



2021 HHS Kid's Earth Day Poster Contest

NIH Submissions



Aryadev Bera Kindergarten





Benjamin McDermott

Kindergarten





Benjamin Berndt

Kindergarten





Bijan Anderson

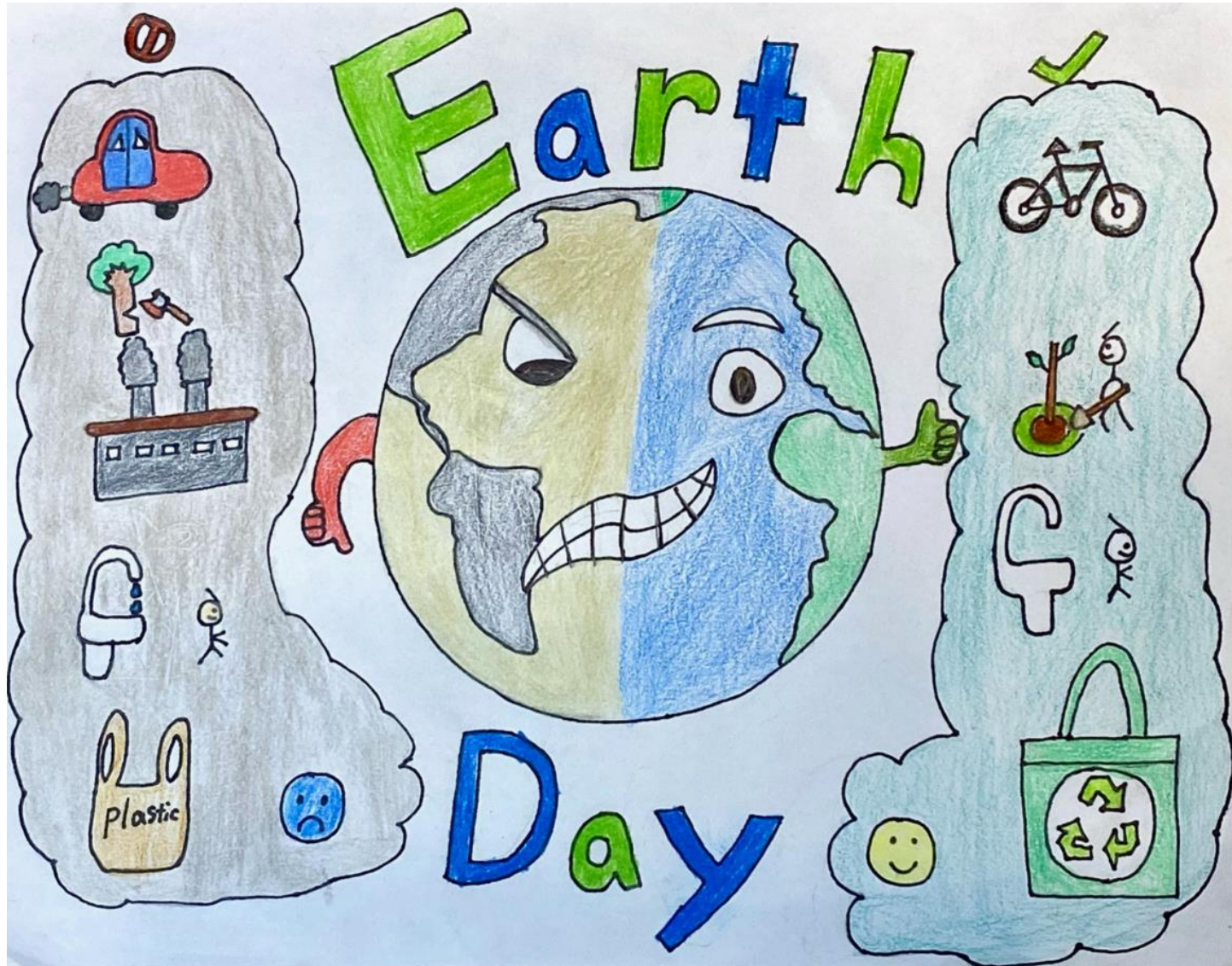
1st Grade





Charles Wang

1st Grade





Clara Zhang

2nd Grade





Eshan Dutta

2nd Grade

Saving Electricity Consumption through LED

Eshan Dutta, Second Grade , Ronald McNair Elementary School , Germantown, Maryland

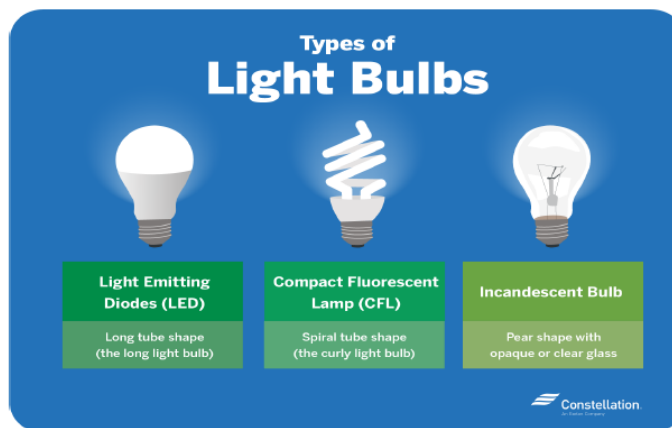
Why saving energy is important

- Save energy save habitats
- When you consume less power, you reduce the toxic fumes released by power plants
- Conserve the natural resources and protect ecosystems from destruction
- If you reduce energy, then you save money in the utility bill

What is a LED light?

LED → "light-emitting diode."

A semiconductor light source which emits light when current flows through it



Incandescent light bulb	100 watts (most)
Fluorescent light bulb	40 watts
Traditional light bulb	15 watts
Led bulb	2.5 watts (least)

Annual energy consumption calculation

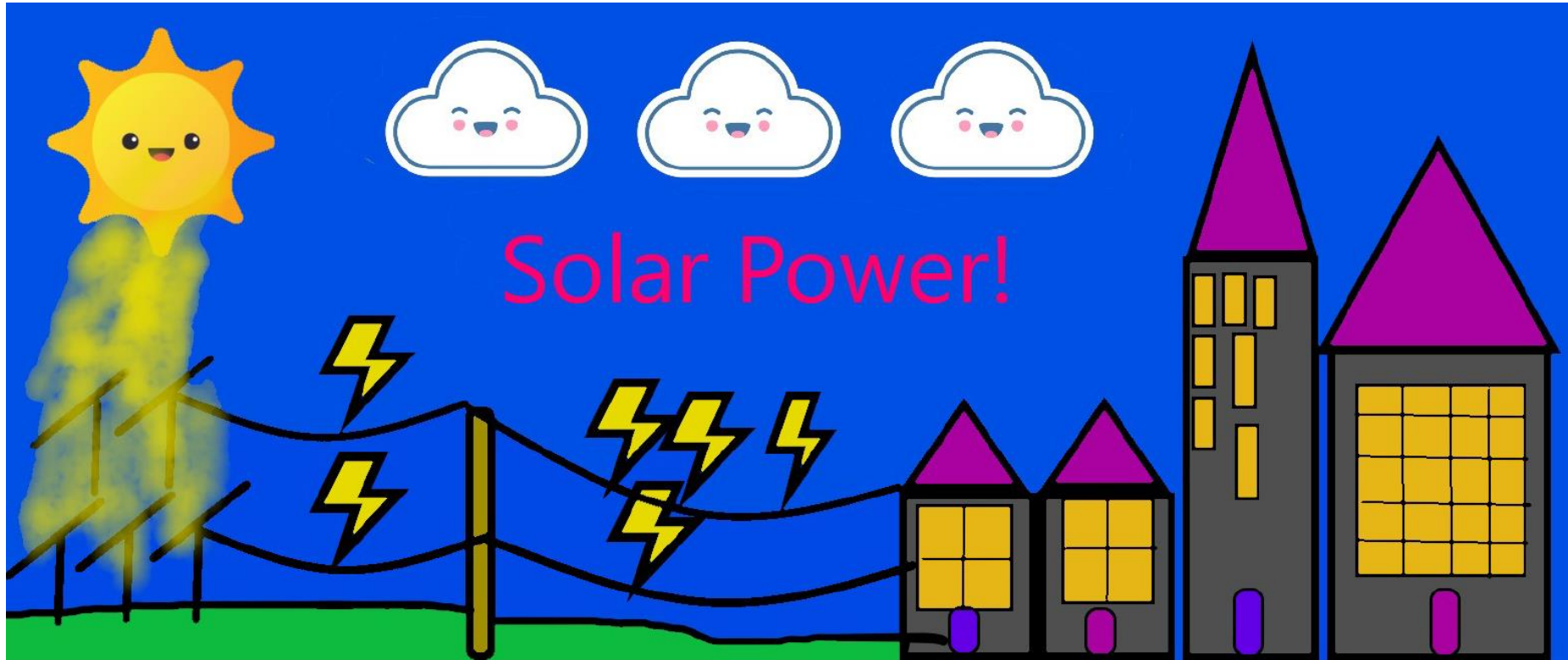
	LED	Conventional light (incandescent bulb)
Wattage (A)	2.5	15
Running hours per day (B)	10	10
Yearly consumption = $[(A \times B \times 365) / 1000]$ kWh (kilo watt hours)	$(2.5 \times 10 \times 365) / 1000 = 9.13$ kWh	$(15 \times 10 \times 365) / 1000 = 54.75$ kWh
Energy saving	$54.75 - 9.13 = 45.62$ kWh	

Conclusion

- LED use 6 times less energy to produce same brightness of light
- It is measured in Lumen unit
- LED bulb uses only 2.5 watts to produce a light output of 115 lumen, while a traditional bulb uses 15 watts.



Everleigh Durham Kindergarten





Gloria Li

Kindergarten





Henry Cheng

Kindergarten





Gouri Katti

2nd Grade





Lydia Machiela

1st Grade





Pragya Sil

1st Grade





Rick Li

2nd Grade





Ryan Cheng

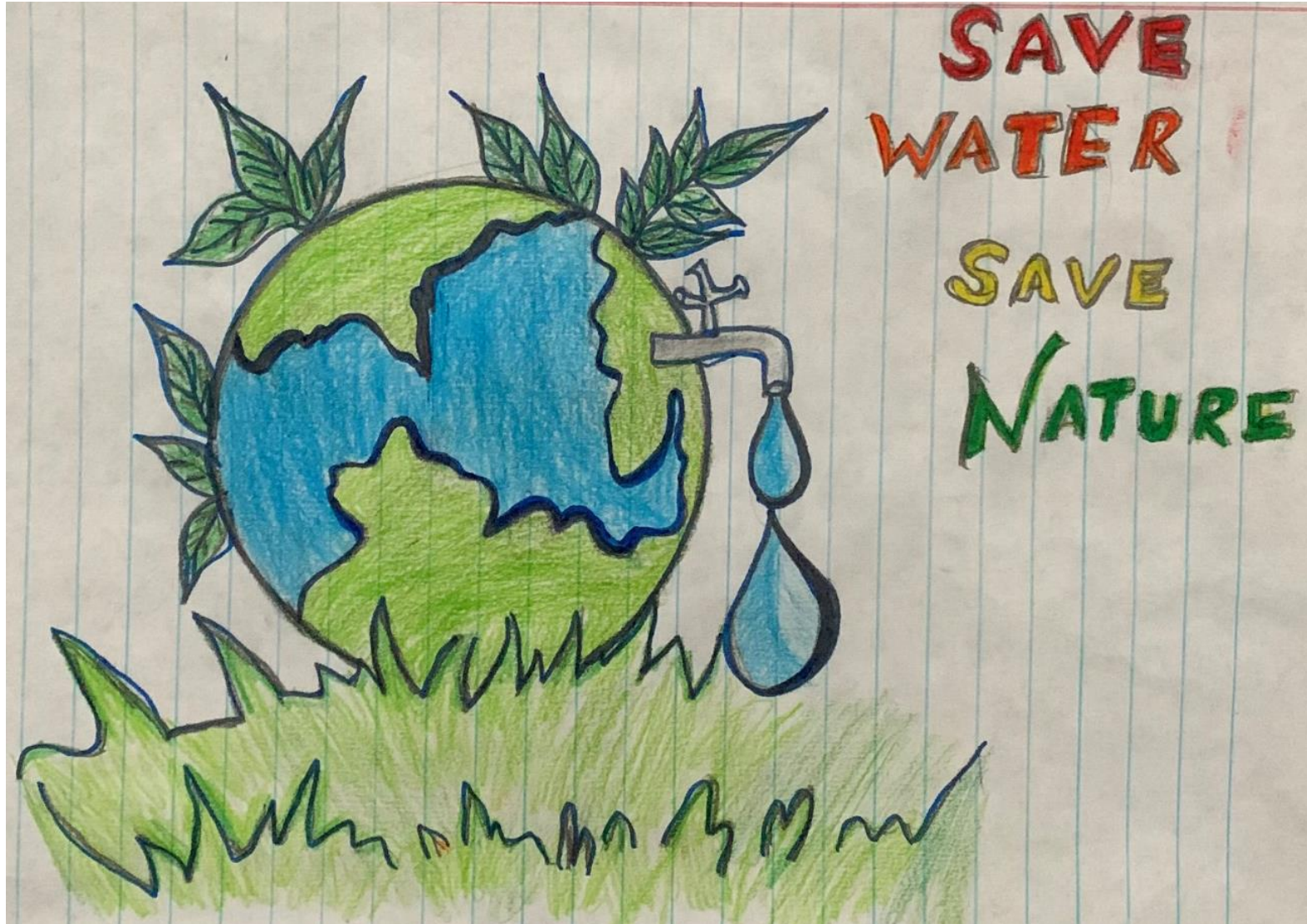
1st Grade





Samson Abhishek Kama

Kindergarten





Sara Saxena

Kindergarten





Skye Payaggapandha

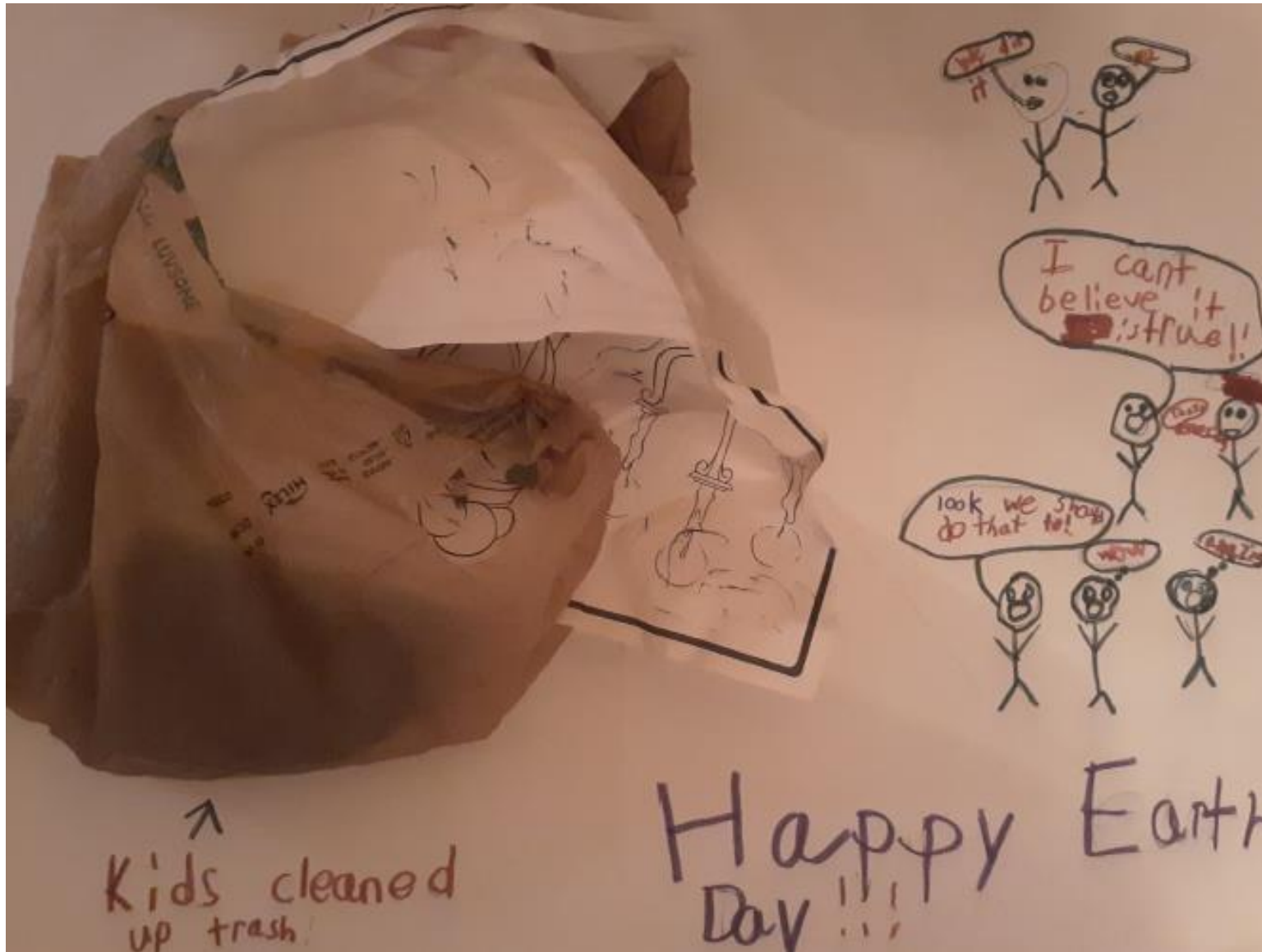
1st Grade





Sloane Shabman

2nd Grade





Vihaan Patel

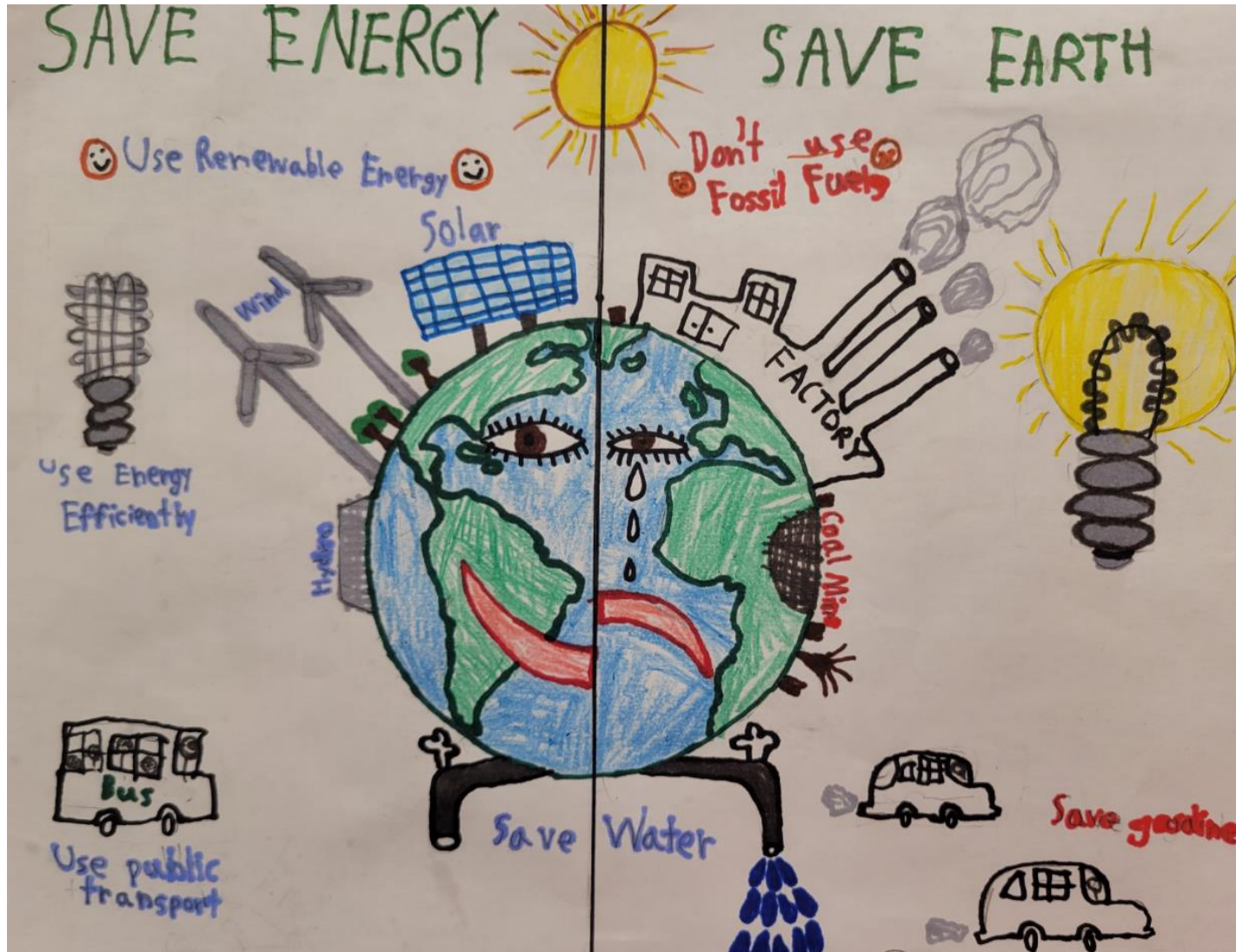
Kindergarten





Aadith Eadhara

3rd Grade





Angela Li

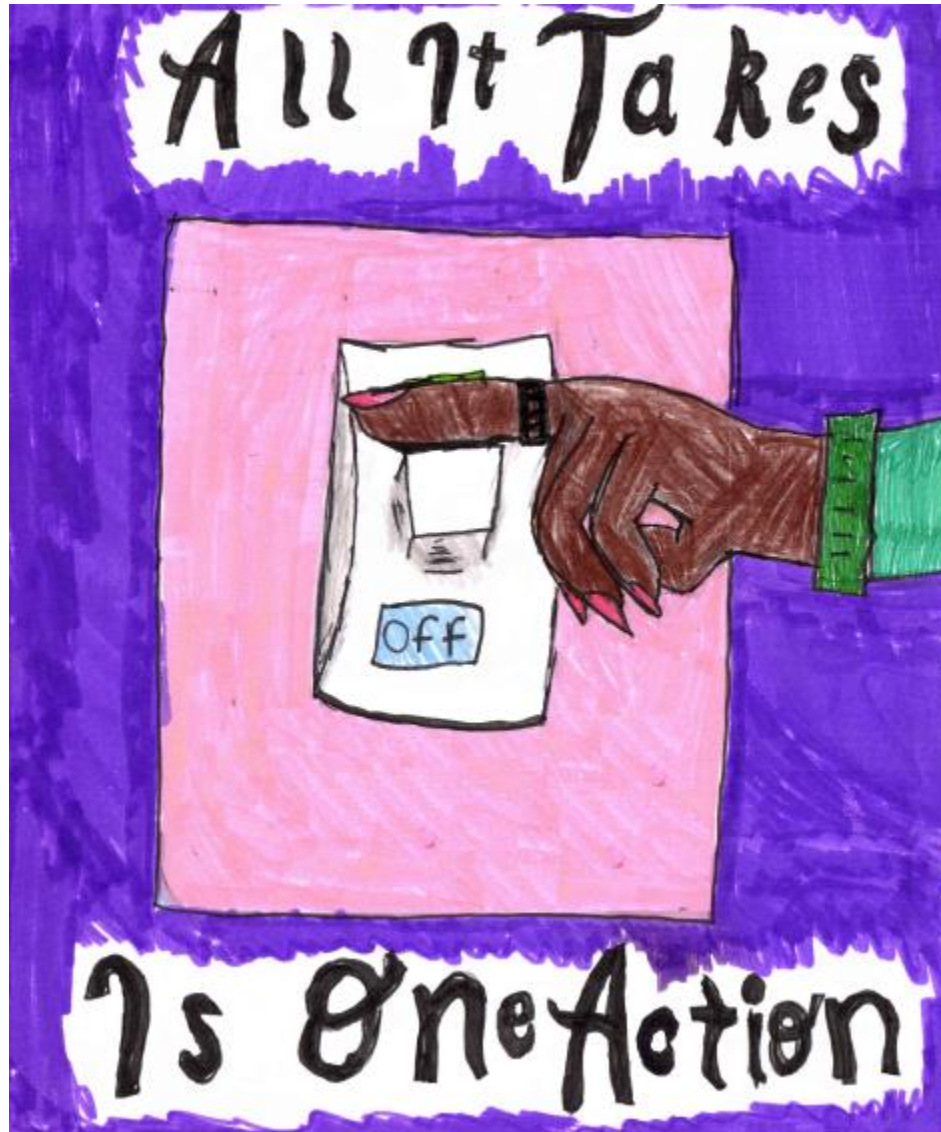
3rd Grade





Audrey Porter

5th Grade





Elise Berndt

4th Grade





Eric Ma

3rd Grade

SAVING ENERGY



Energy makes objects move, and there are different types of energy, like solar energy, wind energy, heat energy, light energy, and even more. There are also renewable and newable energy. Renewable energy can use many times, but newable energy can't. To save energy you should use more renewable energy, so you can use it many times. You can also help save energy by picking up trash and litters.

SAVING EARTH



The Earth is the planet we live on. You can help the Earth by composting food and recycling everything you can. You can also conserve water by using less water when taking a bath. Another way to help the earth is to ride bikes instead of driving, because driving can cause pollution. You can also plant trees, because trees are pollution fighters. Trees can take pollution from air and water.

SAVING HUMANS

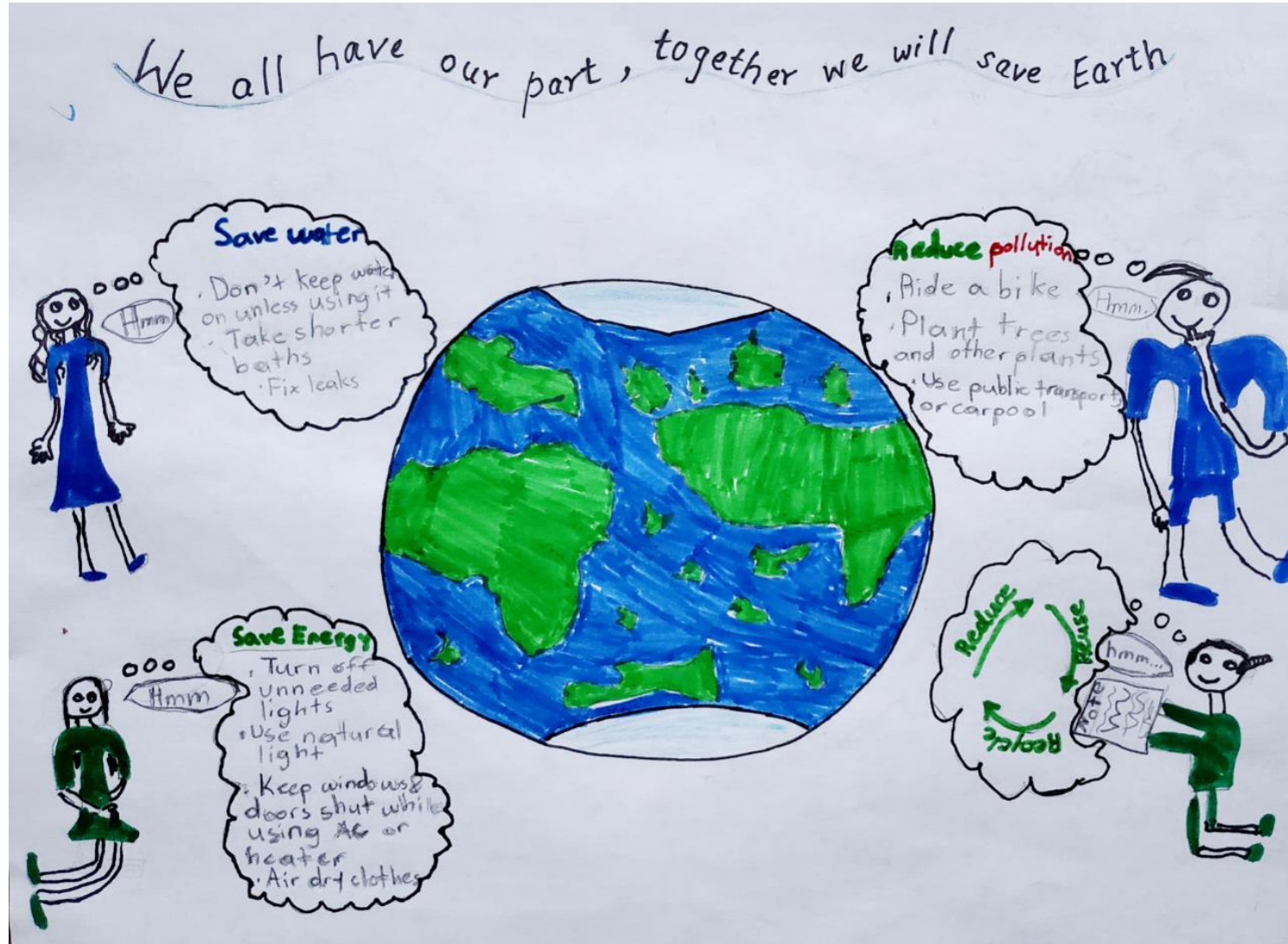


Saving Earth saves humans. Trees on our planet help us breathe. Trees can also clean pollution from air and water. The sunlight helps us stay warm, and it helps plants grow too. We can't live without water. We drink water to stay hydrated. Some water isn't for drinking. It may be for sea creatures.



Esha Padmakumar

3rd Grade





Kate Cho

5th Grade





Lakshmi Nikhila Boreddy

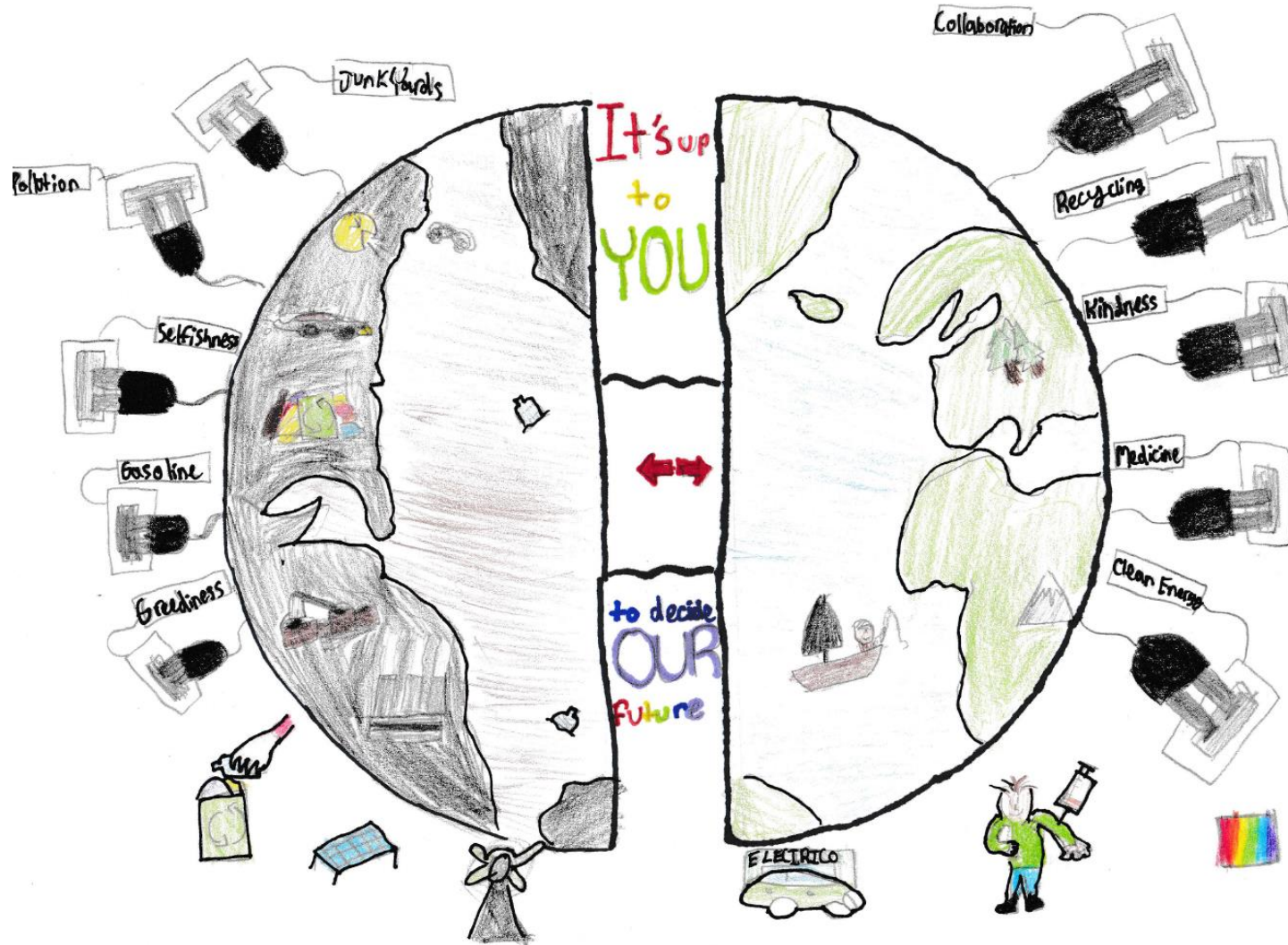
3rd Grade





Mircea Gotea

4th Grade





Moses Paul Kama

4th Grade





Shuvayan Jana

5th Grade





Simon Machiela

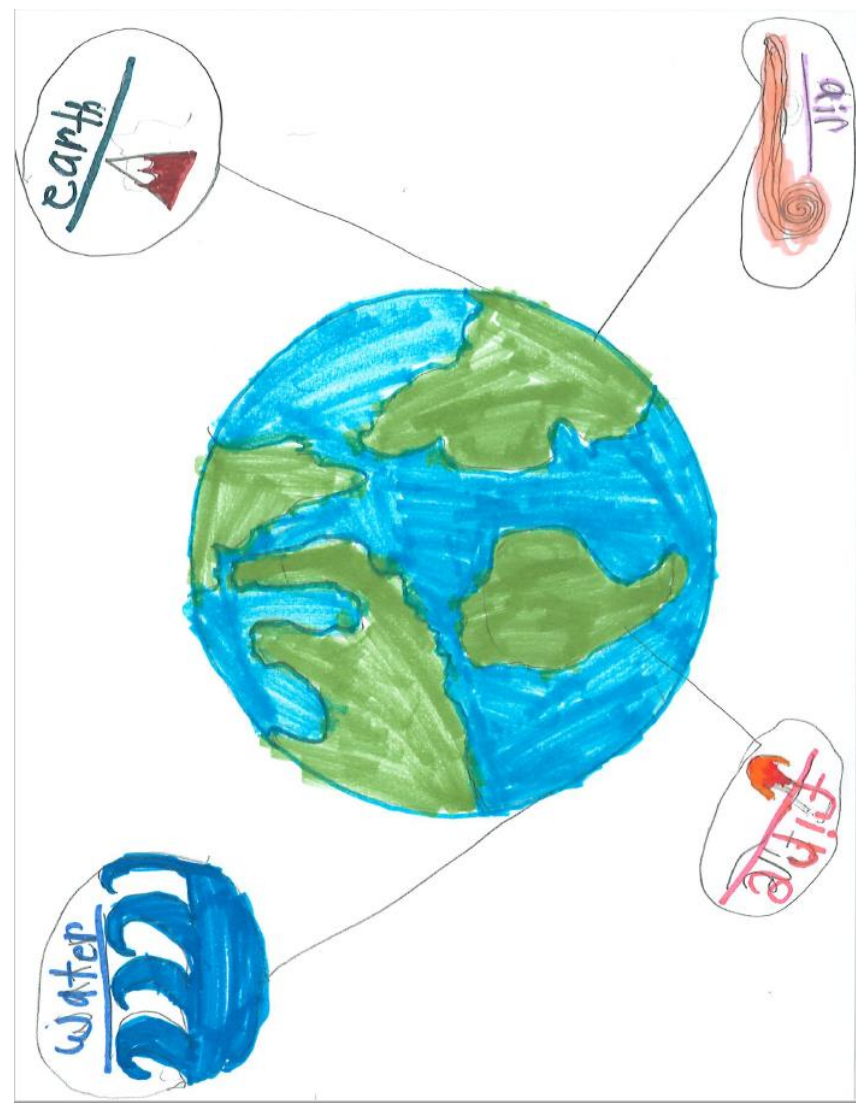
3rd Grade





Simrin Sawnani

3rd Grade





Sloane Stein

5th Grade





Vedant Kadalli

3rd Grade

VEDANT KADALLI
3RD GRADE





William McDermott IV

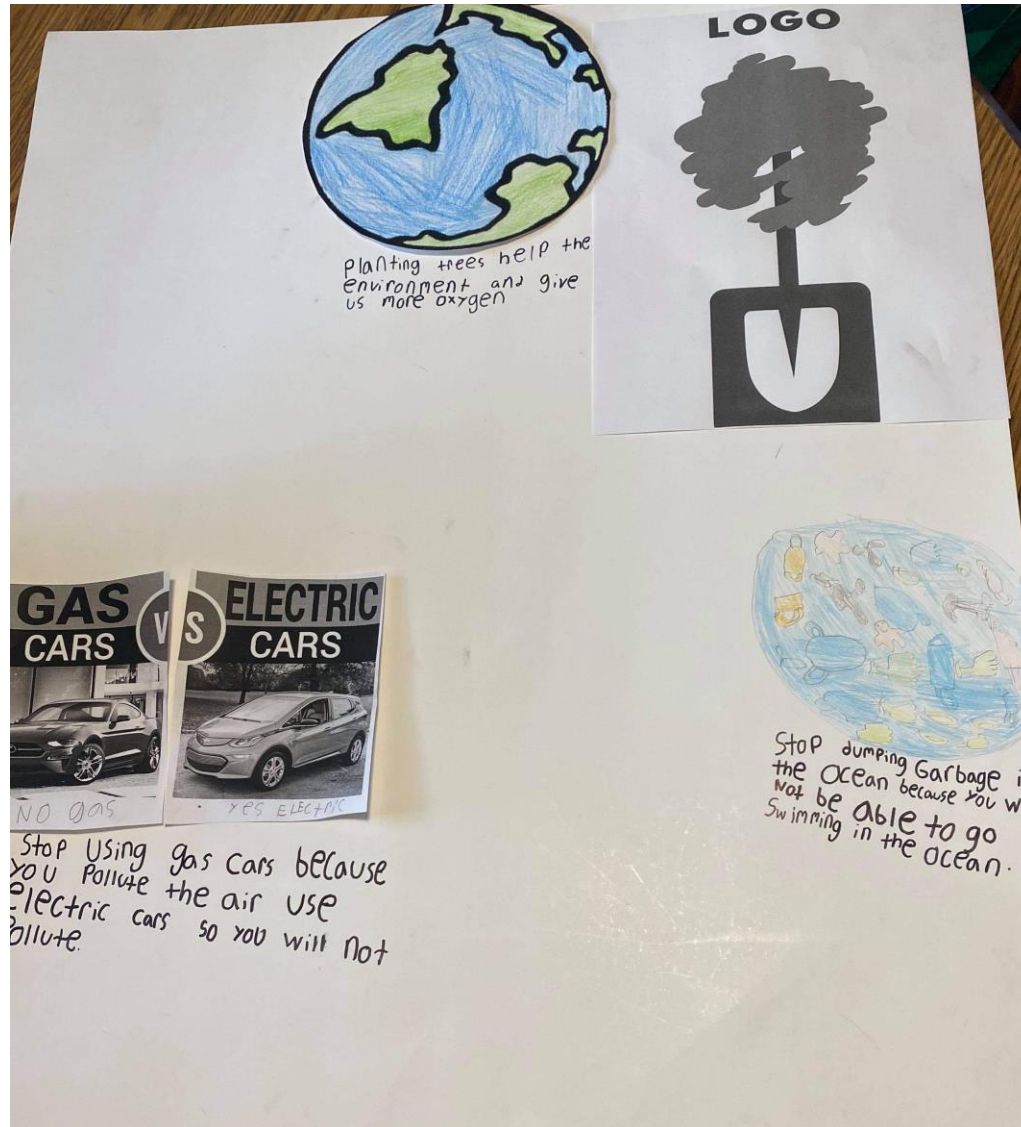
3rd Grade





William Patterson IV

5th Grade





Yug Mehta

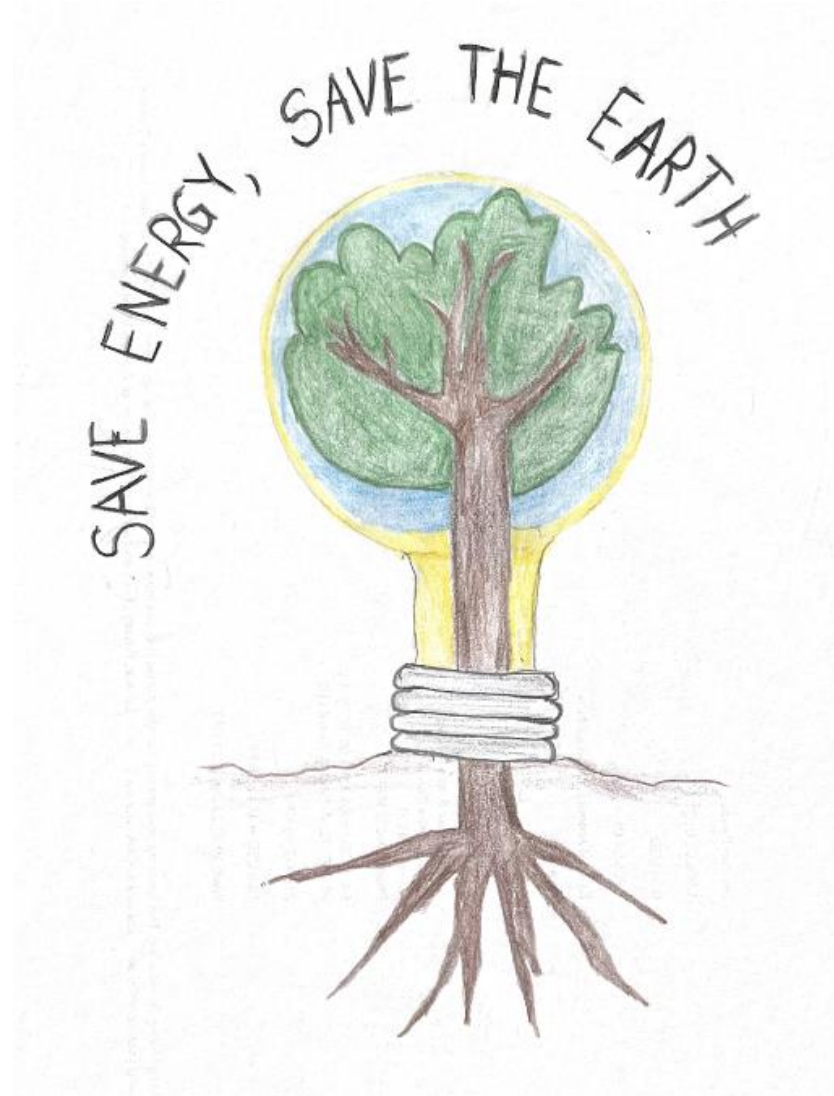
3rd Grade





Arthur Pandey

7th Grade





Aubrie Patterson

6th Grade

How I would Save

All the animals in the world.

I would stop polluting the earth with plastic because they are killing our fish and Turtles. So we can use glass because it is better than plastic.



We need to save the Elephants. The poachers need to stop killing the elephants for their tusks because elephants are good animals. Before they become extinct.



Polar bears may go extinct due to our climate changes caused by pollution and over development. The air is not cold anymore because of global warming. The ice is melting too fast so they will not have anywhere to move.



People need to learn to be more careful with fires they start such as in the case of the Koalas when most of them died in the wildfires caused by humans.





Eden Templeton

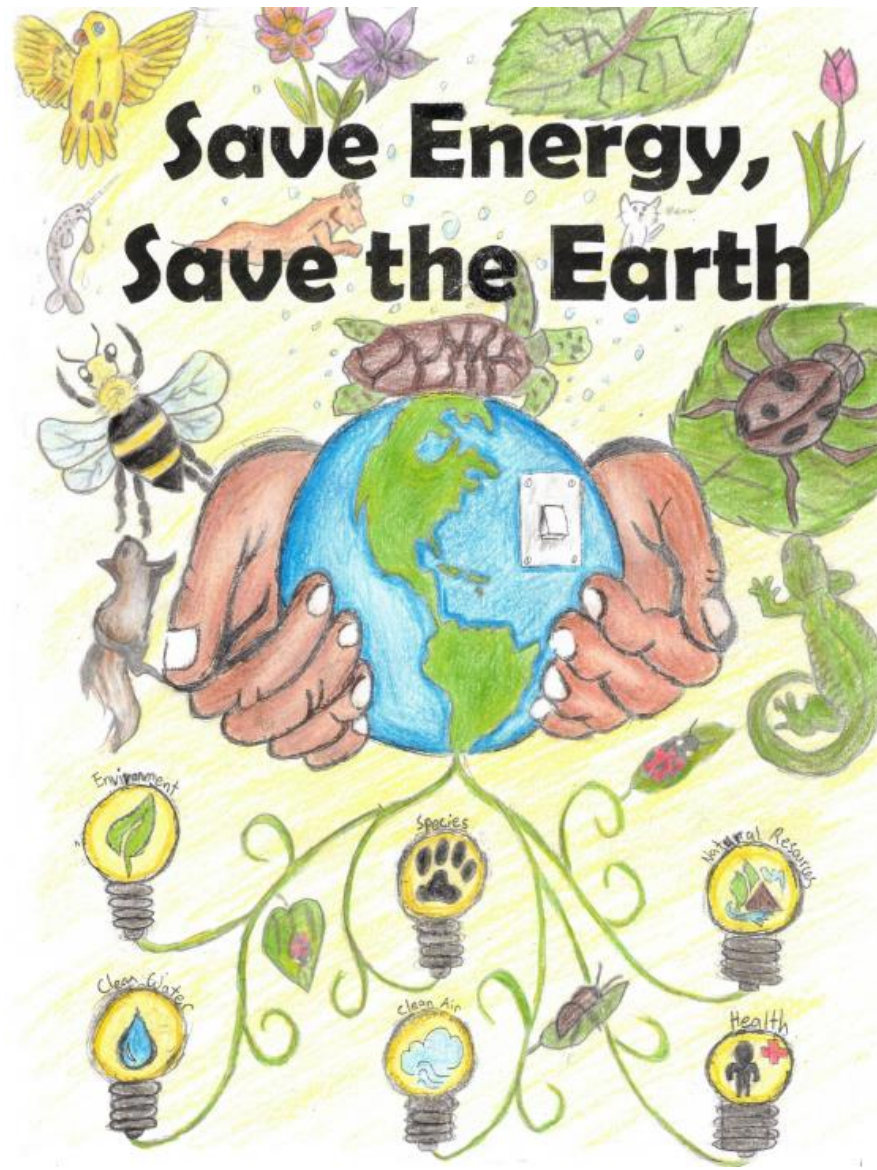
8th Grade





Ethan Liaw

8th Grade





Kimberly Lee

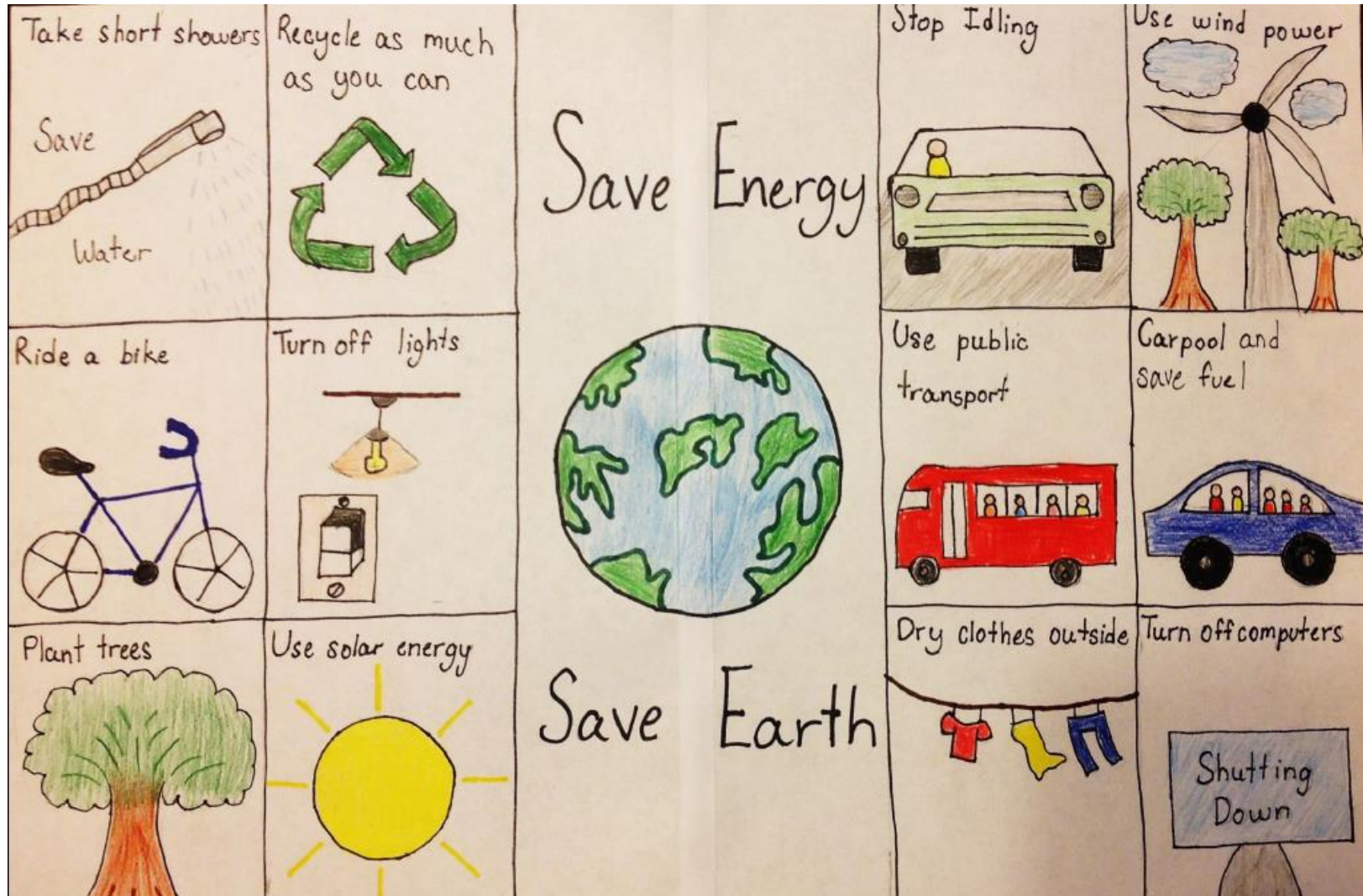
7th Grade





Meera Anil

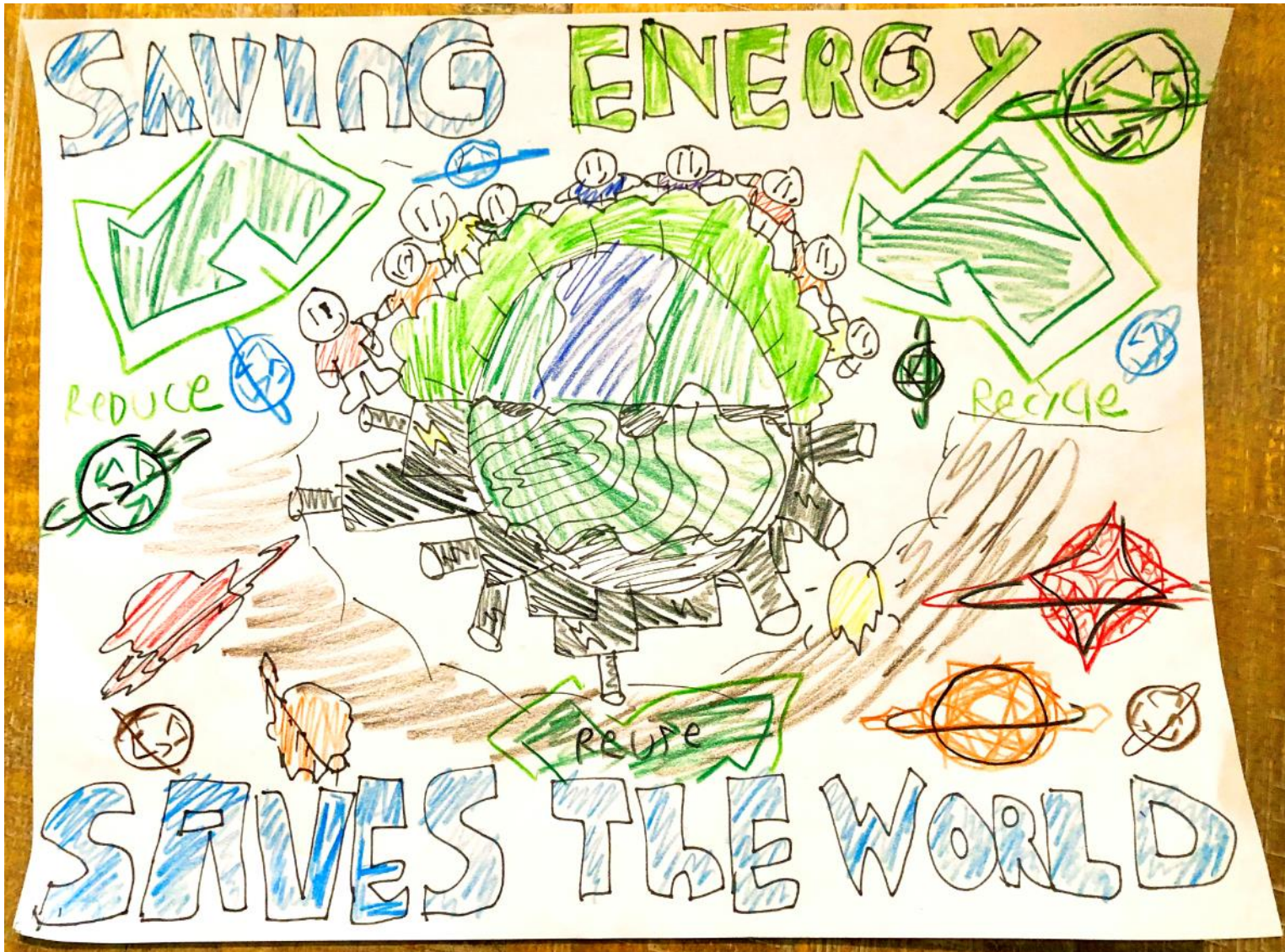
6th Grade





Riley Jackson

6th Grade





Samriti Venkat

6th Grade





Sarah Parker

7th Grade





Sourish Dutta

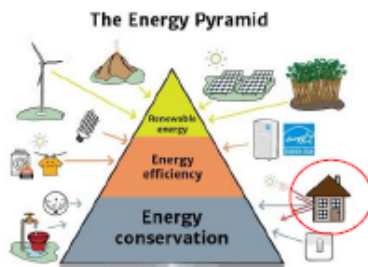
7th Grade

Energy Efficient Households to Save Earth

Sourish Dutta Grade:7 School: Kingsview Middle School, Kingsview Road, Germantown, Maryland

How saving energy helps nature

Saving energy helps to protect nature by reducing carbon footprint, controlling global warming, and reducing natural resource consumption. Saving energy can be done in many ways but having an energy efficient household is a great way to help nature.



Why should we make our houses energy efficient?

Saves cost 1. Reduce utility bills 2. Return on your investment	Protect nature 1. Reduce carbon-dioxide emission 2. Control global warming 3. Reduce natural resource consumption	Increase property value 1. Higher price 2. Higher rent 3. Better quality of life 4. De-risking from rising electricity prices

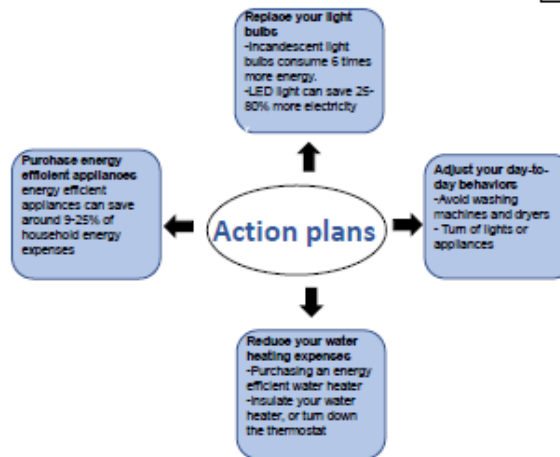
Basic steps

Energy Audit

- Identify gaps in the energy system
- Identify the appliances in your house that consume extra energy

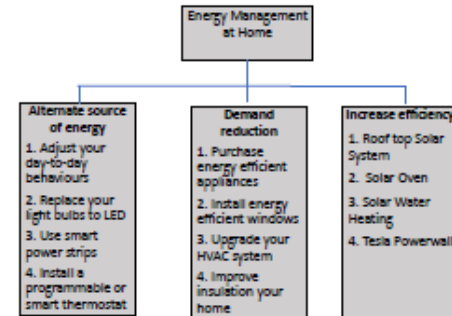
PDCA- Plan, Do, Check, Act

- Make a plan
- Check the plan
- Do the necessary steps
- Carry out the plan



Conclusion

Energy efficient houses helps to decrease our day-to-day energy uses. Changing our houses little by little helps nature and at the same time lowers our bills.



RECOMMENDED ACTION	POTENTIAL SAVINGS (AS A PERCENTAGE OF UTILITY BILLS)	**AVERAGE ANNUAL SAVINGS IN \$
Install exterior low-e storm windows	12%-33% annually on heating and cooling bills	\$100-\$274
Seal uncontrolled air leaks	10%-20% on annual heating and cooling bills	\$83-\$166
Plant shade trees	15%-50% of annual air conditioning costs	\$35-\$119
Use a power strip for electronic equipment and turn it off when not in use	Up to 12% of electric bill per year	\$100
Replace an older toilet that uses 6 gallons per flush with a WaterSense model		\$100
Turn back your thermostat 7°-10°F for 8 hours a day	Up to 10% annually on heating and cooling bills	\$83
Weatherstrip double-hung windows	5%-10% annually on heating and cooling bills	\$42-\$83
Replace your home's five most frequently used light fixtures or bulbs with models that have earned the ENERGY STAR	9% on electricity bill annually	\$75
Lower water heating temperature	Save 4%-22% annually on your water heating bill	\$12-\$60
Insulate water heater tank	Save 7%-10% annually on water heating bill	\$20-\$45
Fix leaky faucets; one drip per second wastes 1,661 gallons of water		\$35
Use sleep mode and power-management features on your computer	Up to 4% of annual electric bill	\$30
Insulate hot water pipes	Save 3%-4% annually on water heating bill	\$8-\$12
**TOTAL POTENTIAL SAVINGS		\$723-\$1,182



Zoe Baker

6th Grade

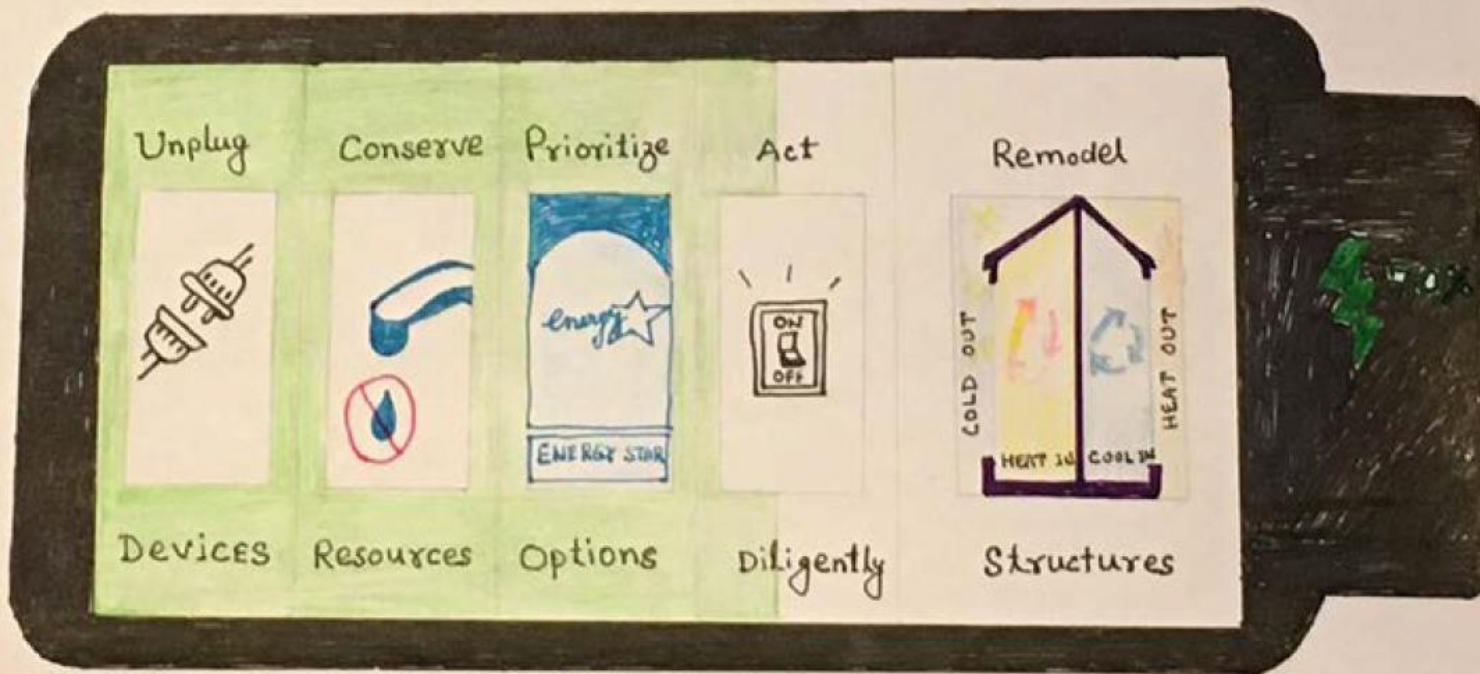




Arushi Singh

12th Grade

SAVE ENERGY, SAVE THE EARTH



FOR A BRIGHTER TOMORROW



Emily Mu

9th Grade





Jacob Bruckheim

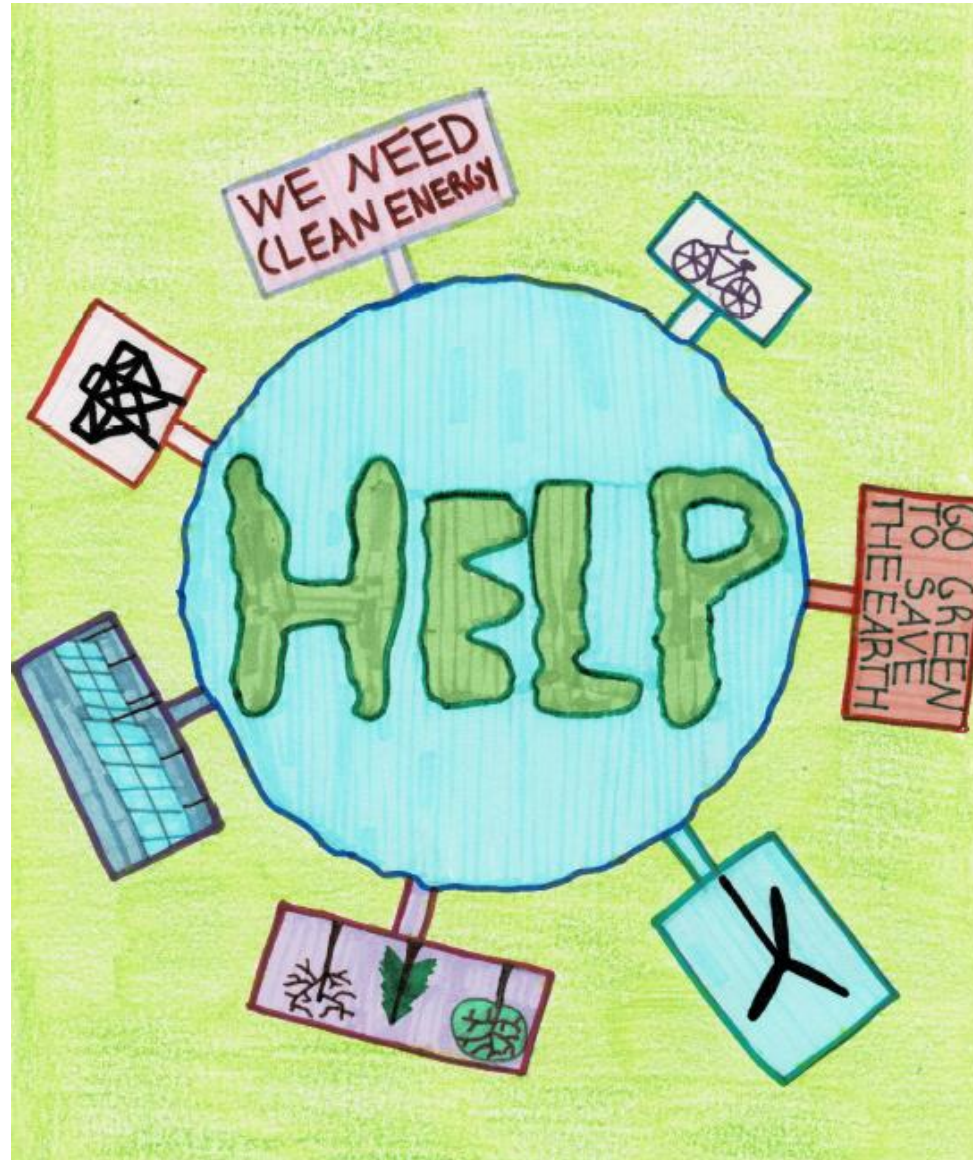
12th Grade





Lily Luby

9th Grade





Lucas Petrosyan

9th Grade





Mimi Bafor

11th Grade





Shreya Sathish

11th Grade

