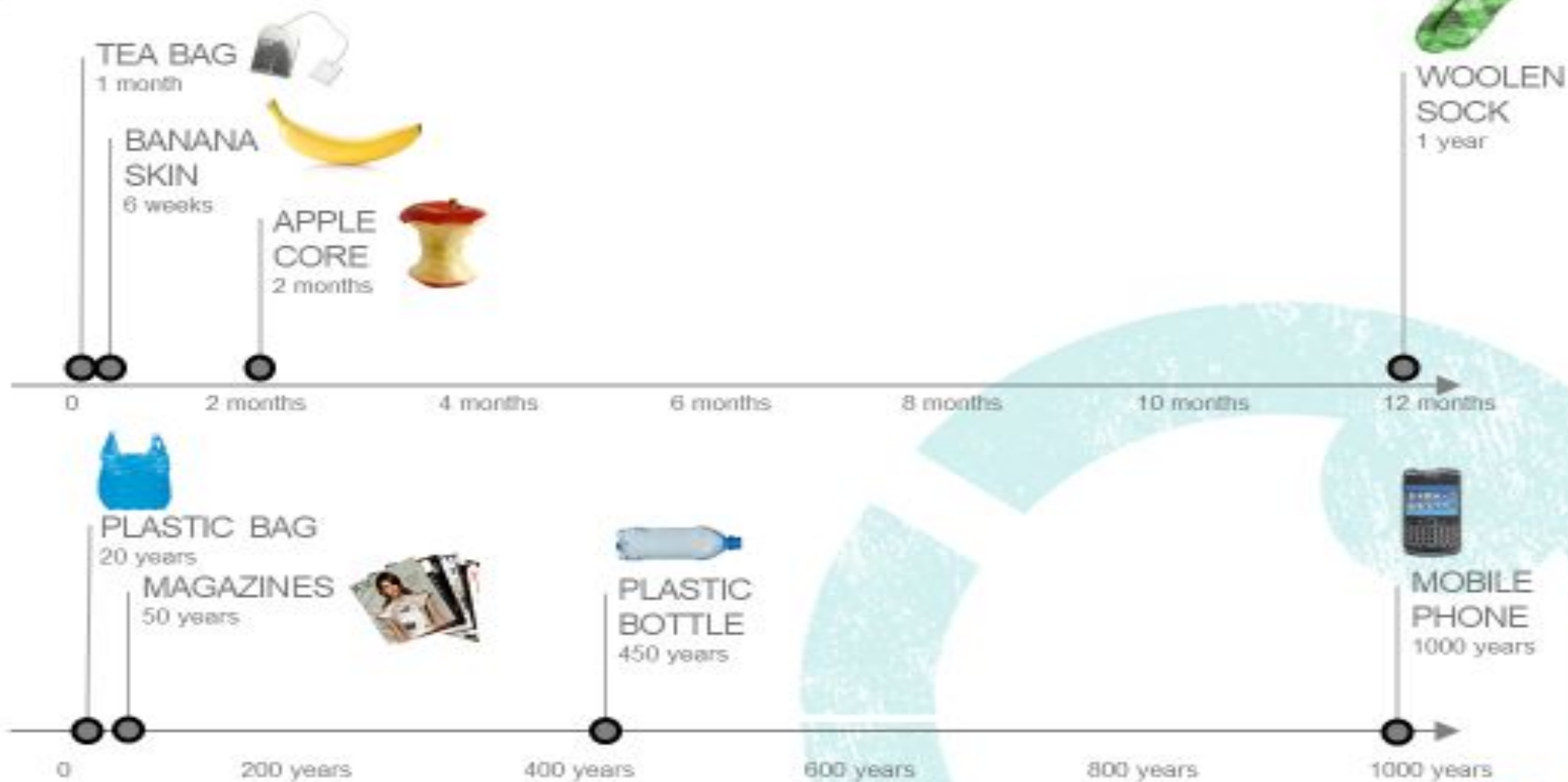



- Place them in a timeline on your desk, from the fastest to the slowest item to decompose.

2014

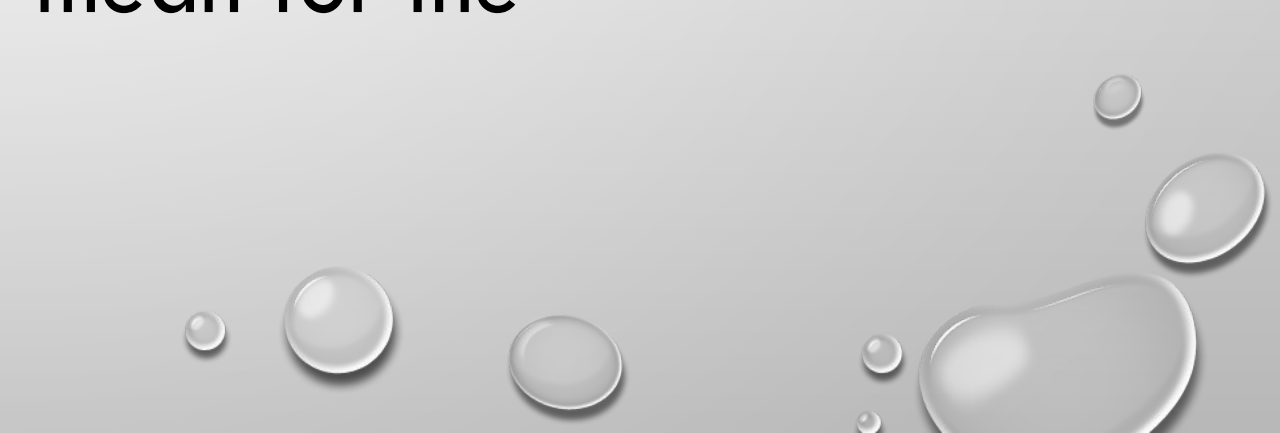
3014

TIME TO DECOMPOSE





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

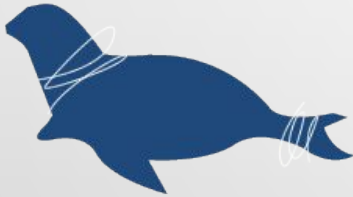
- Remember what we said about plastic being persistent?
 - What does that mean?
 - What does that mean for the oceans?
- 

IMPACTS OF MARINE DEBRIS



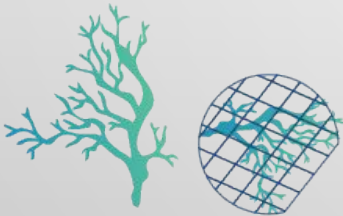
INGESTION

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.



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



**But Does
Plastic Debris
Float?
Sink?**

WHAT ABOUT THE SMALL STUFF?

SMALLER AND

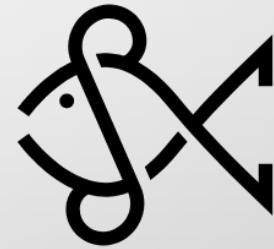
SMALLER AND

SMALLER AND

SMALLER AND

SMALLER AND

SMALLER

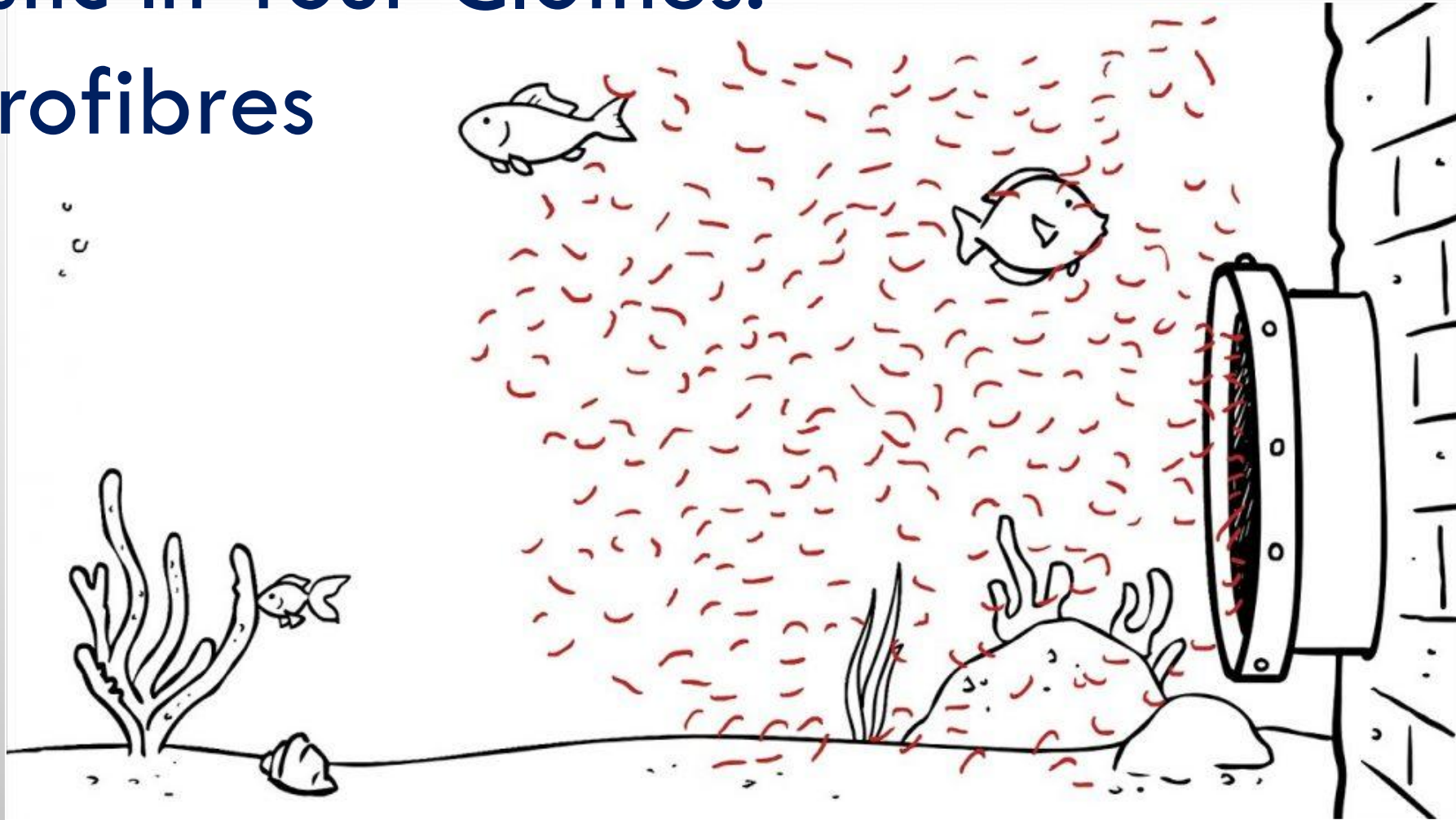


Microplastics

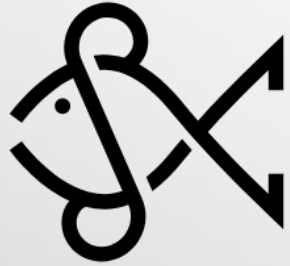
- Makeup
- Soap
- Scrubs



Plastic In Your Clothes: Microfibres



GRAB A PARTNER...



START PINCHING!

LOOK UNDER THE


MICROSCOPE



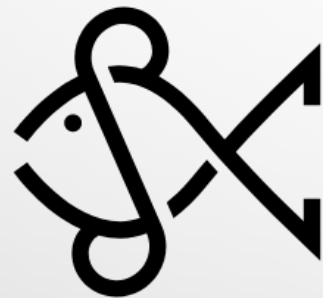
Poly...esters



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

- IN THE END, IT'S 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?



IS IT BIG?

OR IS IT SMALL?



Does it look like this?



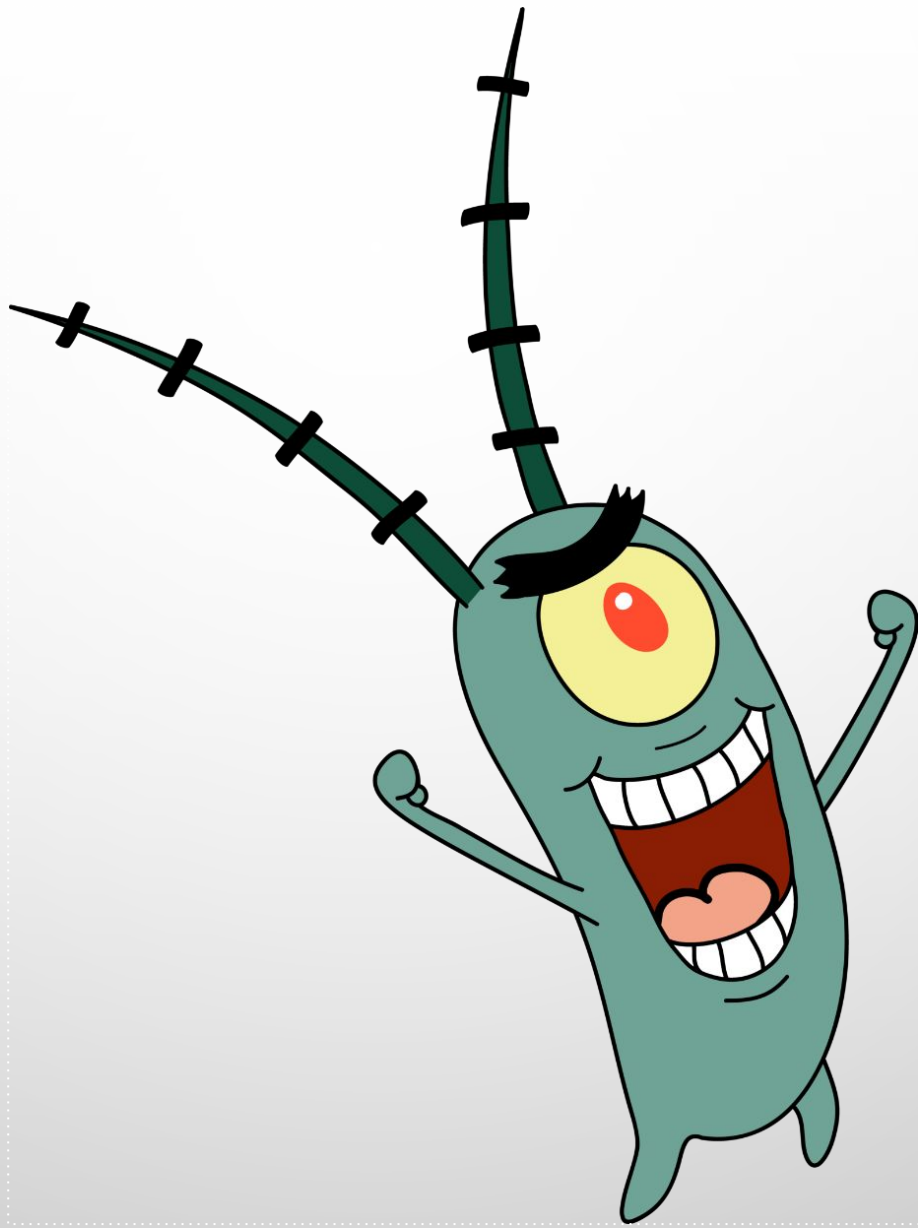
How about this?

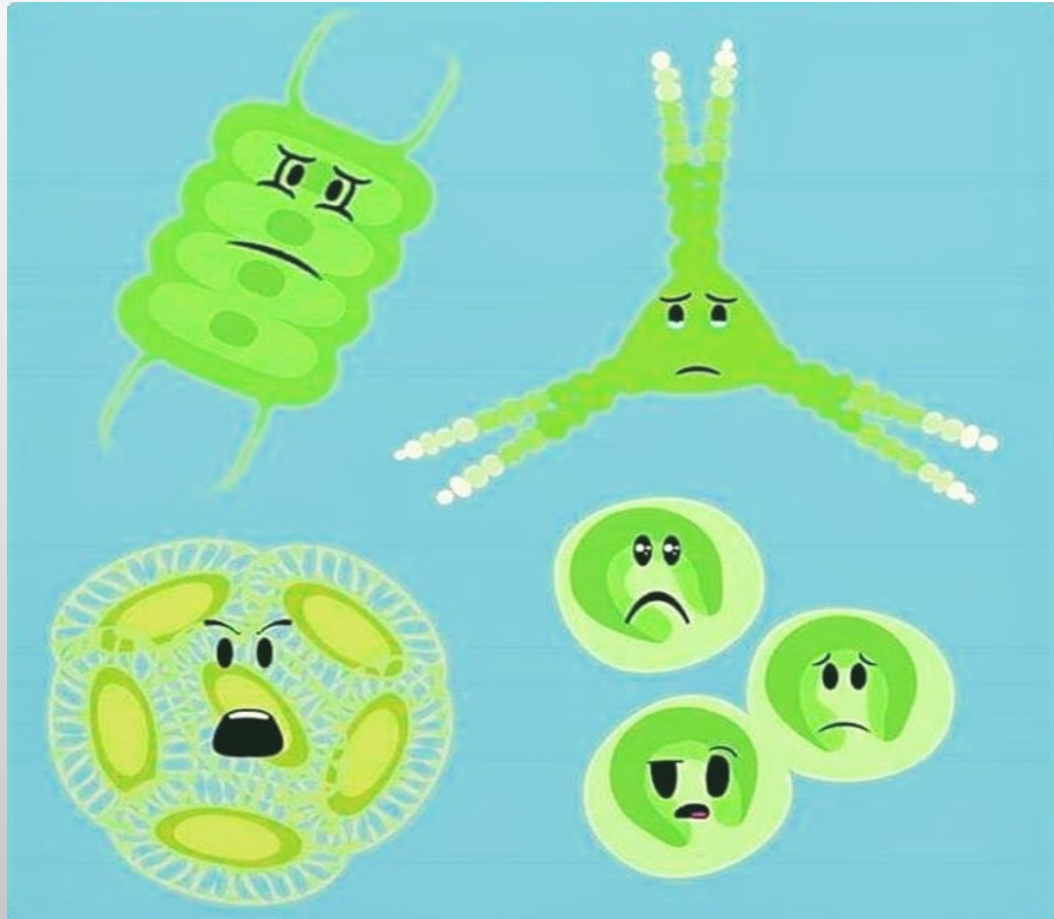




Maybe this?

Hint...

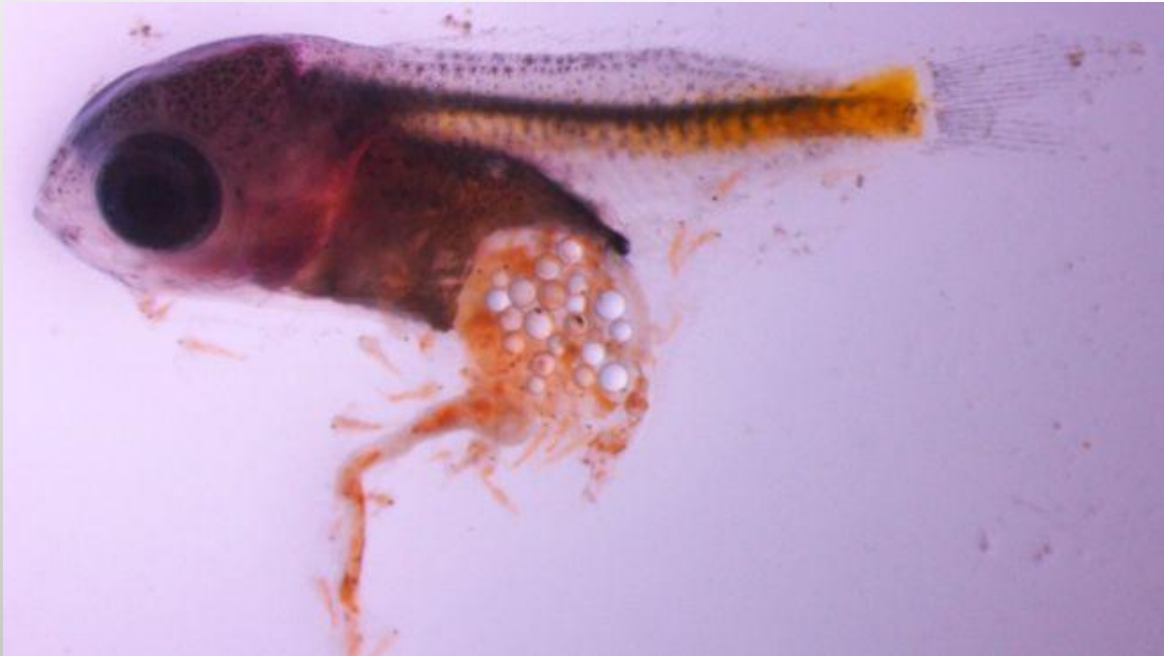




When you
produce over half
the planet's
oxygen...

But the trees set
all the credit...

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.



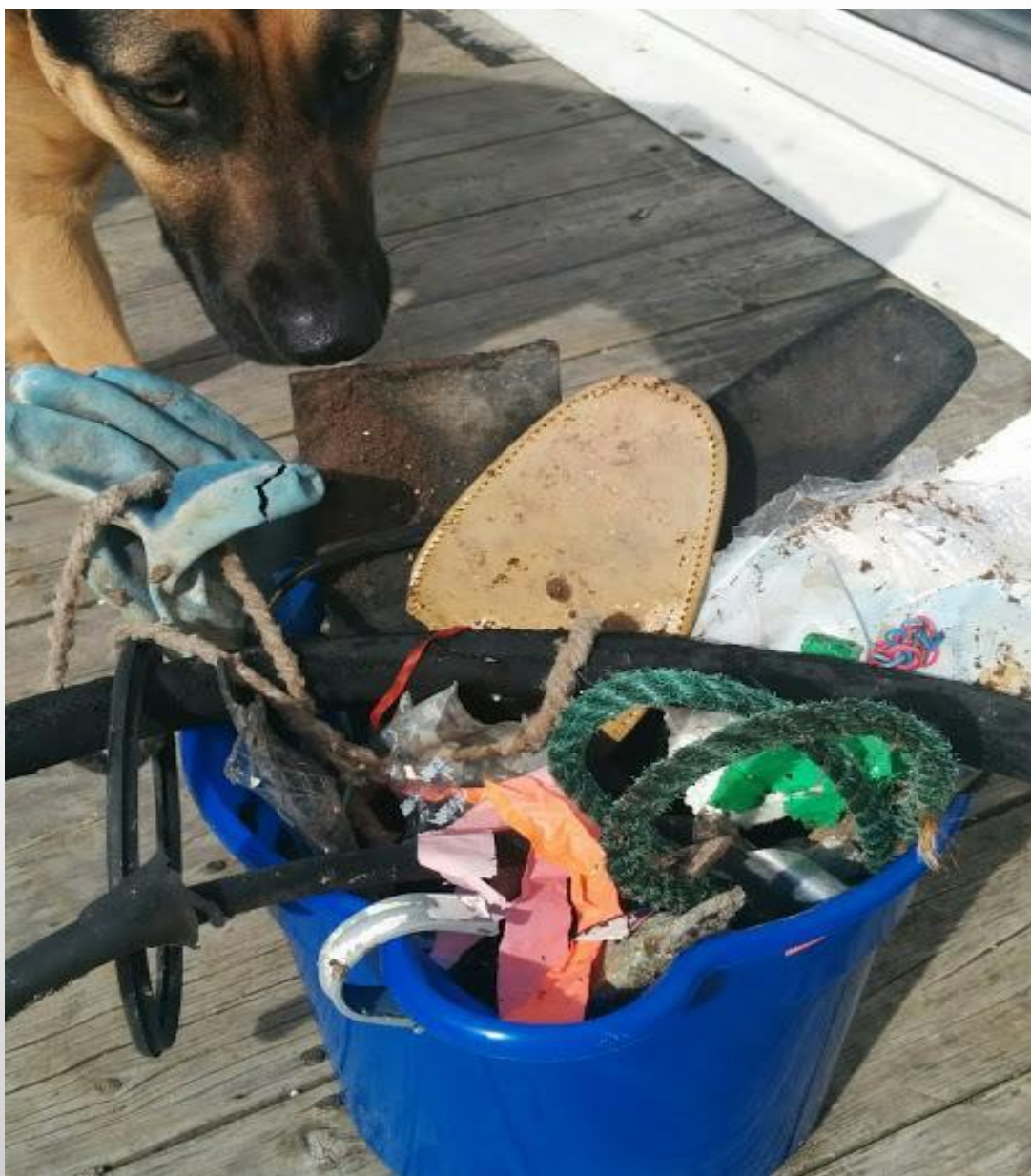
10 THINGS YOU CAN DO FOR TRASH FREE SEAS

- 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?

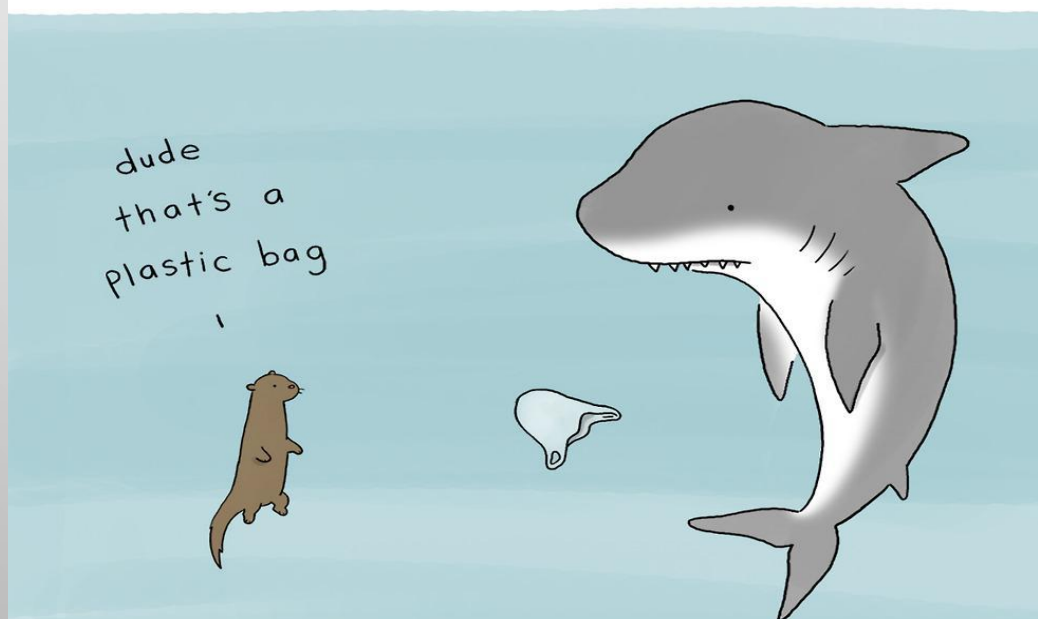
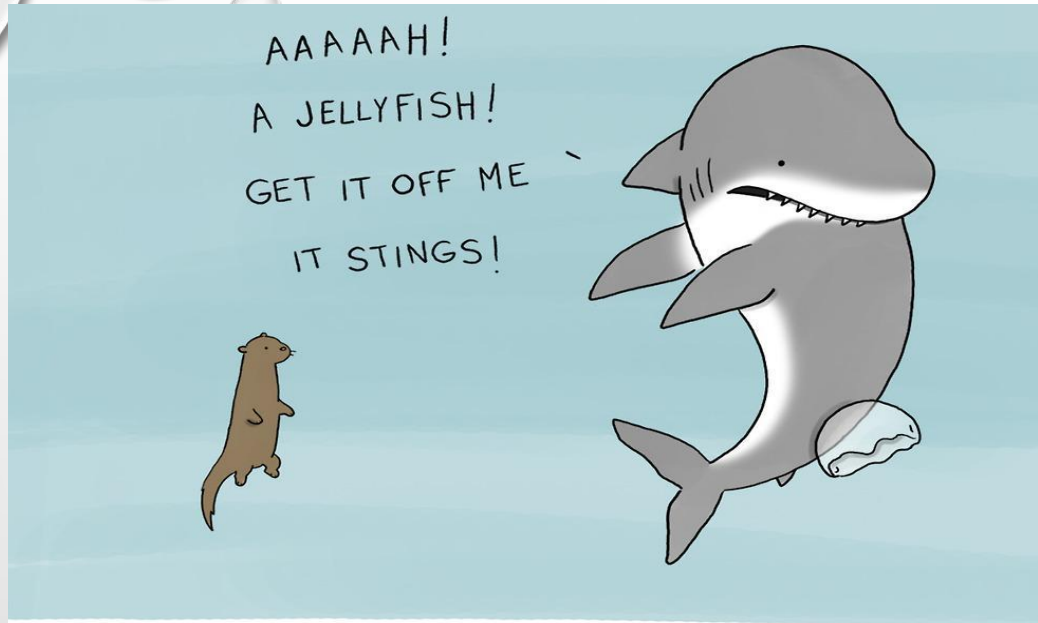
This Is What
I Chose To
Do...





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





Thanks
Everyone!