

Air pollution and How it Affects our Earth

New Mexico

Supercomputing Challenge

Final Report

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Team 8

Jackson Middle School

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Area of science: Environmental Sciences.

Executive summary

We began our project with a vague idea that we wanted to work on something that had to do with Air pollution. We researched this topic and limited it down to the effect of Air pollution on the earth.

From there, we found Mr. Tom Robey our mentor who works with environmental science he was able to help us understand the science of our environment. We also developed our code to show how Air pollution spreads. Within our code, we used turtles to show the pollution and the way it spreads.

Problem statement:

With the increase of Air pollution global warming is also increasing but Air pollution is preventable.

With sufficient action suffering and deaths from dirty air can be avoided. Clean air is necessary for life and clean water on earth, also air pollution is a contributing factor to global warming. If we bring some Air pollution levels down we can stop global warming.

Code

```
to wander ;; person procedure
  rt random-float 15
  lt random-float 15
  fd 1
  set health health - 0.1
end

to reproduce ;; person procedure
  if health > 4 and random-float 1 < New-Cars [
    hatch-people 1 [
      set health 5
    ]
  ]
end

to maybe-plant ;; person procedure
  if random-float 1 < Retired-Cars [
    hatch-trees 1 [
      set health 10
      set color orange
    ]
  ]
end

to eat-pollution ;; person procedure
  if pollution > 0.5 [
    set health (health - (pollution / 10))
  ]
end

to maybe-die ;; die if you run out of health
  if health <= 0 [ die ]
end

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  if health <= 0 [ die ]
end
```

Our most significant achievement:

We would like to say our most significant achievement was getting to learn about the cause of air pollution and how we can aid to rid of some of the air pollution. Also on how to make a certain code

on how we can show the effect of air pollution by how it spreads. Within our code, we used turtles to show the pollution and the way it spreads.

Works Cited

- Engineering.com, <http://www.engineering/plasma-process-turns-garbage-into-energy>. "How Do Fuel Cell Electric Vehicles Work Using Hydrogen?" Alternative Fuels Data Center: How Do Fuel Cell Electric Vehicles Work Using Hydrogen?, afdc.energy.gov/vehicles/how-do-fuel-cell-electric-cars-work. "Propane." Alternative Fuels Data Center: Propane, afdc.energy.gov/fuels/propane.html. Sch ¨fer, Patrick. "Thermal Energy Storage Concept Increases Efficiency of Electric Cars." Springerprofessional.de, 25 Oct. 2017, [www.springerprofessional.de/en/electric-vehicles/mobility-concepts/thermal-energy-storage-concept-increases-efficiency-of-electric-/15163174#:~:text=Scientists have now developed arrange by up to half](http://www.springerprofessional.de/en/electric-vehicles/mobility-concepts/thermal-energy-storage-concept-increases-efficiency-of-electric-/15163174#:~:text=Scientists have now developed arrange by up to half.). "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." Refining Crude Oil - the Refining Process - U.S. Energy Information Administration (EIA), www.eia.gov/energyexplained/oil-and-petroleum-products/refining-crude-oil-the-refining-process.php.

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