TEACHER MASTER

The Great Pacific Garbage Patch is not what you think it is

Instructions

PLEASE ASK STUDENTS TO COMPLETE THIS PART BEFORE YOU START THE VIDEO.

1. Before watching the video, please consider each statement and put a checkmark to show if you agree or disagree with each statement.
2. In the "Your explanation" box, please share why you have agreed or disagreed with the statement.

	Agree	Disagree	Your explanation
The Great Garbage Patch is a mass of plastic garbage found in the ocean, about the size of Texas.			
The most common type of plastic found in the ocean is recyclable.			
The majority of plastic garbage found in the ocean is single-use plastic.			

3. Discuss your responses with your neighbour.
4. Read over the questions below.
5. After you watch the video, answer the questions below.

IF YOU CHOOSE, YOU COULD HAVE A CLASS DISCUSSION ABOUT THEIR ANTICIPATION QUESTIONS.

You can view this video at https://youtu.be/6HBtl4sHTqU

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Post-viewing Questions

Please answer the questions after viewing the video.

1. Give five examples of plastic items found in the ocean:

2. What is a “gyre”?

3. Give examples of single-use plastics:

4. How long does it take for the ocean to bring a piece of plastic from California to Japan?

5. When studying plastics in the ocean, what type of data are the scientists collecting?

6. Why is the “Great Garbage Patch” a misleading description of the plastics in the ocean?

7. How did Nike start the problem?

8. What is meant by plastics “persisting” in the ocean?

9. Why do plastics persist?

10. What number of plastic is the most commonly used?

11. Why is it more likely to see a plastic bottle cap floating, and not the bottle itself?

12. What percentage of plastics in the ocean are still left unaccounted for?

13. What are the two ways that scientists in the SWIM program are tracking plastics?

14. How are plastics in the ocean increasing the effects of climate change?

15. How is the industry attempting to help this problem?

16. How are consumers able to help this problem?

17. How are governments able to help this problem?

Answers

1. Give five examples of plastic items found in the ocean:
    - *Nets, straws, spoons. Bottles, plastic particles, toothbrushes…*

2. What is a “gyre”?
    - *A large, spinning mass of water*

3. Give examples of single-use plastics:
    - Straws, plastic utensils, plastic bags…

4. How long does it take for the ocean to bring a piece of plastic from California to Japan?
    - *3-5 years. To study it, they drag the water and collect plastics to see what type and how much plastic in an area, then they can map it. How much, what it is and where it is.*

5. When studying plastics in the ocean, what type of data are the scientists collecting?
    - *Type of plastic*
    - *Location of plastic*
    - *Amount of plastic*

6. Why is the “Great Garbage Patch” a misleading description of the plastics in the ocean?
    - *The “great garbage patch” implies that it is one mass of plastic, whereas in reality it is more like a sludge that is very widespread*
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7. How did Nike start the problem?
    - *In 1990, a shipping container carrying 60,000 Nike shoes spilled into the ocean.*
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8. What is meant by plastics “persisting” in the ocean?
    - They do not degrade, and so the pieces continue to float.

9. Why do plastics persist?
    - *They are hydrocarbons that are meant to withstand the natural decomposition process, and so they are not taken apart by natural processes. They do not oxidize like metals.*
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10. What number of plastic is the most commonly used?
    - *#2. Plastic pieces persist because they are designed to defeat decay. #2 is the most common plastic in consumer use. Toothbrushes, soap bottles, many consumer goods that float in the garbage patch.*

11. Why is it more likely to see a plastic bottle cap floating, and not the bottle itself?
    - *The bottle is made of PET plastic, and sinks to the bottom, while the cap floats.*

12. What percentage of plastics in the ocean are still left unaccounted for?
    - *It is estimated at 99%*

13. What are the two ways that scientists in the SWIM program are tracking plastics?
    - *Visual – survey in a boat and take photos. Share information with researchers so that the debris can be tracked to its source.*
    - *Attach GPS buoy to marine debris to track the movement in the ocean. Track so that they can see where it is and specify clean up.*
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14. How are plastics in the ocean increasing the effects of climate change?
    - *Plastics reduce the ocean’s ability to remove carbon dioxide from the air, which is a major contributor to climate change.*
15. How is the industry attempting to help this problem?
    - *Trying to develop new packaging materials*

16. How are consumers able to help this problem?
    - *Make good decisions about what products they buy*

17. How are governments able to help this problem?
    - *Creating policies and laws to reduce plastic use*
    - *Eliminating single-use plastics*