Earth’s Atmosphere MS Curriculum Guide

**7.E.1 Understand how the cycling of matter (water and gases) in and out of the atmosphere relates to Earth’s atmosphere, weather and climate and the effects of the atmosphere on humans**

**Unit Summary:**

The atmosphere is a mixture of gases, such as nitrogen, oxygen, argon, carbon dioxide, trace gases and water vapor. The atmosphere has different properties at different elevations and different locations around the earth. The air pressure is less on the top of mountains (higher altitude) than in valleys. At the equator the atmosphere is warmer; at the poles it is cooler. The uneven heating of land and water causes a rising and sinking of warm and cool air masses, creating convection currents and causing winds.

Five layers make up the atmosphere: the troposphere, stratosphere, mesosphere, thermosphere, and exosphere. Each of these layers has unique properties. Weather occurs in the troposphere and is the physical condition of the atmosphere at a specific place at a specific time. Fronts, global wind systems, atmospheric pressure changes and many other factors influence weather. Major atmospheric activities such as thunderstorms, tornadoes and hurricanes affect humans and can result in huge natural disasters.

Technology has greatly influenced the ease and accuracy of predicting weather. Weather maps show air masses, fronts, and pressure centers, helping to predict approaching weather. Weather forecasting has been improved by the additional data gained from Doppler radar units and satellites.

The cumulative ecological effects of global ozone depletion, air pollution, increased particulate matter, acid rain, and global warming concern the entire global community. Studies have shown that human activity influenced and impacted the global ecosystem.

**Academic Vocabulary:**

abundant property decrease weather evaporation front meteorologist

altitude characteristics maintain climate condensation pollution

density source ozone layer conduction precipitation point source

composition depletion air pressure convection saturated non-point source

sustain increase atmosphere radiation humidity air mass

**Focus Questions:**

* What is the atmosphere?
* How does earth’s atmosphere support and protect life?
* How are the layers of the atmosphere defined?
* Where does earth receive its energy?
* How does the ozone layer protect life on earth?
* How doe greenhouse gases impact earth’s temperature?
* What is air pressure?
* How does precipitation form?
* What is really in the air we breath?
* How are humans changing the composition of the atmosphere?
* How is air quality monitored and measured?
* How is air quality communicated to the public?
* How can we become environmental stewards?
* What are the financial and economic trade-offs affecting air quality?
* How do we know that air vapor is present in the air?
* How does the sun affect temperature on earth?
* What, other than the sun, impacts temperature?
* How do clouds form?
* How does temperature impact saturation?
* How does weather move from place to place?
* What causes wind?
* What happens when two air masses meet?
* What atmospheric conditions lead to severe storms?
* What information is used to predict weather?
* How does technology help us better predict weather conditions?

**W1 and Math Problems:**

7.E.1.1. Compare the composition, properties and structure of Earth’s atmosphere to include mixture of gases and differences in temperature and pressure within layers

*Life exists on Earth but does not exist on Mars or Venus. This is due to both the pressure and composition of gases on each planet. Which factor, the pressure or the composition of gases on Earth is more related to the ability for Earth to sustain life? Explain both the composition and pressure on Earth (specifically the troposphere) and explain the implication of both pressure and composition on life.*

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| Discovery Education | Manipulative Activities | Graphics/Models | Other Resources |
| [Exploration “The Air Up There”](http://player.discoveryeducation.com/index.cfm?guidAssetId=DE50FD60-5E31-4DC6-A3B9-885E07E00902&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=DE50FD60-5E31-4DC6-A3B9-885E07E00902&blnFromSearch=1&productcode=DETB | [Air inquiry mini-lab](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/air.inquiry.docx) (attached) | [Atmosphere pie-chart](http://player.discoveryeducation.com/index.cfm?guidAssetId=7EF85525-5F7B-474A-8DB3-EDDBCB8F6F96&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=7EF85525-5F7B-474A-8DB3-EDDBCB8F6F96&blnFromSearch=1&productcode=DETB | [BrainPOP “Earth’s Atmopshere”](http://www.brainpop.com/science/earthsystem/earthsatmosphere/preview.weml)  http://www.brainpop.com/science/earthsystem/earthsatmosphere/preview.weml |
| [Tour of Earth’s Atmosphere Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=A92FE6BA-6398-4CD0-BCE0-D9CD44F5ADC6&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=A92FE6BA-6398-4CD0-BCE0-D9CD44F5ADC6&blnFromSearch=1&productcode=DETB | [What’s in the air?](http://player.discoveryeducation.com/index.cfm?guidAssetId=8E8369F2-8A93-44E2-9813-74234B48DDCE&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=8E8369F2-8A93-44E2-9813-74234B48DDCE&blnFromSearch=1&productcode=DETB | [Layer of the Atmopshere](http://frobinett.edublogs.org/files/2011/02/layers-of-the-atmosphere-29q693x.jpg)  http://frobinett.edublogs.org/files/2011/02/layers-of-the-atmosphere-29q693x.jpg | [Feliz Baumgartner Jump from Space](http://www.redbullstratos.com/)  <http://www.redbullstratos.com/>  [Pressurized suit (reading)](http://www.scholastic.com/browse/article.jsp?id=3757086)  <http://www.scholastic.com/browse/article.jsp?id=3757086>  [Pressurized Suit Questions](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/pressurized.suit.docx) (attached) |
| [Getting to Know: Structure and Composition of Earth’s Atmosphere](http://player.discoveryeducation.com/index.cfm?guidAssetId=6BF3C23F-90A7-40CA-84E2-89D062832469&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=6BF3C23F-90A7-40CA-84E2-89D062832469&blnFromSearch=1&productcode=DETB | [Goldilocks Principle Lab](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/goldilocks.lab.docx) (attached) | [Altitude and Density](http://www.goalfinder.com/images/SPGPRO3/variation-density-altitude.jpg) <http://www.goalfinder.com/images/SPGPRO3/variation-density-altitude.jpg>  [Image 2](http://www.srh.noaa.gov/jetstream/atmos/images/molecules.jpg)  <http://www.srh.noaa.gov/jetstream/atmos/images/molecules.jpg> | [Layers of the Atmosphere Rap](http://www.youtube.com/watch?v=AkaY1dvZer4)  <http://www.youtube.com/watch?v=AkaY1dvZer4> |
| [Earth’s Atmosphere Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=0DA0E870-7715-4F0E-AF13-17611A6A663A&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=0DA0E870-7715-4F0E-AF13-17611A6A663A&blnFromSearch=1&productcode=DETB | [Goldilocks principle Gallery Walk Handout](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Goldilock.gallerywalk.docx)(attached)  [Mars Poster](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Mars.poster.docx) (attached)  [Earth Poster](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Earth.poster.docx) (attached)  [Venus Poster](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Venus.poster.docx)  (attached) |  | [Air Intro Reading](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/air.intro.reading.pdf) (attached) |
| [Earth’s Composition Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=705148F9-00AF-42F8-AB5F-30C30848B698&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=705148F9-00AF-42F8-AB5F-30C30848B698&blnFromSearch=1&productcode=DETB | [Temperature/Altitude Graphing](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/temp.altitude.graph.pdf) (attached) |  | [Composition of Earth Handout](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/composition.handout.pdf) (attached) |
|  |  |  | [Weather worksheet set](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/weather.worksheet.set.pdf) (attached)  -includes worksheets to be used ALL unit |

7.E.1.2. Explain how the cycling of water in and out of the atmosphere and atmospheric conditions relate to the weather patterns on earth

*There are three main phases of the water cycle; evaporation, condensation, precipitation. Which phase is* ***least*** *important in determining the weather patterns on earth? Your argument must explain how the water cycle on the whole relates to weather patterns on earth and how the phase you choose can be removed.*

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| Discovery Education | Manipulative Activities | Graphics/Models | Other Resources |
| [Exploration: Water cycle](http://player.discoveryeducation.com/index.cfm?guidAssetId=087777C8-4FF0-45D2-878F-E7CD90F7EE19&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=087777C8-4FF0-45D2-878F-E7CD90F7EE19&blnFromSearch=1&productcode=DETB | [Model water cycle](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/model.watercycle.pdf) (attached) | [Water cycle Animation](http://player.discoveryeducation.com/index.cfm?guidAssetId=0B6D7493-30FC-42A0-ADD0-E0A17987DB49&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=0B6D7493-30FC-42A0-ADD0-E0A17987DB49&blnFromSearch=1&productcode=DETB | [BrainPop Water Cycle](http://www.brainpop.com/science/earthsystem/watercycle/)  http://www.brainpop.com/science/earthsystem/watercycle/ |
| [Exploration: Energy Transfer and the Water Cycle](http://player.discoveryeducation.com/index.cfm?guidAssetId=E37DB98B-93B7-4177-A9F0-4A3839422311&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=E37DB98B-93B7-4177-A9F0-4A3839422311&blnFromSearch=1&productcode=DETB | [Water in the air lab](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/water.vapor.lab.doc) (attached under water vapor lab) | [Rain Animation](http://player.discoveryeducation.com/index.cfm?guidAssetId=A2B47801-2DB4-4009-8839-CD53297A1337&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=A2B47801-2DB4-4009-8839-CD53297A1337&blnFromSearch=1&productcode=DETB | [BrainPop Clouds](http://www.brainpop.com/science/weather/clouds/)  http://www.brainpop.com/science/weather/clouds/ |
| [Getting to Know: Water Cycle Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=C598B671-2BDB-4821-BD67-EF19D07D00F4&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=C598B671-2BDB-4821-BD67-EF19D07D00F4&blnFromSearch=1&productcode=DETB | [Water Cycle: Cycling Water through the environment](http://www.teachersdomain.org/resource/ess05.sci.ess.watcyc.lp_watercycle/) http://www.teachersdomain.org/resource/ess05.sci.ess.watcyc.lp\_watercycle/ | [Cloud Formation](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/cloud.formation.pdf) (attached) | [Humidity worksheet](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/humidity.worksheet.pdf) (attached) |
| [Getting to Know: Energy Transfer and the Water Cycle Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=0C10F03E-2156-4F47-9EE7-F3EC25F22026&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=0C10F03E-2156-4F47-9EE7-F3EC25F22026&blnFromSearch=1&productcode=DETB | [Water Cycle Kinesthetic Lesson](http://teachingtoday.glencoe.com/lessonplans/the-water-cycle)  http://teachingtoday.glencoe.com/lessonplans/the-water-cycle | [Cloud formations 2](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/cloud.formation.docx) (attached) | [Water Cycle review](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/watercycle.review.pdf) (attached) |
| [Water-Drop Odyssey Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=FEB1ED9D-A819-4D4E-ADDA-A226CA8C67F3&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=FEB1ED9D-A819-4D4E-ADDA-A226CA8C67F3&blnFromSearch=1&productcode=DETB | [Relative Humidity Cotton Ball Activity](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Relative%20Humidity%20Cotton%20Ball%20Activity.docx) (attached) |  |  |
| [Going Around in Circles Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=F4CBA12D-2AA2-4BCF-A4D3-733D32BB4114&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=F4CBA12D-2AA2-4BCF-A4D3-733D32BB4114&blnFromSearch=1&productcode=DETB |  |  |  |
| [Weather and Climate Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=3CCA1D75-B00F-4C4E-8990-60CC55AD4193&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=3CCA1D75-B00F-4C4E-8990-60CC55AD4193&blnFromSearch=1&productcode=DETB |  |  |  |
| [The Whaddaya Know Quiz Show” The Water Cycle](http://player.discoveryeducation.com/index.cfm?guidAssetId=263D0953-6D7A-43B9-951E-1D0463E99B9E&blnFromSearch=1&productcode=US)  http://player.discoveryeducation.com/index.cfm?guidAssetId=263D0953-6D7A-43B9-951E-1D0463E99B9E&blnFromSearch=1&productcode=US |  |  |  |
| [Skill Builder The Water Cycle](http://player.discoveryeducation.com/index.cfm?guidAssetId=DFDC4C10-22B5-4A73-835F-2C0C681E28DD&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=DFDC4C10-22B5-4A73-835F-2C0C681E28DD&blnFromSearch=1&productcode=DETB |  |  |  |
| [Skill Builder: Science Lab, Weather](http://player.discoveryeducation.com/index.cfm?guidAssetId=4540CEB4-0F06-4729-BE49-4CA8B59C2781&blnFromSearch=1&productcode=US)  http://player.discoveryeducation.com/index.cfm?guidAssetId=4540CEB4-0F06-4729-BE49-4CA8B59C2781&blnFromSearch=1&productcode=US |  |  |  |

7.E.1.3 Explain the relationship between the movement of air masses, high and low pressure systems, and frontal boundaries to storms (including thunderstorms, hurricanes, tornadoes) and other weather conditions that may result

*Is it more important to know the pressure systems present in an area or the characteristics of air masses when predicting likelihood of storms? Your argument must include an explanation of how both the composition of air masses and pressure systems can be used to predict severe weather.*

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| Discovery Education | Manipulative Activities | Graphics/Models | Other Resources |
| [Air Masses over Land Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=459726C7-522C-4875-9195-78AC746A1D01&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=459726C7-522C-4875-9195-78AC746A1D01&blnFromSearch=1&productcode=DETB | [Pressure System Demos](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Pressure%20System%20Demos.docx) (attached) | [Fronts](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Fronts.images.pdf) (attached) | [Air Masses Worksheet](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/airmasses.worksheet.pdf) (attached) |
| [Air Masses Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=EF8249F5-456A-41F1-9C64-508D9AFDE2C4&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=EF8249F5-456A-41F1-9C64-508D9AFDE2C4&blnFromSearch=1&productcode=DETB | [Hurricane DBQ](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/hurricane.DBQ.doc) (attached) | [Air Masses](http://player.discoveryeducation.com/index.cfm?guidAssetId=674CA0B4-F995-4212-BE0D-B8927A3EF652&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=674CA0B4-F995-4212-BE0D-B8927A3EF652&blnFromSearch=1&productcode=DETB | [Characteristics of Air Masses Student Inquiry](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/characteristic.airmass.docx)(attached) |
| [Wind and Air Masses Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=02BC62E1-8E93-4821-A210-27C7B37E7284&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=02BC62E1-8E93-4821-A210-27C7B37E7284&blnFromSearch=1&productcode=DETB | [Weather forecasting](http://player.discoveryeducation.com/index.cfm?guidAssetId=57ca794f-cb09-404f-b5b3-4cab432ba46e&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb) http://player.discoveryeducation.com/index.cfm?guidAssetId=57ca794f-cb09-404f-b5b3-4cab432ba46e&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Wind Formation](http://www.physicalgeography.net/fundamentals/images/heatingwind.GIF)  http://www.physicalgeography.net/fundamentals/images/heatingwind.GIF | [How Wind Forms (Reading Comprehension)](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Wind%20Forms.ReadingComp.docx) based on textbook pg. |
| [Air Masses and Fronts Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=7033BBD3-5E3A-4818-A56E-EFA6FB0A5F2E&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=7033BBD3-5E3A-4818-A56E-EFA6FB0A5F2E&blnFromSearch=1&productcode=DETB | [Make It Rain](http://player.discoveryeducation.com/index.cfm?guidAssetId=3f2cac11-2e05-41b9-8a04-2c1f151a3afb&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=3f2cac11-2e05-41b9-8a04-2c1f151a3afb&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Thunderstorm Formation](http://www.jason.org/uploads/PublicUploads/CuteSoft/Thunderstorm%20Formation.jpg)  http://www.jason.org/uploads/PublicUploads/CuteSoft/Thunderstorm%20Formation.jpg | [Density, Air Pressure and Temperature Think-Pair-Share](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Density.airpressure.temperature.docx) (attached) |
| [Weather Smart: heat, Wind and Pressure Video (15 min)](http://player.discoveryeducation.com/index.cfm?guidAssetId=B2B07925-15A4-4728-875D-B4369021CC65&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=B2B07925-15A4-4728-875D-B4369021CC65&blnFromSearch=1&productcode=DETB | [Make a weather forecast!](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/makeaforecast.activity.pdf) (attached) | [Hurricane formation](http://www.weatherwizkids.com/Hurricane_formation.gif)  http://www.weatherwizkids.com/Hurricane\_formation.gif | [BrainPop Video Wind](http://www.brainpop.com/science/weather/wind/)  http://www.brainpop.com/science/weather/wind/ |
| [Wind Animation](http://player.discoveryeducation.com/index.cfm?guidAssetId=C37C740E-B854-47D1-A182-C9B07003F854&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=C37C740E-B854-47D1-A182-C9B07003F854&blnFromSearch=1&productcode=DETB |  | [Animation: Meteorology](http://player.discoveryeducation.com/index.cfm?guidAssetId=c49836fd-59ba-4c07-bd31-697ac2b21ed3&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb) http://player.discoveryeducation.com/index.cfm?guidAssetId=c49836fd-59ba-4c07-bd31-697ac2b21ed3&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |
| [Exploration: Hurricanes](http://player.discoveryeducation.com/index.cfm?guidAssetId=13A48CBA-2CF6-4F1C-87E3-C3484EBC4F01&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=13A48CBA-2CF6-4F1C-87E3-C3484EBC4F01&blnFromSearch=1&productcode=DETB |  |  |  |
| [Exploration: Creating a Hurricane](http://player.discoveryeducation.com/index.cfm?guidAssetId=13A48CBA-2CF6-4F1C-87E3-C3484EBC4F01&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=13A48CBA-2CF6-4F1C-87E3-C3484EBC4F01&blnFromSearch=1&productcode=DETB |  |  |  |
| [Animation: Hurricane](http://player.discoveryeducation.com/index.cfm?guidAssetId=12C30E0C-D522-416D-A8C0-62E3FF8806C9&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=12C30E0C-D522-416D-A8C0-62E3FF8806C9&blnFromSearch=1&productcode=DETB |  |  |  |
| [Animation: Tropical Disturbance](http://player.discoveryeducation.com/index.cfm?guidAssetId=2A684B95-57DF-4DE9-8FE0-7CFF6119FD3C&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=2A684B95-57DF-4DE9-8FE0-7CFF6119FD3C&blnFromSearch=1&productcode=DETB |  |  |  |
| [Animation: Sleet](http://player.discoveryeducation.com/index.cfm?guidAssetId=F1062F4A-4DAB-4F6F-9C16-25483E576143&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=F1062F4A-4DAB-4F6F-9C16-25483E576143&blnFromSearch=1&productcode=DETB |  |  |  |

7. E. 1. 4 Predict weather conditions and patterns based on information obtained from:

1. Weather data collected from direct observations and measurement (wind speed and direction, air temperature, humidity and air pressure)

2. Weather maps, satellites and radar

3. Cloud shapes and types and associates elevation

*Pretend that a meteorologist can only use one source to predict the weather. He or she may use 1) direct observations, 2) weather maps, satellites and radar, or 3) cloud shapes and types. Which weather source should the meteorologist use if he or she hopes to be accurate? Explain how the particular weather source is used and why it is a more reliable source than the two other sources.*

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| Discovery Education | Manipulative Activities | Graphics/Models | Other Resources |
| [Exploration: Weather Data](http://player.discoveryeducation.com/index.cfm?guidAssetId=84F9BCD5-A4F4-418B-A047-560F91237464&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=84F9BCD5-A4F4-418B-A047-560F91237464&blnFromSearch=1&productcode=DETB | [Integrated Simulation: Weather Forecasting](http://player.discoveryeducation.com/index.cfm?guidAssetId=57CA794F-CB09-404F-B5B3-4CAB432BA46E&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=57CA794F-CB09-404F-B5B3-4CAB432BA46E&blnFromSearch=1&productcode=DETB | [Weather Satellite](http://player.discoveryeducation.com/index.cfm?guidAssetId=D1DA458D-4A0F-4C1C-9E5A-6D7F5AF6C313&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=D1DA458D-4A0F-4C1C-9E5A-6D7F5AF6C313&blnFromSearch=1&productcode=DETB | [Weather Instruments Warm-up](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/weather.instruments.warmup.docx) (attached) |
| [A Brief History of Weather Predicting Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=4ca43ecf-0bd8-442f-bd81-e4dcb4009e42&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb) http://player.discoveryeducation.com/index.cfm?guidAssetId=4ca43ecf-0bd8-442f-bd81-e4dcb4009e42&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [NOAA Forecasting Student Activity Book](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/forecasting.pdf) (attached)  [Teacher Key](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/forecasting.key.pdf) (attached) | [Weather Balloon](http://player.discoveryeducation.com/index.cfm?guidAssetId=409FC9CE-6767-418E-A1CD-7266836E8FE1&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=409FC9CE-6767-418E-A1CD-7266836E8FE1&blnFromSearch=1&productcode=DETB | [Weather report Reading](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/weatherreport.reading.pdf) (attached) |
| [Meteorologists use scientific instruments video segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=41b66827-27d8-4138-99c2-a956141fb2c5&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=41b66827-27d8-4138-99c2-a956141fb2c5&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Map Analysis Gallery Walk](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/map.analysis.docx) (attached)  -teacher must find maps for each station (<http://www.wunderground.com/>) | [Weather Radar](http://player.discoveryeducation.com/index.cfm?guidAssetId=A6CBDDDD-6225-4432-8081-1E12B008BB8B&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=A6CBDDDD-6225-4432-8081-1E12B008BB8B&blnFromSearch=1&productcode=DETB | [BrainPop Weather](http://www.brainpop.com/science/weather/weather/)  http://www.brainpop.com/science/weather/weather/ |
| [Airborne Radar Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=dfd3817d-2b71-48da-8a52-a45a69972ac7&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=dfd3817d-2b71-48da-8a52-a45a69972ac7&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |  | [Tips for Forecasting](http://eo.ucar.edu/webweather/forecasttips.html) http://eo.ucar.edu/webweather/forecasttips.html |
| [Satelittes Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=dfd3817d-2b71-48da-8a52-a45a69972ac7&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=dfd3817d-2b71-48da-8a52-a45a69972ac7&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |  | [BrainPop Wind](http://www.brainpop.com/science/weather/wind/)  http://www.brainpop.com/science/weather/wind/ |
| [Clouds and Forecasting](http://player.discoveryeducation.com/index.cfm?guidAssetId=a05b96df-241a-47fb-b755-40315557a46d&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=a05b96df-241a-47fb-b755-40315557a46d&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |  |  |

7.E.1.5. Explain the influence of convection, global winds and jet stream on weather and climatic conditions

*Pretend that you are a sailor traveling around the world like Ellen. Which wind patterns would be most beneficial to your trip? Which wind patterns would be most detrimental to our trip? Explain your answer using your knowledge of wind, convection, and global wind patterns. Your answer should include an explanation of what causes wind and specific wind patterns.*

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| Discovery Education | Manipulative Activities | Graphics/Models | Other Resources |
| [Air currents Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=03b6801c-e40d-4f4f-882c-fa6bcc4814d8&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=03b6801c-e40d-4f4f-882c-fa6bcc4814d8&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb> | [Coriolis Effect Balloon Activity](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/coriolis.effect.pdf)  (attached) | [Global Winds](http://mrsdlovesscience.com/winds/globalwinds.jpg)  http://mrsdlovesscience.com/winds/globalwinds.jpg | [BrainPop Ocean currents](http://www.brainpop.com/science/earthsystem/oceancurrents/)  http://www.brainpop.com/science/earthsystem/oceancurrents/ |
| [Sailing Across Globe (W1 Task Video) part 1](http://player.discoveryeducation.com/index.cfm?guidAssetId=acd5010d-0dad-436b-8673-8ea7a14f53c0&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=acd5010d-0dad-436b-8673-8ea7a14f53c0&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb>  [Part 2](http://player.discoveryeducation.com/index.cfm?guidAssetId=df9a8094-582c-4fa5-97ca-b6f1f2d063ec&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=df9a8094-582c-4fa5-97ca-b6f1f2d063ec&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb> | [Uneven Heating and Currents](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/unevenheating.currents.doc) (attached) | [Coriolis Effect](http://ww2010.atmos.uiuc.edu/guides/mtr/fw/gifs/crls1.gif)  http://ww2010.atmos.uiuc.edu/guides/mtr/fw/gifs/crls1.gif |  |
| [Surface Winds and Convection Currents Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=787a4ef5-c0cf-4efe-aed5-f3b41777ac73&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=787a4ef5-c0cf-4efe-aed5-f3b41777ac73&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Convection Currents Lab](http://www.pcds.org/share/sci8/labs/concurlab.htm) http://www.pcds.org/share/sci8/labs/concurlab.htm | [Coriolis Effect 2](http://www.astronomynotes.com/solarsys/coriolis.gif)  http://www.astronomynotes.com/solarsys/coriolis.gif |  |
| [Ocean Motion Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=b5b1acf4-eb3c-4c51-bb94-4344dfec0e76&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb) (also attached)  http://player.discoveryeducation.com/index.cfm?guidAssetId=b5b1acf4-eb3c-4c51-bb94-4344dfec0e76&productCode=DETB&guidConceptId=6a7ccede-d5c7-496d-90f5-5e48fa4a7047&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Ocean Currents Lab Videos](http://formontana.net/colorful.html)  http://formontana.net/colorful.html | D[oldrums](http://www.theduttonfamily.com/wp-content/uploads/2011/06/doldrums.jpg)  http://www.theduttonfamily.com/wp-content/uploads/2011/06/doldrums.jpg |  |
| [El Nino: Weather Patterns Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=df73bf83-8f82-4c72-afe6-876972e0d8b9&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=df73bf83-8f82-4c72-afe6-876972e0d8b9&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |  |  |
| [Jet Stream Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=34301fd5-295c-48a3-8a44-d70770fb01c9&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=34301fd5-295c-48a3-8a44-d70770fb01c9&productCode=DETB&guidConceptId=08ea88d2-1d09-4236-a1c2-6e9316e61038&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |  |  |

7.E.1.6. Conclude that the good health of humans requires: monitoring the atmosphere, maintaining air quality and stewardship

*Pollutants have many negative human health effects. It has been argued that certain types of pollution are causing the ozone layer to decrease and the levels of greenhouse gases in the atmosphere to increase. Which negative effect of pollution is most detrimental to life on earth? Explain the impact of decreased ozone in the stratosphere and increased greenhouse gases and explain which result is more harmful to humans.*

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| Discovery Education | Manipulative Activities | Graphics/Models | Other Resources |
| [Problems Associated with Dependence on Fossil Fuels Video Segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=e2188d51-fee6-4d92-8568-35c1da27941b&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=e2188d51-fee6-4d92-8568-35c1da27941b&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [EnergyVille online Activity](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Energyville.docx) (attached) | [Leaf with Ozone damage](http://player.discoveryeducation.com/index.cfm?guidAssetId=68E39B6F-2758-4251-87C5-1A89444EACCC&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=68E39B6F-2758-4251-87C5-1A89444EACCC&blnFromSearch=1&productcode=DETB | [BrainPop Greenhouse Effect](http://www.brainpop.com/science/earthsystem/greenhouseeffect/) http://www.brainpop.com/science/earthsystem/greenhouseeffect/ |
| [Bad News Bears Climate Change Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=1b3c8960-5b41-4e6a-8195-76c1e9241623&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=1b3c8960-5b41-4e6a-8195-76c1e9241623&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Water Pollution Lab](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/water.pollution.lab.doc) (attached) |  | [BrainPop Gas and Oil](file://localhost/ttp/::www.brainpop.com:technology:energytechnology:gasandoil:) ttp://www.brainpop.com/technology/energytechnology/gasandoil/ |
| [Carbon in the Atmosphere Video segment](http://player.discoveryeducation.com/index.cfm?guidAssetId=7769e806-5d38-42e0-a452-1d0cca6eff30&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb) http://player.discoveryeducation.com/index.cfm?guidAssetId=7769e806-5d38-42e0-a452-1d0cca6eff30&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | Reducing Caron Footprint stations  ([station sheets](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/reducing.carbon.station.handouts.doc) and [graphic organizer](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/reducing.footprint.organizer.docx) attached) |  | [BrainPop Air Pollution](rainpop.com/science/ourfragileenvironment/airpollution)  rainpop.com/science/ourfragileenvironment/airpollution/ |
| [Interactive Video: Climate Changes](http://player.discoveryeducation.com/index.cfm?guidAssetId=a606c624-ffac-466d-a0dd-483d766c5927&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=a606c624-ffac-466d-a0dd-483d766c5927&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Cookie mining lab](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/cookie.mining.docx) (attached) |  | [BrainPop Ozone Layer](http://www.brainpop.com/science/earthsystem/ozonelayer/)  http://www.brainpop.com/science/earthsystem/ozonelayer/ |
| [Ozone: The Good and Bad Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=027aa515-bc31-4e4e-9d7c-1a25632954c9&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=027aa515-bc31-4e4e-9d7c-1a25632954c9&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | [Planets and Greenhouse Gases Gallery Walk](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/planets.ghg.gallerydocx) (organizer attached, use same planet posters as Goldilocks principle Gallery Walk ) |  | [BrainPop Humans and the Environment](http://www.brainpop.com/science/ourfragileenvironment/humansandtheenvironment/)  http://www.brainpop.com/science/ourfragileenvironment/humansandtheenvironment/ |
| [The Clean Air Act reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=31ea49c4-6fd9-4ff7-b7cd-220c2aa5c2a8&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=31ea49c4-6fd9-4ff7-b7cd-220c2aa5c2a8&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb | Type of Pollution Gallery Walk ([Poster 1](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/type.pollution.poster1.docx), [Poster 2](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/type.pollution.poster2.docx) , [Poster 3](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/type.pollution.poster3.docx), [Poster 4](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/type.pollution.poster4.docx) and [Organizer](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/type.pollution.organizer.docx) attached) |  | [BrainPop Fossil Fuels](http://www.brainpop.com/technology/energytechnology/fossilfuels/)  http://www.brainpop.com/technology/energytechnology/fossilfuels/ |
| [To Blast or Not to Blast Reading Passage](http://player.discoveryeducation.com/index.cfm?guidAssetId=850e26b3-4e52-4c9a-804c-6e314951436f&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb)  http://player.discoveryeducation.com/index.cfm?guidAssetId=850e26b3-4e52-4c9a-804c-6e314951436f&productCode=DETB&guidConceptId=6f3c7ef9-8f9d-4d2b-ba72-310ad2771fd8&guidUnitId=c8af36a7-98a6-4e35-9b72-1183524b3cdb |  |  | [Air Pollution critical thinking worksheet](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/polllution.critical.thinking.pdf) (attached) |
| [Exploration: Pollution Solutions](http://player.discoveryeducation.com/index.cfm?guidAssetId=6431C826-15C8-43BC-94A7-35FA44118D2E&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=6431C826-15C8-43BC-94A7-35FA44118D2E&blnFromSearch=1&productcode=DETB |  |  | [Pollution reading](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/pollution.reading.docx) and [questions](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/pollution.questions.docx) (both attached) |
| [Interactive Video: Water, Pollution and Waste](http://player.discoveryeducation.com/index.cfm?guidAssetId=4D668D96-76C9-411B-B5A4-A85492397509&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=4D668D96-76C9-411B-B5A4-A85492397509&blnFromSearch=1&productcode=DETB |  |  | “[Can Turkey Guts be Tuned into Fuel?” Alternative energy reading and](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/Turkey.fuel.doc) questions (attached) |
| [Exploration: Our climate in the long run](http://player.discoveryeducation.com/index.cfm?guidAssetId=25B92779-E6E9-4E6F-BFD6-61F8188FDE40&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=25B92779-E6E9-4E6F-BFD6-61F8188FDE40&blnFromSearch=1&productcode=DETB |  |  | [Greenhouse Gases/Effect Packet](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/greenhouse.packet.doc) (attached) |
| [Exploration: Changing Climate Quickly](http://player.discoveryeducation.com/index.cfm?guidAssetId=1F67ADE6-6E33-4D88-8B04-1252B9AB3C99&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=1F67ADE6-6E33-4D88-8B04-1252B9AB3C99&blnFromSearch=1&productcode=DETB |  |  | [Greenhouse and Ozone worksheet](ES%20CURRICULUM%20GUIDE%20ATTACHED%20DOCUMENTS/greenhouse.ozone.docx) (attached) |
| [Exploration: Rev Your Engines](http://player.discoveryeducation.com/index.cfm?guidAssetId=0B7AADEF-CF81-4206-BB7E-AB8364BCECED&blnFromSearch=1&productcode=DETB) http://player.discoveryeducation.com/index.cfm?guidAssetId=0B7AADEF-CF81-4206-BB7E-AB8364BCECED&blnFromSearch=1&productcode=DETB |  |  |  |
| [Virtual Lab: Future Power](http://player.discoveryeducation.com/index.cfm?guidAssetId=B4ACC1A6-34AA-4638-92AF-F824D65409C7&blnFromSearch=1&productcode=DETB)  http://player.discoveryeducation.com/index.cfm?guidAssetId=B4ACC1A6-34AA-4638-92AF-F824D65409C7&blnFromSearch=1&productcode=DETB |  |  |  |