Environmental Issues in Latin America

How can there be a balance between development and damage to the environment?

Supporting Questions

1. What is the price of progress?
2. How does the past help solve problems of today?
3. What role does technology play if a balance can be created?
How can there be a balance between development and damage to the environment?

**Human Environmental Interaction:** The student will understand that humans, their society, and the environment affect each other.

**Location:** The student will understand that location affects a society’s economy, culture, and development.

**SS6G2 Explain the impact of environmental issues in Latin America.**

- Explain the causes and effects of air pollution in Mexico City, Mexico.
- Explain the environmental issue of destruction of the rain forest in Brazil.

**Reading**  
**Key Ideas and Details**

**L6-8RHSS1:** Cite specific textual evidence to support analysis of primary and secondary sources.

**Integration of Knowledge and Ideas**

**L6-8RHSS7:** Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.  
**L6-8RHSS9:** Analyze the relationship between a primary and secondary source on the same topic.

**Writing**  
**Text Types and Purposes**

**L6-8WHST1:** Write arguments focused on discipline-specific content.  
- Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.  
- Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.

**Social Studies Matrices – Information Processing Skills**

- identify issues and/or problems and alternative solutions
- identify main idea, detail, sequence of events, and cause and effect in a social studies context
- identify and use primary and secondary sources
- draw conclusions and make generalizations
Supporting Question 1
1. What is the price of progress?

Sample Instructional Activity
• “A Picture is Worth a Thousand Words” - Air Pollution in Mexico City
• It All Adds Up! – Modified Jigsaw Reading – Selective Highlighting – Rain forest Brazil

Featured Sources
• Documents 1-1, 1-2, 1-3, 1-4
• Documents 7-A, 7-B, 7-C

Supporting Question 2
2. How does the past help solve problems of today?

Sample Instructional Activity
• Paired Reading: Air Pollution in Mexico City
• Document Rotation – Destruction of the Amazon Rainforest

Featured Sources
• Documents 4 & 5
• Documents 8, 9, and 10

Supporting Question 3
3. What role does technology play if a balance can be created?

Sample Instructional Activity
• Video Clips – Air Pollution in Mexico City
• Placemat Response Activity – Video Clip – Rain forest Brazil

Featured Sources
• Documents 2 & 3
• Document 6

Essential Question:
How can there be a balance between development and damage to the environment?

Choose one of the following. You must use the environmental issue of air pollution in Mexico, City and destruction of the rainforest in Brazil. Use the evidence you collected during your investigation when creating your product.

1. Create a poster or infographic to convey your answer to the question.
2. Write an article to the editorial section of the newspaper explaining your position.
3. Develop a plan using new original ideas that might be used. Use the essential question to frame your work. (Think about the Carot car rental system and the use of technology.)
4. Create a political cartoon conveying your message.
5. Your own idea approved by teacher.

EXTENSION
Students can create their own solution to the problem.

Think locally...
• What progress is in your school/local community that is affecting the environment?
• Present this to the students:
  • Determine what the benefits are
  • How it would impact the environment
• Have them relate it back to the EQ.
  • Can there be a balance between development and damage to the environment?
  • Have students to discuss if the progress is worth the damage to the environment.
Mexico City, the capital of Mexico, has some of the worst air pollution of any major city on Earth. The issue stems from the city’s low elevation coupled with the energy and transportation requirements of its nearly 9 million residents.

Located on the site of the former Aztec capital of Tenochtitlán, Mexico City is one of the nation’s largest industrial regions. More than 50,000 industries operate in or around this area. A substantial number of Mexicans have emigrated to Mexico City as a result.

Between the factory and coal power plant emissions and vehicle exhaust, Mexico City’s air quality is extremely poor. Air quality flags are flown daily to designate the smog levels, particularly in the dry winter months.

In an effort to combat its air pollution, Mexico City limits the number of days its citizens are permitted to operate their personal motor vehicles. Mass transit systems, such as the city’s bus and train networks, are encouraged as an alternative means of transportation.

Brazil’s Amazon rainforest, with an area of over 2 million square miles, is the world’s largest intact forest. It is home to over 24 million Brazilians and contains 10% of the world’s known plant and animal species. Rainforests, like the Amazon, act as atmospheric scrubbers for the planet – taking in carbon dioxide and converting it back into breathable, clean air.

Unfortunately, the Amazon rainforest is being deforested at an alarming rate. The need for farmland and living space to support Brazil’s ever-expanding population (currently estimated at just over 200 million), as well as the demand for cheap lumber, has contributed to a loss of more than 20% of the nation’s rainforest. Although Brazil’s government has passed numerous laws restricting logging, little funding has been allocated to actually enforce those laws. NOTE: Information is taken from 6th grade notes: Georgia Standards of Excellence.
**NOTE to Teacher:** There are more documents here than is needed for students to complete the summative task. A variety of documents with supporting activities are included for **teachers to choose** which ones they will use with their students.

<table>
<thead>
<tr>
<th>Document #</th>
<th>Source Information</th>
</tr>
</thead>
</table>
| **Document 1** | **Photo Analysis** –  
*Pictures 1:* These two pictures show the causes of air pollution in Mexico City from industries and cars.  
- Industrialisation in Mexico- Image credit: UN Photo/F Botts  
*Picture 2:* A view of Mexico City during the ‘Phase 1 emergency’ declared two weeks ago as air pollution reached even more alarming levels than usual. (March 2016)  
Photograph: Ronaldo Schemidt/AFP/Getty Images  
- [https://www.theguardian.com/world/2016/mar/30/mexico-city-air-pollution-orders-cars-off-road-one-day-a-week](https://www.theguardian.com/world/2016/mar/30/mexico-city-air-pollution-orders-cars-off-road-one-day-a-week)  
*Pictures 3:* The purpose of these two pictures is to show the geographical reason for high levels of pollution in Mexico City. (Located in a bowl shaped crater)  
*Pictures 4:* These 2 pictures show the effect of air pollution on citizen’s health.  
| **Document 2** | **Video Clip:** This video shows the causes, effects, and ways the government is trying to help the people and government.  
Formula E: Mexico City Tackles Pollution with Blue-Sky Thinking  
By **Nicki Shields and Matthew Knight**, CNN  
Updated 1348 GMT (2148 HKT) March 28, 2016  
| **Document 3** | **Video Clip:** This video clip focuses mainly on ways the government is trying to help the issue of air pollution. Some causes and effects are addressed as well.  
Mexico City: Eco Solutions for Pollutions – Source CNN  
| **Document 4** | **Excerpts from article:** The excerpt from this article focuses mainly on the causes and effects. Some actions the government has taken is addressed.  
*Global warming is making Mexico City smog worse*  
*GlobalPost*  
June 01, 2015 · 4:15 AM UTC  
By **Ioan Grillo** |
| **Document 5** | **Article:** The article explains the no-drive days implemented by the government to help reduce air pollution  
*All vehicles subject to no-drive rule in CDMX*  
No exemptions for low-emission vehicles starting Tuesday  
Mexico News Daily | Thursday, March 31, 2016 |
| Document 6 | **Video:** This clip focuses on the how soy farmers are causing a rise in deforestation. It also explains what the government is doing to try to help combat the problem.  
*How Brazil is halting deforestation in the Amazon*  
[https://www.theguardian.com/environment/video/2012/nov/14/brazil-halting-deforestation-amazon-video](https://www.theguardian.com/environment/video/2012/nov/14/brazil-halting-deforestation-amazon-video) |
| --- | --- |
| Document 7 (Document 7-A, Document 7-B, Document 7-C) | **Article:** This article has been divided into 3 separate readings to jigsaw the reading of the information. Each reading has the same introductory information followed by a different cause for the destruction of the rainforest.  
*Amazon Destruction*  
[https://rainforests.mongabay.com/amazon/amazon_destruction.html](https://rainforests.mongabay.com/amazon/amazon_destruction.html) |
| Document 8 | **Excerpt from Article:** This excerpt from the article presents information about an increase in deforestation. The date of the article is February 16, 2017.  
*Deforestation in Brazil increased 30% in 12 months, agency says*  
By *Carolina Torres*  
Published February 16, 2017  
Fox News  
| Document 9 | **Graph** showing the sq km of deforestation for the years 1988 – 2015  
[https://photos.mongabay.com/06/braz_defor_88-05-lrg.jpg](https://photos.mongabay.com/06/braz_defor_88-05-lrg.jpg) |
| Document 10 | **Infographic:** This provides information about the Amazon Regional Protected Areas (ARPA) Program which is designed to increase areas under strict protection  
Document 1-1

Picture 1 - I think these photographs were taken because the photographers wanted to show . . .

Industrialisation in Mexico- Image credit: UN Photo/F Botts

Picture 2: If I lived here, I would...

A view of Mexico City during the ‘Phase 1 emergency’ declared two weeks ago as air pollution reached even more alarming levels than usual. (March 2016)

Photograph: Ronaldo Schemidt/AFP/Getty Images
Document 1-3

Picture 3 - Some common details I noticed in these pictures…


Picture 4 - I think these people…


https://www.theguardian.com/world/2016/mar/16/choked-mexico-city-bans-1m-cars-in-air-pollution-alert
Document 2

Formula E: Mexico City Tackles Pollution with Blue-Sky Thinking
By Nicki Shields and Matthew Knight, CNN
Updated 1348 GMT (2148 HKT) March 28, 2016


Text from Video

(CNN)It's a megacity with massive environmental issues.

Mexico City was famously labeled the most polluted city on the planet by the United Nations during the early 1990s but, more than two decades on, efforts to improve the air quality for its 20 million inhabitants are advancing.

In recent years, the capital has successfully implemented a range of measures to combat pollution which, according to a 2013 study by the Mexican Competitiveness Institute, likely causes around 1,700 deaths per year in the city.

A four-year Climate Action Program launched in 2008 mitigated six million tons of CO2e (carbon dioxide equivalent), and in 2014 a new six-year program to climate initiatives was launched to build on recent gains.
Mexico City's sources of pollution (source: C40 Cities Climate Leadership Group)

Mexico City's minister for environment, Tanya Muller Garcia, has been leading efforts to make the streets less congested, less polluted and more pedestrian friendly.

During this month's Formula E race in the Mexican capital, CNN Supercharged presenter Nicki Shields met up with Muller to discuss how the city is slowly cleaning up its act.

**Nicki Shields:** You have set an ambitious target of a 30% reduction in greenhouse gas emissions by 2020. How is that going?

**Tanya Muller Garcia:** We have advanced 38% towards our goals in the Climate Action Program mainly thanks to the introduction of our BRT (Bus Rapid Transport) system.

We have also increased our bike structure. With our public system we have approximately 30,000 trips a day with more than 200,000 users. We are also increasing our bike lane network because we know that if we have more safe bike lanes we will have more trips done by bike.

Something very interesting is that here in Mexico City more than 50% of the trips that we do on a daily basis are less than eight kilometers -- so this is where the bike becomes very efficient.

**NS:** We are walking around Chapultepec park. Why have you brought me here?

**TMG:** This is the largest urban park in Mexico and one of the largest in Latin America.

We are redesigning it. Our first action was mobility within the park -- to prioritize pedestrians, people who come to have leisure time, and taking away space for the cars.

That was a huge transformation we did in making pedestrian areas and having bike sidewalk infrastructure -- it's really putting pedestrians and public space at the top of the pyramid.

We've also implemented solar lighting, and the whole design is more environmentally sustainable -- the internal public transport (within the park) is 100% electric.

Using the park as a public space is really important in Mexico City, where you have such large social differences -- these are areas of real cohesion.

**NS:** Mexico City was notorious for being very dirty in the 1990s. How has it changed since then?

**TMG:** In the 1990s, we were considered the most polluted city worldwide and now I think we've improved enormously. That's because we have been monitoring our air quality -- we have more than 300 (air quality monitors) in the city that monitor in real time.

When you have hard data you are able to really develop public policies that allow you to attend the problem in a very responsible manner. So we still have a challenge with Ozone, like any large city, but we are working on that. I think we still have to be conscious about air quality and the pollutants.

**NS:** What is the focus now?

**TMG:** In Mexico City, the most pollutants come from private vehicles -- we have almost 6.6 million in the
metropolitan area. Our industry is fairly clean. But if you see the industries surrounding Mexico City -- I think there is still a very big opportunity there for these industries to be much cleaner.

We also have an opportunity with fine particles, so what we are doing is attending to public transport -- and that is what is going to improve our air quality but also have a very positive impact in our climate action program.

**NS:** *What are the main issues around pollution? Is it population or the location at high altitude?*

**TMG:** It's a series of things. Mexico City is in a valley and we are surrounded by mountains, so all the pollution that comes from the northern part of the city kind of stays -- it's difficult for it to disperse. But more than dispersing our pollutions we have limit them, because this has an impact on health, and health affects all of us. Air quality has a direct impact on our health and that's why we're so concerned.

We need to have very aggressive public policies here, but in neighboring states too, to reduce pollutants.

The public are very conscious about air quality -- for example we have an app which tells people in real time what the air quality is like in their area and has recommendations whether they should or should not do sports in open air. For us it has been very important to inform, because their actions have an impact on emissions and it's a problem for all of us.

**NS:** *And what about the electrification of vehicles in Mexico City?*

**TMG:** We have a program of electric taxis in the city. Also we want to promote the use of private electric vehicles.
Document 3

Video: Mexico City: Eco Solutions for Pollutions

[Video: Mexico City: Eco Solutions for Pollutions]

Mexico City: Eco solutions for pollution

From green walls and wind turbines to turning old bangers into clean electric vehicles, Mexico City is working hard to clean up its image and its air. Source: CNN

Excerpt from article

**Global warming is making Mexico City smog worse**


*GlobalPost  June 01, 2015 · 4:15 AM UTC*

By Ioan Grillo

MEXICO CITY, Mexico

**Poster child**

Back in 1992, the United Nations declared the Mexican capital the world’s most polluted city. Birds dropped dead in mid-flight, visibility was low, respiratory problems rampant.

However, a titanic effort reduced pollution drastically. Factories and a gas refinery were relocated, dirty old buses were replaced by an electric Metrobus system, leaded gas banned.

By 2010, when Mexico City hosted a UN climate change conference, it was hailed as a poster child for anti-pollution measures. Lead in the air had **dropped by 90 percent** over two decades, environmental authorities reported.

Yet despite the giant steps, pollution persists and is exacerbated by new problems, including the rising temperatures.

“The hottest times of the year are often when the pollution levels are most dangerous,” says Jose Agustin Garcia of Mexico’s Center for Atmosphere Science.

But Garcia cautions that other factors are also in the mix.

While cars have gotten cleaner they have also gotten more numerous. There are now 275 cars per 1,000 people in Mexico, according to the World Bank. In the Mexico City urban sprawl with 20 million residents, this would mean about 5.5 million automobiles.

Mexico’s geography is also problematic. It is in a valley, which can trap pollution, and is more than 7,000 feet above sea level, so the sun hits with dangerous rays.

Pollution also blows in from nearby cities like Toluca and Pachuca, where there are still many factories.

“Air is very democratic,” Garcia says. “The same air goes into rich and poor neighborhoods alike.”

**Clouds of death**

Clouds of dirty gases not only look horrible. They can also mean death.

A 2013 study by Mexico Competitiveness Institute found about **1,700 deaths in Mexico City** were likely related to pollution in one year. It also caused 4,200 hospitalizations and 234,000 doctor’s appointments. Together, this cost the economy about 1.3 billion pesos or $850 million.

“While Mexico has made some progress, it still has a long way to go on cleaning up its air,” author Fatima Masse says.

The city needs to improve public transportation much more and clamp down on diesel-spitting transport trucks, she adds.
All vehicles subject to no-drive rule in CDMX

No exemptions for low-emission vehicles starting Tuesday

Mexico News Daily | Thursday, March 31, 2016

All Mexico City vehicles will be subject to no-drive days once a week beginning next Tuesday regardless of their emission levels.

The new rules were announced yesterday by the Environmental Commission of the Megalopolis (Came) and come after a three-day pollution alert earlier this month. They will remain in effect until June 30.

Introduced in 1989 as a winter-only program, Hoy No Circula (No Circulation Today) has been in effect year-round in the capital since 1990. Vehicles that passed emissions tests, identified with “00” and “01” holographic stickers, were exempt and could hit the streets any day of the week.

Those that had to stay off the road one day a week were identified by the last two digits on the license plate.

The new restrictions cover Mexico City’s 16 boroughs and 18 neighboring State of México municipalities.

Beginning Tuesday, cars with license plates ending in 7 and 8 will remain parked. Those ending with 3 and 4 will do so on Wednesdays, those ending with 1 and 2 on Thursdays, 9 and 0 on Fridays and those with 5 and 6 on Mondays.

Vehicles will also be barred from the roads one Saturday a month on an alternating basis.

Came timed the exemption-free period to end when summer rains typically arrive, and the Valley of México’s air quality improves.

Came also decided, in coordination with the federal Environment Secretariat, to modify the pollution alert system, discarding what were called pre-contingencies. Now, a Phase 1 alert will be raised when air pollutants reach 150 points, and Phase 2 when the 200-point mark is reached.

Motorists are not the only ones affected by restrictions.

When a Phase 1 alert is declared, factories located in the valley are required to reduce their emissions by 30 to 40%. At Phase 2, industrial activity must be cut back 60%.

Air pollution dropped significantly during Holy Week as many capitalinos left the city. But yesterday afternoon the pollution index reached 108 points, officially described as “bad,” although it was about half the level recorded at the peak of the recent Phase 1 alert.
Brazil soon expects to overtake the US as the world's biggest soy producing nation. In the Amazon, soy farmers have rapidly expanded their land by using fire, bulldozers, saw mills and logging teams to clear the rainforest. But amid mounting concerns about global warming and biodiversity loss, Brazil's government is deploying more personnel and equipment to hold the line between the food and the forest.

https://www.theguardian.com/environment/video/2012/nov/14/brazil-halting-deforestation-amazon-video
Since 1978 over 750,000 square kilometers (289,000 square miles) of Amazon rainforest have been destroyed across Brazil, Peru, Colombia, Bolivia, Venezuela, Suriname, Guyana, and French Guiana. Why is Earth's largest rainforest being destroyed?

For most of human history, deforestation in the Amazon was primarily the product of subsistence farmers who cut down trees to produce crops for their families and local consumption. But in the later part of the 20th century, that began to change, with an increasing proportion of deforestation driven by industrial activities and large-scale agriculture. By the 2000s more than three-quarters of forest clearing in the Amazon was for cattle-ranching.

The result of this shift is forests in the Amazon were cleared faster than ever before in the late 1970s through the mid 2000s. Vast areas of rainforest were felled for cattle pasture and soy farms, drowned for dams, dug up for minerals, and bulldozed for towns and colonization projects. At the same time, the proliferation of roads opened previously inaccessible forests to settlement by poor farmers, illegal logging, and land speculators.

But that trend began to reverse in Brazil in 2004. Since then, annual forest loss in the country that contains nearly two-thirds of the Amazon's forest cover has declined by roughly eighty percent. The drop has been fueled by a number of factors, including increased law enforcement, satellite monitoring, pressure from environmentalists, private and public sector initiatives, new protected areas, and macroeconomic trends. Nonetheless the trend in Brazil is not mirrored in other Amazon countries, some of which have experienced rising deforestation since 2000.

Cattle ranching

Cattle ranching is the leading cause of deforestation in the Amazon rainforest. In Brazil, this has been the case since at least the 1970s: government figures attributed 38 percent of deforestation from 1966-1975 to large-scale cattle ranching. Today the figure in Brazil is closer to 70 percent. Most of the beef is destined for urban markets, whereas leather and other cattle products are primarily for export markets.

But production of beef, leather and other cattle products isn’t the only reason for converting rainforest into artificial grasslands. In a region where land prices are appreciating quickly, cattle ranching is used as a vehicle for land speculation, much of which is illegal. Forestland has little value—but cleared pastureland can be used to produce cattle or sold to large-scale farmers, including soy planters.

However the situation — at least in the Brazilian Amazon — may be starting to change. Since 2009 major cattle buyers and the Brazilian government — pushed by environmental campaigners — have cracked down on deforestation for cattle production. State-run banks are now mandating landowners register their properties for environmental compliance in order to gain access to low-interest loans. Meanwhile major slaughterhouses have pledged stricter controls on their cattle sourcing to ensure they aren’t driving deforestation or the use of slave labor on ranches.

Such trends have yet to emerge in Peru, Bolivia, and Colombia, where cattle ranching remains a major driver of Amazon forest loss.
Amazon Destruction

By Rhett Butler | Last updated 2017-Jan-26

Since 1978 over 750,000 square kilometers (289,000 square miles) of Amazon rainforest have been destroyed across Brazil, Peru, Colombia, Bolivia, Venezuela, Suriname, Guyana, and French Guiana. Why is Earth's largest rainforest being destroyed?

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Commercial agriculture

After the commercialization of a new variety of soybean developed by Brazilian scientists to flourish in rainforest climate, soy emerged as one of the most important contributors to deforestation in the Brazilian Amazon from the 1990s through the mid-2000s.

Soy was both a direct and indirect deforestation. While forest was converted directly for soy fields, the crop's impact on rainforests was much larger, providing an impetus for new highways, driving up land prices and thereby encouraging land speculation, and encouraging ranchers and small farmers to move deeper into rainforest areas.

But the situation in Brazil has changed significantly since 2006, when a high-profile campaign by Greenpeace forced Brazil's largest soy producers to commit to avoiding deforestation for new production. However, deforestation for soy is still widespread in Bolivia and Paraguay.

Meanwhile other forms of commercial agriculture, including rice, corn, and sugar cane, also contribute to deforestation in the Amazon, both directly through forest conversion and indirectly by driving up land values.
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Logging

In theory, logging in the Amazon is controlled by strict licensing which allows timber to be harvested only in designated areas, but in practice, illegal logging remains widespread in Brazil and Peru.

Logging in the Amazon is closely linked with road building. Studies by the Environmental Defense Fund show that areas that have been selectively logged are eight times more likely to be settled and cleared by shifting cultivators than untouched rainforests because of access granted by logging roads. Logging roads give colonists access to remote rainforest areas.

Other causes of forest loss in the Amazon

Historically, hydroelectric projects have flooded vast areas of Amazon rainforest. The Balbina dam flooded some 2,400 square kilometers (920 square miles) of rainforest when it was completed. Today dams drive deforestation by powering industrial mining and farming projects. Hundreds of dams are planned in the Amazon basin over the next 20 years.

Mining has had a substantial impact in the Amazon. High mineral and precious metal prices has spurred unprecedented invasions of rainforest lands across Brazil, Venezuela, Colombia, French Guiana, Suriname, Guyana, and Peru. A 2013 study found that the area torn up for small-scale gold mining increased 400 percent in 13 years.

Oil and gas development is fueling environmental concerns in the Western Amazon. Large blocks of rainforest have been granted for exploration and exploitation licenses in recent years.
EXCERPT FROM DEFORESTATION IN BRAZIL INCREASED 30% IN 12 MONTHS, AGENCY SAYS

RIO DE JANEIRO – In the 12-month period that ended last August, deforestation in Brazil increased in almost 30 percent. It is an all-time record that has set off a loud alarm among scientists, environmentalists and everyone who knows that the region is not only the so-called “lung of the planet” but also home to about 2.5 million species of insects, tens of thousands of plants and about 2,000 birds and mammals.

According to the latest report by the National Institute for Space Research (INPE), the Brazilian agency that monitors deforestation, between July 2015 and August 2016 roughly 3,100 square miles went up in smoke mostly to give way to farmland and further cement the country’s position as the world’s top exporter of meat products.

In addition, the allocation of funds for surveillance, monitoring and prevention has been dropping dramatically. In 2015 approximately $22 million were devoted to this end; in 2016 only $7 million were used for this purpose, according to the Environmental Ministry data.

To put an end to what some are calling an epidemic, in 2015 Greenpeace introduced a bill in Congress calling for a “zero deforestation policy.” It was filed along with 1.4 million signatures supporting the initiative. The bill is currently in the consultation phase, which means the population has until the end of 2017 to issue opinions and recommendations.

Environmentalists hope that the new law will reinstate some of the regulations that they say protected the land. Before 2012, any tree-cutting had to be justified and explained by a number of government agencies. Today, all that is required is a single permit issued by the Ministry of Agriculture in a matter of weeks.

Greenpeace has dubbed Agriculture Minister Blairo Maggi “the largest forest destroyer in Brazil.” According to Paulo Barreto, a researcher at the Instituto do Homem e Meio Ambiente da Amazônia (Imazon), the steady expansion of the country's farming borders is also being stimulated by an increase in cattle prices.

However, he said Brazil could still benefit from its oversized livestock – the largest in the world – without dilapidating the Amazon rain forest if “the government was vigilant, if it didn't change the rules. But when the [deforestation] threat increases and government weakens protection — that mix leads to this escalating situation,” he said.

Large infrastructure projects in the Amazon region, such as the new Belo Monte Hydroelectric Plant, in the state of Para, have worsened the problem by “leading to a disorderly urban growth of the site, pollution and even the flooding of various areas,” according to the Socio-Environmental Institute (ISA).

No wonder that in the INPE report released recently, Para is at the top of the list, with approximately 1,200 square miles (38 percent of the state) of deforested land in just 12 months.

Environmentalists say the magnitude of the threat demands a serious effort by the government and the world. “There is also a lack of ambition to combat the problem,” Mazetti [Cristiane Mazetti, a spokesperson for Greenpeace, ] said. “Last year, the government set a goal to end illegal deforestation by 2030. But if we [continue to] allow this practice, admittedly illegal, for another 15 years, how can we achieve this goal?” she said.
Document 9

https://photos.mongabay.com/06/braz_defor_88-05-lrg.jpg

Deforestation in the Brazilian Amazon, 1988-2015
The Amazon Regional Protected Areas (ARPA) Program is the single largest tropical forest conservation program in history. Since 2000, ARPA has helped to create a scattered group of protected areas spread across a 4 million-acre network of Amazon jewels covering more than 200,000 square miles.

NOTE: Working to increase areas under strict protection

Information taken from:
Sample Instructional Activities/Assessments

Documents 1-1, 1-2, 1-3, 1-4

“A Picture is Worth a Thousand Words” – Air Pollution in Mexico City

Focus Question: What is the price of progress?

Students work in groups of 4.

Part 1: (NOTE: For this activity you may want to adjust the number of pictures you use. For example, you may want to delete picture 2 since you have already shown a picture similar to this in your opening.)

1. Using your “A Picture is Worth a Thousand Words” response sheet, respond to the sentence starter for that picture.
   1. Be sure you include supporting information (evidence) from your picture to justify your response.
   2. Write one question that you have about this picture.

Part 2:

1. Pass your response sheet and picture to the person to your left.
2. Rotation 1: Examine the response sheet and what your group member wrote. Write a response or comment. This could be:
   • Answer or thought to their question
   • Another question
   • I agree because…
   • I think…
   • Have you thought about…?
3. After 2 minutes rotate the response sheet to the next group member.
   • Respond in the same way as before.
4. Return sheet to the person whom it belongs.
5. Review comments.

Summarizing:

1. As a group discuss and complete the “Cause, Effect, Actions” organizer.
   • (Each group member will complete an organizer.)
2. As a group discuss and answer the supporting question, “What is the price of progress?”.
   *Use your document evidence response sheet to record your response.

GSE Standards and Elements

SS6G2 Explain the impact of environmental issues in Latin America.

a. Explain the causes and effects of air pollution in Mexico City, Mexico.

Literacy Standards

Social Studies Matrices

Reading

Key Ideas and Details

L6-8RHS51: Cite specific textual evidence to support analysis of primary and secondary sources.
### Integration of Knowledge and Ideas

**L6-8RHS57:** Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

### Writing

**Text Types and Purposes**

**L6-8WHST1:** Write arguments focused on discipline-specific content.

- Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
- Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.

### Social Studies Matrices – Information Processing Skills

- Identify issues and/or problems and alternative solutions
- Identify main idea, detail, sequence of events, and cause and effect in a social studies context
- Identify and use primary and secondary sources
- Draw conclusions and make generalizations

### Enduring Understanding(s)

**Human Environmental Interaction:** The student will understand that humans, their society, and the environment affect each other.

**Location:** The student will understand that location affects a society’s economy, culture, and development.
### Appendix A

<table>
<thead>
<tr>
<th>Picture</th>
<th>Response to Question</th>
<th>Group Members Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>I think these photographs were taken because the photographers wanted to show...</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td>If I lived here, I would...</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td>Some common details I noticed in these pictures...</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>I think these people...</td>
<td></td>
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</tbody>
</table>
# Air Pollution in Mexico City

<table>
<thead>
<tr>
<th>Causes</th>
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<table>
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<th>Effects</th>
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<th>Actions</th>
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<tbody>
<tr>
<td>(List things that are being done to help solve the problem.)</td>
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<td></td>
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</tbody>
</table>
### Deforestation in the Amazon Rainforest

#### Causes

#### Effects

#### Actions

(List things that are being done to help solve the problem.)
**Document Evidence Response Sheet**

**Essential Question:**
*Can there be a balance between development and damage to the environment?*

As you analyze each document, provide evidence to answer the supporting question(s). When you are writing the evidence be sure you put the document number so you can refer back to it later in our lab. Remember your supporting questions will help you develop a response to the essential questions, “Can there be a balance between development and damage to the environment?”. If you need extra space continue on the back.

<table>
<thead>
<tr>
<th>Supporting ?’s</th>
<th>Evidence with Document Numbers</th>
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</thead>
<tbody>
<tr>
<td>1. What is the price of progress?</td>
<td></td>
</tr>
<tr>
<td>2. How does the past help solve problems of today?</td>
<td></td>
</tr>
<tr>
<td>3. What role does technology play if a balance can be created?</td>
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</table>
Sample Instructional Activities/Assessments

Documents 2 and 3

Video Clips – Air Pollution in Mexico City (*Teacher choice of clip to use.*)

Focus Question: What role does technology play if a balance can be created?

Have students watch *either video (teacher choice).*

Explain to students that they need to watch the video clip to look for the causes, effects and ways the government is trying to help the people and environment.

After viewing the video:

Choose one of the following to complete.

- List three adjectives to describe what you saw and provide evidence to justify your response.
  
  OR

- Create an image or picture that captures the feeling/essence of the video. *Provide evidence to support your response.*
  
  OR

- Create an emoji that would summarize what you saw.

*Provide evidence to support your response.*

Have each group member share their response. Be sure to include the evidence from the video to support your response.

Summarizing

1. As a group discuss and complete the Cause, Effect, Actions organizer.
   - (Each group member will complete an organizer.)
2. As a group discuss and answer the supporting question, “What role does technology play if a balance can be created?”.
   - Use your document evidence response sheet to record your response.

GSE Standards and Elements

SS6G2 Explain the impact of environmental issues in Latin America.

a. Explain the causes and effects of air pollution in Mexico City, Mexico.

Literacy Standards

Social Studies Matrices

Reading

Key Ideas and Details

L6-8RHSS1: Cite specific textual evidence to support analysis of primary and secondary sources.

Integration of Knowledge and Ideas

L6-8RHSS7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

L6-8RHSS9: Analyze the relationship between a primary and secondary source on the same topic.

Writing
| **Text Types and Purposes**  
L6-8WHST1: Write arguments focused on discipline-specific content.  
a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.  
b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.  

**Social Studies Matrices – Information Processing Skills**  
- identify issues and/or problems and alternative solutions  
- identify main idea, detail, sequence of events, and cause and effect in a social studies context  
6. identify and use primary and secondary sources  
11. draw conclusions and make generalizations

| **Enduring Understanding(s)**  
Human Environmental Interaction: The student will understand that humans, their society, and the environment affect each other.  
Location: The student will understand that location affects a society’s economy, culture, and development. |
Sample Instructional Activities/Assessments

### Paired Reading: Air Pollution in Mexico City

**Focus Question:** How does the past help solve problems of today?

In your group of 4 select a partner.

**Partnership 1** will read text selection A, *Global Warming is Making Mexico City Smog Worse.*

**Partnership 2** will read text selection B, *All Vehicles Subject to No-Drive Rule in CDMX.*

**Round 1 - THINKING WHILE READING**

Read the article to determine cause/effects/actions.

- You may annotate your article as you read — C for cause, E for effect and A for actions taken by government or individuals. If you have a highlighter you may highlight the causes one color, effects another color and actions another color.

**Round 2:** Each partnership will share their information with the group of 4.

**Summarizing:**

1. As a group discuss and complete the Cause, Effect, Actions organizer.
   - (Each group member will complete an organizer.)
2. As a group discuss and answer the supporting question, “How does the past help solve problems of today?”.
   - Use your document evidence response sheet to record your response.

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### Social Studies Matrices – Information Processing Skills

- identify issues and/or problems and alternative solutions
- identify main idea, detail, sequence of events, and *cause and effect* in a social studies context

6. identify and use primary and secondary sources
11. draw conclusions and make generalizations

### Enduring Understanding(s)

**Human Environmental Interaction:** The student will understand that humans, their society, and the environment affect each other.

**Location:** The student will understand that location affects a society’s economy, culture, and development.
## Placemat Response Activity – Video Clip – Destruction in the Amazon Rainforest

**Focus Question:** What role does technology play if a balance can be created?

**Groups of 3 – Assign group members a letter – A, B, C**

1. Have students view video clip.
2. After viewing the video clip, have students participate in the placemat response activity.

### Placemat Sheet (See Appendix B)

**Round 1**

- **2 minutes** – Respond to the question that matches your group member letter. When responding keep the key word technology in mind when responding. Remember your answer must relate to the supporting question in the middle.

**Round 2**

- **2 minutes** – Read what your group member wrote and write your thoughts.

**Round 3**

- **2 minutes** – Read what your group members wrote and write your thoughts.

**Round 4**

- **3 minutes** – Read what other group members said and discuss in your group

**Round 5**

- **5 - 7 minutes** – Add to your cause/effect/action organizer and answer the supporting question on the back.

### Summarizing:

3. As a group discuss and complete the Cause, Effect, Actions organizer.
   - (Each group member will complete an organizer.)
4. As a group discuss and answer the supporting question, “What role does technology play if a balance can be created?”
   - Use your document evidence response sheet to record your response.

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**Reading**

**Key Ideas and Details**

L6-8RHSS1: Cite specific textual evidence to support analysis of primary and secondary sources.

**Integration of Knowledge and Ideas**

L6-8RHSS7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

L6-8RHSS9: Analyze the relationship between a primary and secondary source on the same topic.

**Writing**

**Text Types and Purposes**
### 6th Grade Social Studies Lab

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**Social Studies Matrices – Information Processing Skills**

- identify issues and/or problems and alternative solutions
- identify main idea, detail, sequence of events, and cause and effect in a social studies context

6. identify and use primary and secondary sources
11. draw conclusions and make generalizations

### Enduring Understanding(s)

**Human Environmental Interaction**: The student will understand that humans, their society, and the environment affect each other.

**Location**: The student will understand that location affects a society’s economy, culture, and development.
Appendix B

What role does technology play if a balance can be created?

Group Member A
I learned...

Group Member B
If I were in charge...

Group Member C
A question I have...
Sample Instructional Activities/Assessments

**Documents 7A, 7B and 7C**

**It All Adds Up! – Modified Jigsaw Reading – Selective Highlighting**

**Focus Question:** What is the price of progress?

**Groups of 3 – Assign group members a letter – A, B, C**

• The purpose of this investigation is to determine some of the causes of the destruction of the Amazon Rainforest. You each will be reading a different cause and will share your findings with your group. *Note: The first section of your article is the same for each group member.*

1. Decide who will be group member A, B and C.
2. Get the reading that is for your group member letter. For example, if you are group member B, you will get the article labeled Group Member B.
3. Setting Purpose for Reading:
   a. • Using the selective highlighting strategy, read your selection.
      i. • Causes – Yellow
      ii. • Effects – Blue
      iii. • Actions – Pink

**Summarizing**

1. Each group member will share their findings from their reading and group members will complete the *Cause, Effect, Actions* organizer.
   • (Each group member will complete their own organizer.)
2. As a group discuss and answer the supporting question, “What is the price of progress?”
   • Record this on your document evidence response sheet.

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<tr>
<th>GSE Standards and Elements</th>
<th>SS6G2 Explain the impact of environmental issues in Latin America. b. Explain the environmental issue of destruction of the rain forest in Brazil.</th>
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|                           | L6-8RHSS1: Cite specific textual evidence to support analysis of primary and secondary sources.                                    |
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|                           | **Writing**
|                           | **Text Types and Purposes**
|                           | L6-8WHST1: Write arguments focused on *discipline-specific content.*                                                            |
### 6th Grade Social Studies Lab

| a. | Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. |
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**Social Studies Matrices – Information Processing Skills**
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| **Location:** The student will understand that location affects a society’s economy, culture, and development. |
Sample Instructional Activities/Assessments

Documents 8, 9 and 10

Document Rotation – Destruction of the Amazon Rainforest

Focus Question: How does the past help solve problems of today?

Groups of 2 to 3

Use these documents as stations that students will rotate to analyze each one. You can enlarge the documents and post on the wall or copy them and rotate among groups at their desks.

Directions at stations.

Document 8

1. Read the document to identify ways that once were used to help reduce destruction of the rainforest but are no longer used.
2. Highlight this information.

Document 9

• Analyze the graph, as a group discuss these statement starters:
  • I notice…
  • What I think is important is…
  • The overall trend…

Record responses on the blank page beside the graph.

Document 10

Circle any information that is positive represented on this infographic.

NOTE: Suggestion: Use the classroom within classroom organizational system: Classroom A, Classroom B, and Classroom C. Make 3 sets of the documents. One set for classroom A, one set for classroom B and one set for classroom C.

Assign groups to one “classroom” and they will rotate these documents within this classroom.

<table>
<thead>
<tr>
<th>Classroom A</th>
<th>Classroom B</th>
<th>Classroom C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document 8</td>
<td>Document 8</td>
<td>Document 8</td>
</tr>
<tr>
<td>Document 9</td>
<td>Document 9</td>
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On the second and third rotation, especially the third rotation, it might be necessary to

Summarizing

1. Each group member will share their findings from their reading and group members will complete the Cause, Effect, Actions organizer. (Each group member will complete their own organizer.)
2. As a group discuss and answer the supporting question, “How does the past help solve
problems of today?”
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## Summative Task

Now putting it all together for our Essential Question:

*How can there be a balance between development and damage to the environment?*

*Choose one of the following.* You must use the environmental issue of air pollution in Mexico, City and destruction of the rainforest in Brazil. Use the evidence you collected during your investigation when creating your product.

1. Create a poster to convey your answer to the question.
2. Write an article to the editorial section of the newspaper explaining your position.
3. Develop a plan using new original ideas that might be used. Use the essential question to frame your work. (Think about the Carot car rental system and the use of technology.)
4. Create a political cartoon conveying your message.
5. Your own idea approved by teacher.
## Taking Informed Action

Think locally...
- What progress is in your school/local community that is affecting the environment?
- Present this to the students:
  - Determine what the benefits are
  - How it would impact the environment
- Have them relate it back to the EQ.
  - *Can there be a balance between development and damage to the environment?*

Have students to discuss if the progress is worth the damage to the environment.