GREEN LIVING SCIENCE

BE A PLANET PROTECTOR

ENVIRONMENTAL EDUCATION ACTIVITIES - 6TH to 8TH

For Teachers:

- Green Living Science is a non-profit organization dedicated to increasing awareness of environmental literacy in Detroit. Since 2012 we have partnered with DPSCD to increase awareness of environmental issues facing our city, state and planet.
- Our educators designed this presentation as a resource for YOU! Simply pick a slide and pop it up at the beginning of class to have your students think more about what they can do to help our planet! The answers along with informational source are in the notes section of each slide.

Reducing means making less waste.

If you throw out your plastic water bottle each school day, you'll have thrown out almost 200 plastic water bottles by the end of the school year! However, if you use the same plastic water bottle over and over, you'll have *reduced* the amount of plastic you use.

Turn and Talk:

Talk with a partner about the ways to practice reducing waste like paper in your classroom.

Directions: After students have had time talk with a partner about how to reduce material usage in the classroom allow time for students to share. You can write these down and post them to encourage students to practice them daily. Be certain to discuss how students can reduce the amount of paper they use by using scrap paper.

Image Source: https://www.rappler.com/science-nature/environment/203979-plastic-battle-single-use-bottles-refilling

Great article about the

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Reusing is another way to make less waste. There are many different ways to practice reuse; you can refill bottles of water, create an art project or shop at thrift stores.

Write Down:

One way you can reuse materials in the classroom

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Turn and Talk:

How could you and your neighbors start composting?

Not *all* of the materials we use should be thrown away; some can be recycled or composted.

Although you ***can not put left over food into your recycle bin*** it can be used to make compost.

Compost is the process of reusing unwanted food's nutrients to improve soil, and help plants grow better.

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Just across the Ambassador Bridge in ***Canada***, many cities use ***a three cart system*** to get rid of household waste. One cart is for ***trash,*** one for ***recycling*** and one is for ***compost or food waste.*** All are taken out to the curb and collected just like the trash in Detroit.

Turn and Talk:

Do you think this system could work in Detroit?

Explain why you think this waste disposal system could or could not work in Detroit.

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PREDICT:

What will happen over time when items like banana or plastic are in nature?

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Watch and Draw:

Watch this short video about how recyclables are separated, then draw what you think this machine looks like.

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Americans buy more bottled water than any other country in the world, adding 29 billion water bottles a year to the problem. In order to make all these bottles, plastic manufacturers use 17 million barrels of oil. That's enough oil to keep a million cars going for twelve months.

Create a math story problem:

Using the information from the paragraph above, write a math story problem and solve it!

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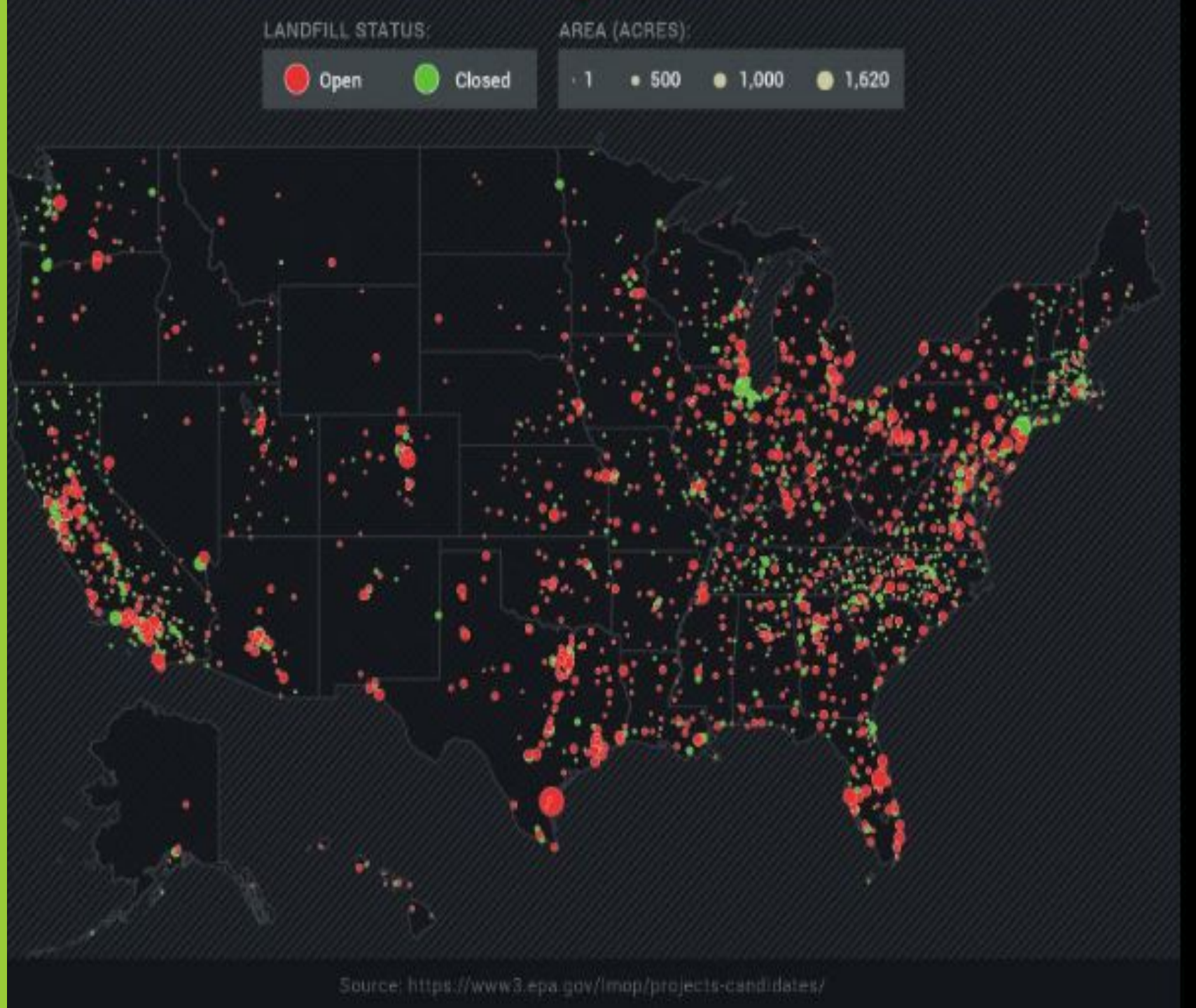
Turn & Talk:

What do you think the dots are showing on the map?



SOLVE IT!

The average person makes over 4 pounds of trash every day.

1. How much trash does your class create in one week?

2. How much trash does your class create in an average month (30 days)?

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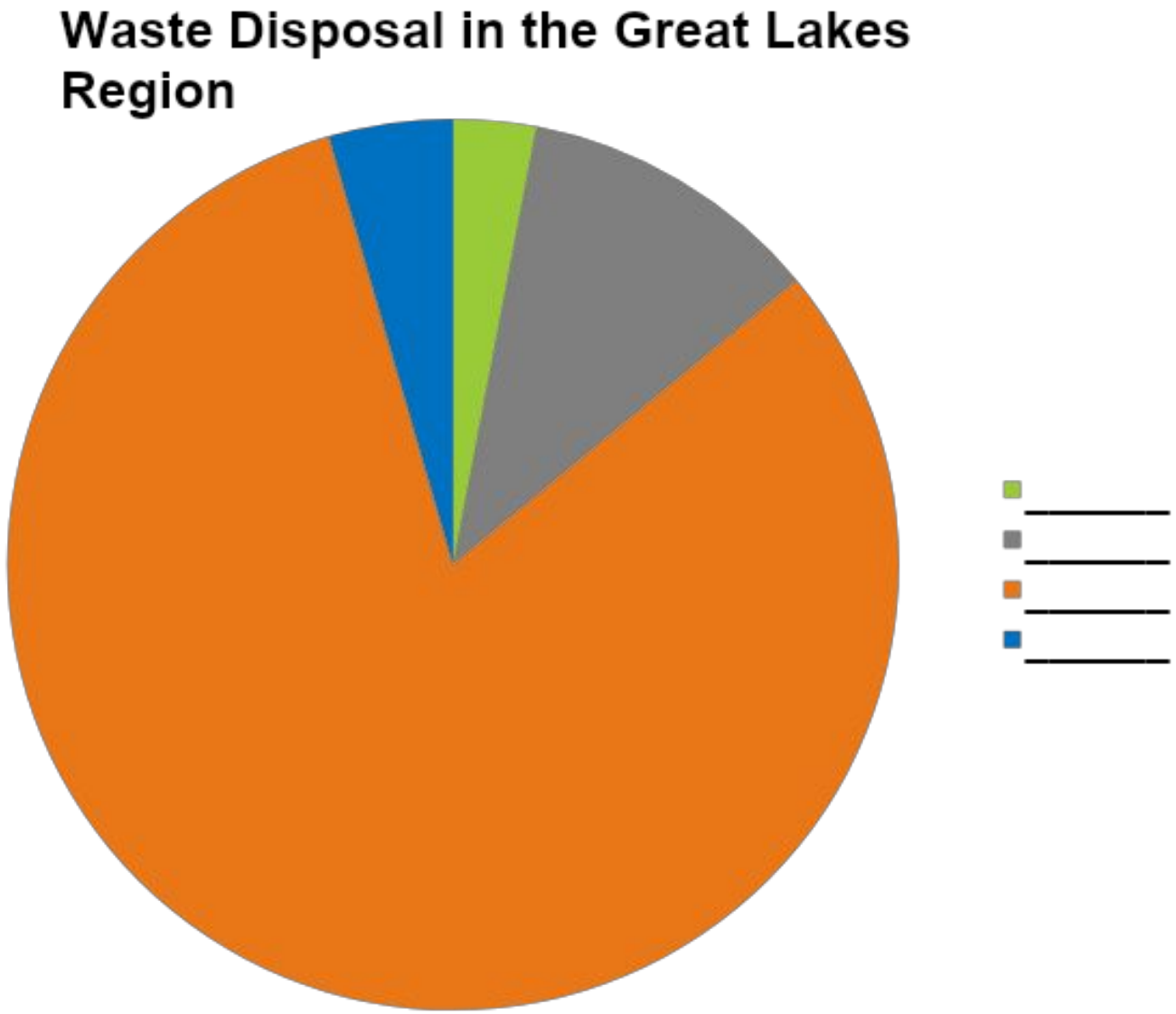
Turn and Match:

Look at the pie chart and match the waste disposal system with each piece of the chart.

Waste Disposal Systems:

1. Recycle: materials are sent to a facility where they are transformed into new products
2. Compost: organic materials like yard waste and food scraps are sent to a facility where they decompose over time to create plant fertilizer
3. Landfill: waste is sent to a place where it is put into the ground and buried up with soil
4. Incinerator: waste is sent to a facility where is it burned at high temperatures



Each year the average American uses ***222 plastic water bottles.***

If all the bottles are recycled, it would ***save 7 gallons*** of oil from being used.

SOLVE IT!

1. How many gallons of oil are used to make one plastic bottle?
2. How many plastic bottles can be made with one gallon of oil?

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PLASTIC ITEM	# / DAY		# / YEAR
PLASTIC BOTTLE - POP, WATER, JUICE		X 365	
PLASTIC STRAW		X 365	
CHIP BAG		X 365	
UTENSIL - FORK, KNIFE, SPOON		X 365	
FOOD CONTAINER - KETCHUP PACKET, JELLY CONTAINER		X 365	
PLASTIC GROCERY STORE BAG		X 365	
TOTAL PIECES OF PLASTIC USED A YEAR =			

DON'T USE IT EVERY DAY?

- EVERY OTHER DAY: .5
- ONCE A WEEK: .14

Plastic Audit:
Calculate the number of plastics you use each year.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Write:

Number your paper 1 to 10.

Look at the pictures below and identify what type of plant/flower or logo it is.

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Turn & Talk:

What do you see in this image and what could have caused this

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Design:

Draw and label design for a sustainable city that has little impact on the environment.

Be sure to include the three concepts below in your design:

1. Transportation – how people will get around
2. Waste – where does it go, how it is collected
3. Electricity – how is electricity generated and monitored

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Beyond the 3Rs: Reduce, Reuse, Recycle

Sometimes practices the 3Rs is not enough when it comes to helping the Earth.

Write:

What are other R words that could be added to the 3Rs that could be practiced to help the planet?

Be sure to include an explanation why your R word is a good addition.

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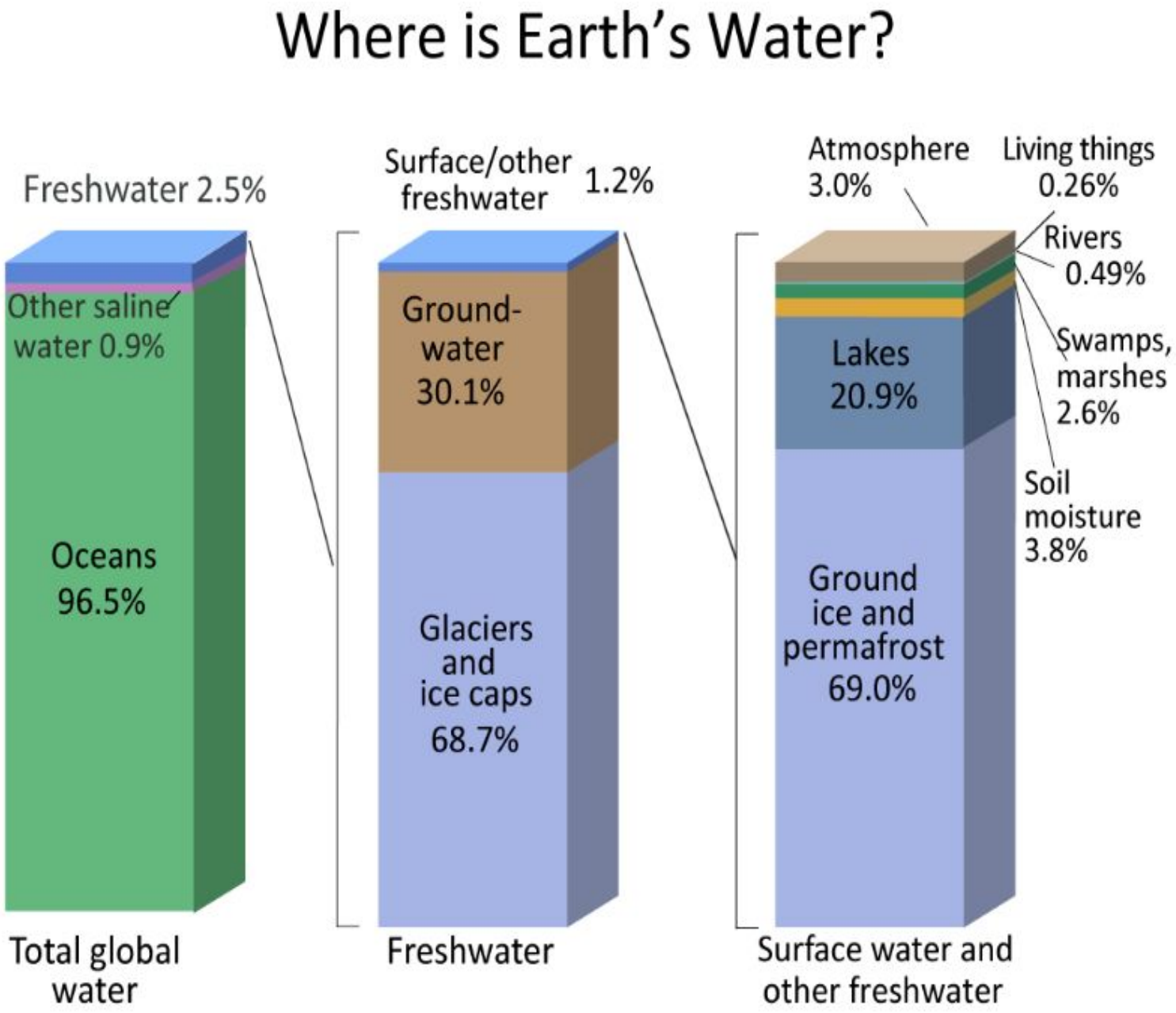

Turn and Talk:

Looking at the graph, determine what percentage of water is fresh.

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For more information about Green Living Science or to help your students receive a free recycling cart at home please contact info@greenlivingscience.org or call 313-871-4000 Ext. 3