

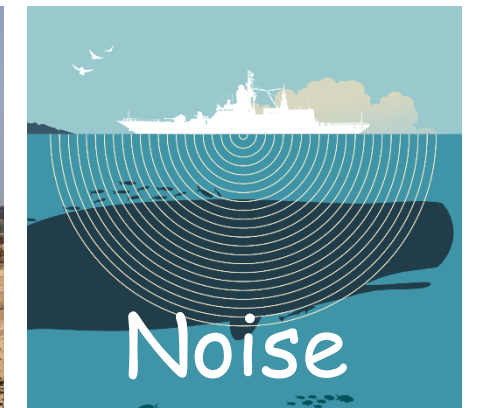


WALT: Plan and
write a persuasive
letter about ocean
pollution:
plastics





REVIEW: Types of sea or marine pollution..



What are we learning?

- What is the plastic problem?
- Why is it important?
- Which areas are affected?



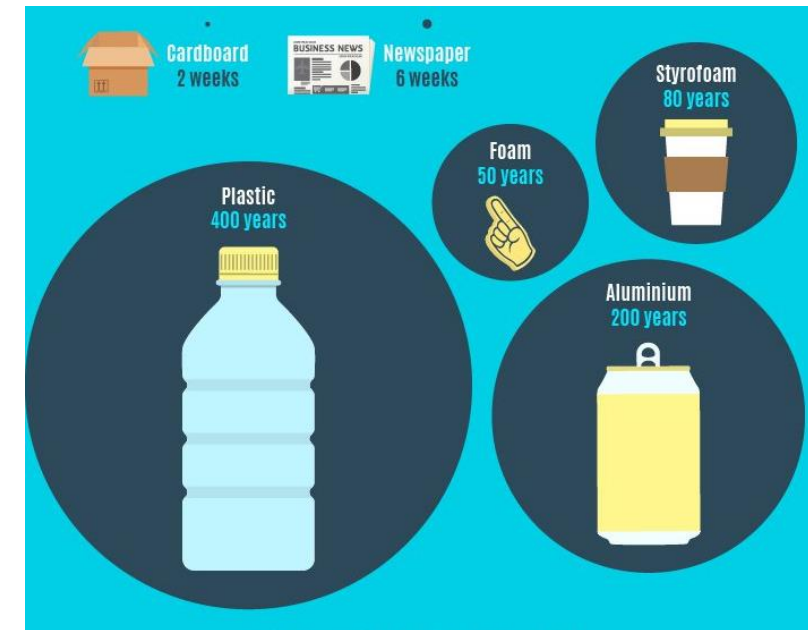
By the end of the lesson..

- Scale and seriousness of problem
- Two main threats to wildlife
- How plastic gets into oceans
- Areas where plastic builds up
- What happens to plastic over time

Sea or marine pollution is...

The contamination of the sea by substances that are harmful to living organisms as a result of human activity.

Biodegrade: a process that enables a substance to break down into natural materials in the environment without causing harm.



NURDLES

MICRO-PLASTICS



What is marine rubbish?

- 90% of marine rubbish is plastic
- Approx. 10% of all plastic we use ends up in sea - much of this is plastic bottles, plastic bags, foam and packaging [UK bins around 16 million plastic bottles every day]
- Plastic does not biodegrade easily - some sinks, some floats - over time it gets broken down into 'plastic confetti', then gradually into microscopic 'plastic dust' by sun ('photo-degradation')
- Recent global estimate of 8 million metric tons of plastic waste entering the ocean each year



Why is this important?

- Wildlife damage: plastic kills through **entanglement & poisoning** - it could wipe out life in our oceans
- Micro-plastics are magnets for highly toxic chemicals
- Ellen MacArthur's foundation: by 2050 the world's oceans expected to contain more plastics than fish by weight



Where does it come from?

- 80% of marine litter comes from land sources transported by wind and rivers
- 20% from sea-based sources - ships (fishing boats, cruise liners, etc) and marine platforms
- It can travel immense distances!

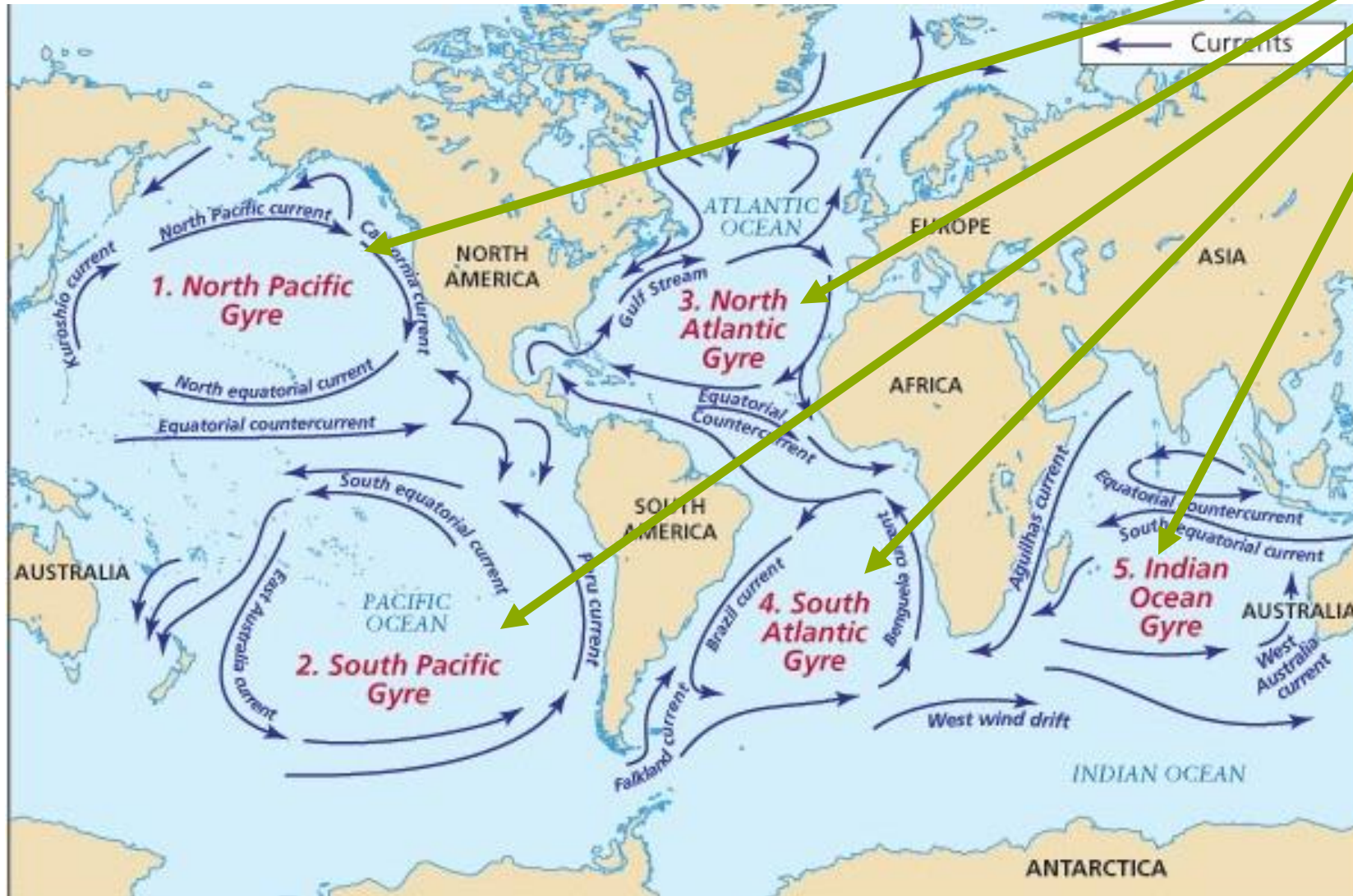
Where does it all go?

- ALL oceans are affected
- Coastal areas, inland seas, mid-ocean gyres

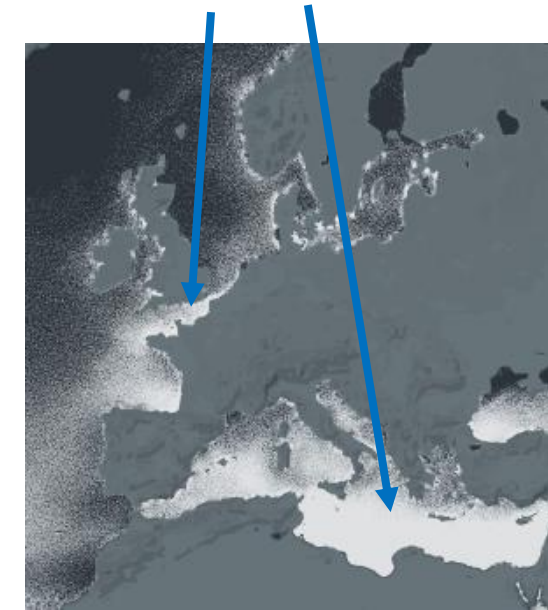


Major Ocean Currents and Gyres

Planet's
5 Gyres



Coasts and
enclosed seas

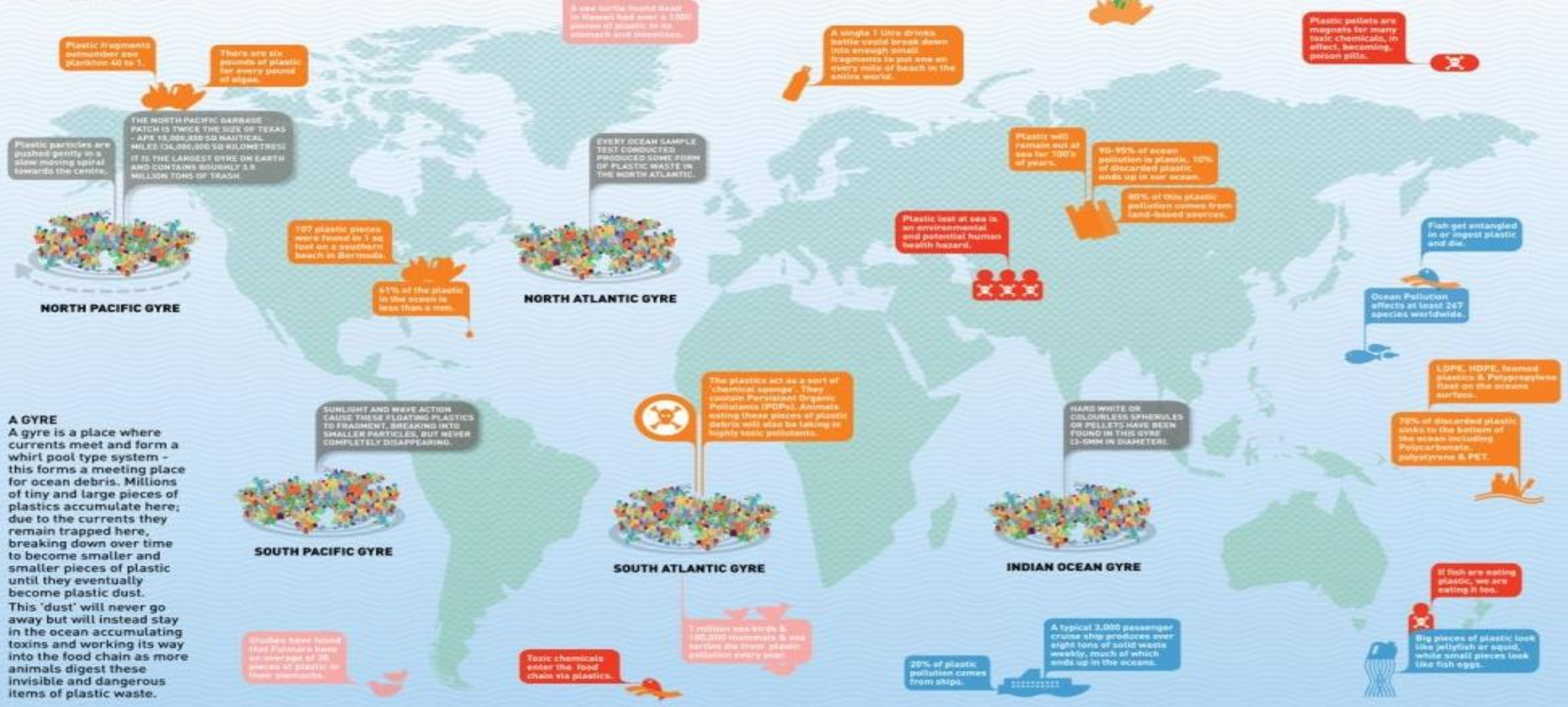


THE FIVE GYRES

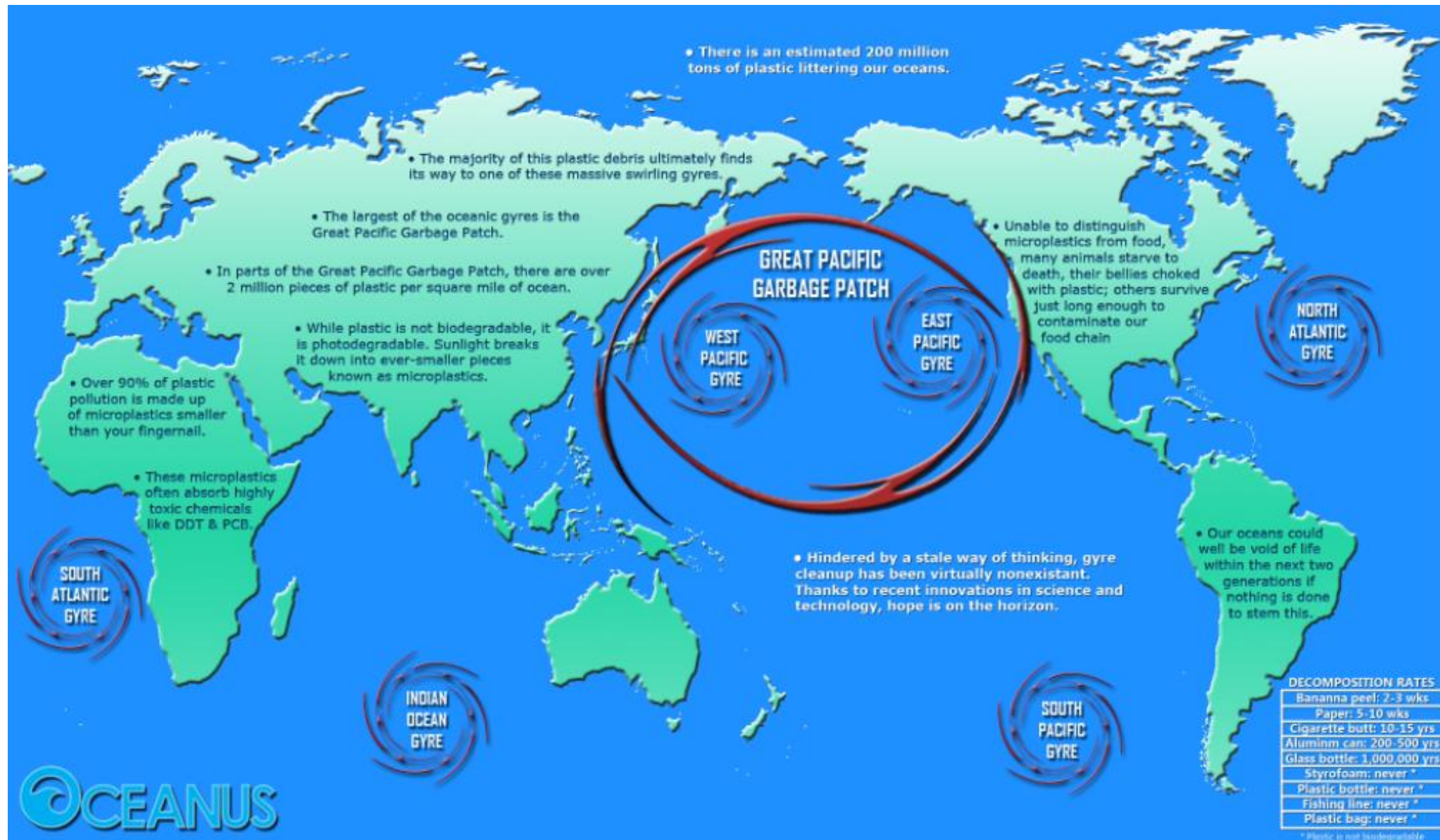
ALTHOUGH NOT WIDELY DISCUSSED THERE ARE IN FACT 5 MAIN GYRES IN THE WORLD'S OCEANS AND SEVERAL SMALLER GYRES THROUGHOUT ALASKA AND ANTARCTICA. THE MOST COMMONLY DISCUSSED GYRE IS THE NORTH PACIFIC GYRE, KNOWN AS THE GARBAGE PATCH DUE TO THE MASS OF MARINE DEBRIS THAT HAS COLLECTED THERE.

COLOR KEY

- FISH LIFE 🐟
- MARINE LIFE 🐠
- PLASTIC 🗑️
- FOOD CHAIN 🍴
- OCEAN MITCHRIKERS 🦎



A GYRE
A gyre is a place where currents meet and form a whirl pool type system - this forms a meeting place for ocean debris. Millions of tiny and large pieces of plastics accumulate here; due to the currents they remain trapped here, breaking down over time to become smaller and smaller pieces of plastic until they eventually become plastic dust. This 'dust' will never go away but will instead stay in the ocean accumulating toxins and working its way into the food chain as more animals digest these invisible and dangerous items of plastic waste.



Explore Interactive Map



<http://app.dumpark.com/seas-of-plastic-2/>

What have we learnt?

- We know that plastic we throw away often finds its way into the sea
- It becomes a major problem throughout the world because it does not biodegrade quickly
- It kills lots of wildlife..and has risks to humans
- All oceans affected but specific areas are badly affected - coasts, inland seas, gyres



Task:

- Over the next 3 days you will use your knowledge about plastic pollution to plan a persuasive letter to stop/reduce plastic use and how it ends up in the seas

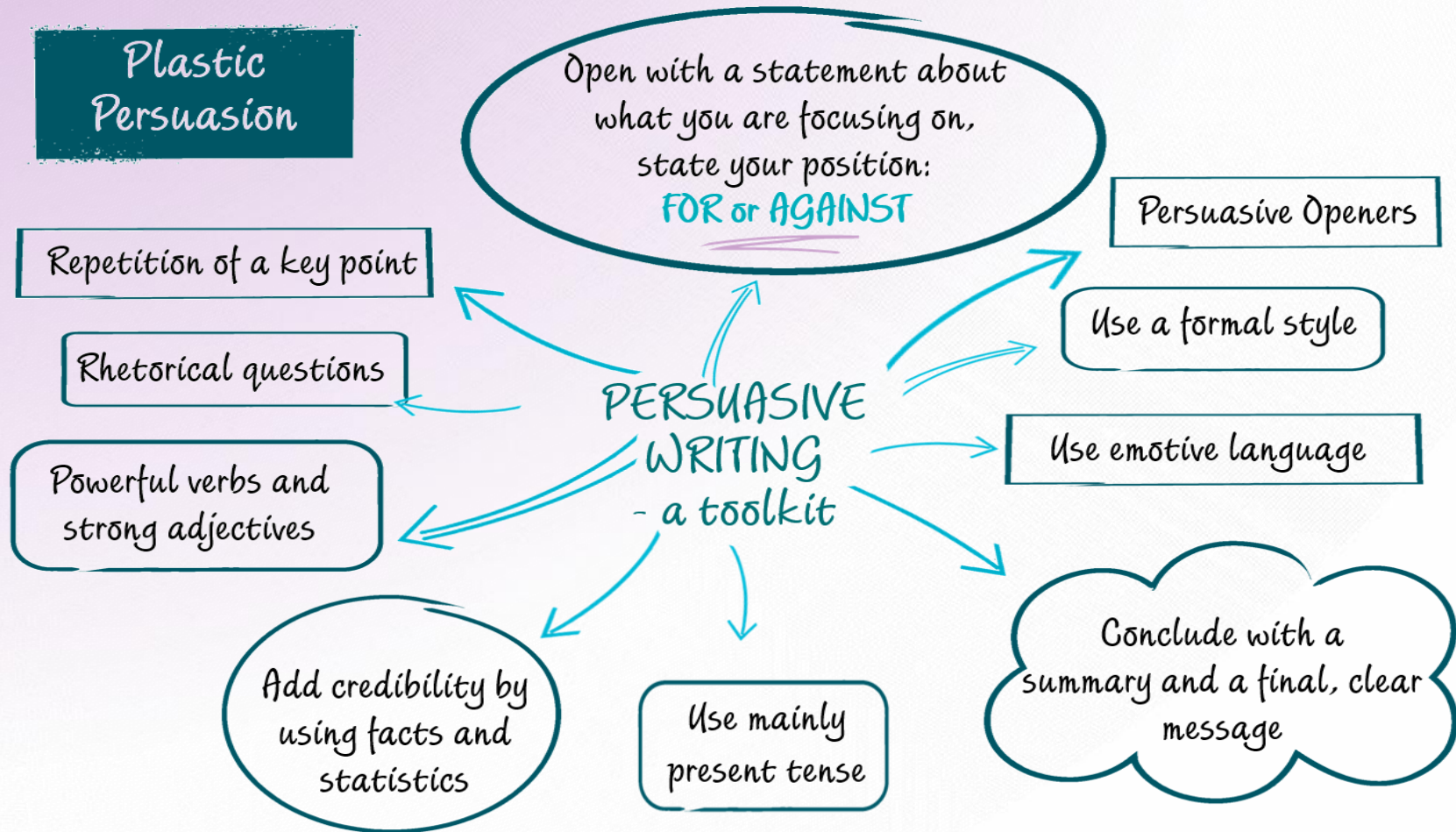
Today = plan

Thursday = draft

Friday = edit and neat version - send to the person you have written it to if you can

- Your letter could be written to other children and parents in school or Boris Johnson or George Eustice (environment secretary). It could also be a to a specific company that you know is responsible for plastic pollution
- Look at the example letters on the website for for more ideas
- Use the planning template to organise your arguments and theme your paragraphs. There are some sentence starts below to help as well.







Plastic Persuasion



Aim for a formal,
polite tone

Introductions

I wish to state . . .
I strongly believe . . .
I am writing to . . .
Of course, . . .
In this situation . . .
I feel . . .
It is certain . . .
In the same way . . .

Making your point

There can be no doubt . . .
Additionally . . .
Furthermore . . .
Undoubtedly, . . .
Firstly . . .
Secondly . . .
Moreover . . .
Specifically . . .

Concluding

In conclusion . . .
Finally . . .
As you can see . . .
In other words . . .
In brief . . .
In summary . . .
Overall . . .
On the whole . . .

