Investigation Tracker

TEACHER

GUIDE

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| What have I learned about what happened in Washington, D.C. on July 9th, 2018? |
| Activity 1 | It could be…* It is smoky because of a fire
	+ It is foggy
	+ It is snowing
	+ There is something else falling from the sky (ex. volcanic ash)
	+ The air is polluted
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| Activity 2 | * The haze is not fog because the weather conditions were not right to make fog
* It was unlikely to be natural, because there are no other good natural explanations
* It is likely to be man-made
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| Activity 3 | * The haze could be caused by humans because humans can affect the atmosphere by creating air pollution
* It could be air pollution from things like coal power plants.
* There are some power plants near DC, but not a lot
* There are a lot of people in the DC area
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| Activity 4 | * The haze is caused by ground-level ozone pollution (smog)
* Ozone forms when certain air pollution is released from cars, power plants, and industrial facilities. These pollutants react with heat and sunlight, which makes ground level ozone.
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| Activity 5 | * There are two kinds of ozone: ground-level ozone and stratospheric ozone
* Ground-level ozone (tropospheric) is a harmful pollutant that can hurt people’s lungs and damage crops
* Stratospheric ozone (in the ozone layer) protects Earth from harmful radiation
* Ground-level ozone is formed when certain kinds of air pollution react with heat and sunlight
* You can prevent ozone from forming by using less electricity and driving less
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| Activity 6 | * Air quality is measured using a scale call the Air Quality Index (AQI)
* The main air pollutants in the DC-Baltimore area are particulate matter (PM) and ozone.
* Air quality in the DC-Baltimore area is improving
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| Activity 7 | * Air quality in the United States has improved a lot since 1980.
* The Clean Air Act was a very important law that helped the US to clean up the air
* People can have positive and negative impacts on the environment by polluting, or by working to stop pollution
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| Activity 8 | * + Air pollution (especially ozone) is strongly affected by the weather
	+ Weather conditions like clear sunny skies and low wind are more likely to result in a bad ozone day
	+ Rain can “wash” pollution out of the air resulting in less ozone.
	+ Large human populations can result in more emissions and worse air quality if they don’t do something to prevent it
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