

Name: _____

Class: _____

Module 5: Sustainable Transportation
Lesson 1: Sustainable Transportation Technology
Sustainable Transportation Web-Quest Worksheet
Grade 9 - 12

Activity 1:

Area 1: Questions about Sustainability Video

1. What are the 3 pillars of sustainability?
2. What is one example of the environmental sustainability?
3. What is one example of the economic sustainability?
4. What is one example of social sustainability?
5. Why do you think using gas powered cars and trucks as our main mode of transportation is not considered sustainable?

Area 2: Questions about Fossil Fuels Video

1. What are some types of fossil fuels?
2. When were fossil fuels formed?
3. Are fossil fuels renewable?
4. Since the 1800's how has fossil fuel use changed?

Area 3: Questions about Carbon Footprint Video

1. What does the term carbon foot print mean?
2. How do cars contribute to carbon footprints?
3. Do you think you have a large or small carbon footprint?
4. If you took the carbon footprint quiz, what is your total greenhouse gas emissions?

Topic 4: Questions about Traffic Congestion Article

1. What are the 5 effects of traffic congestion mentioned in the article?
2. Think of a way that traffic congestion affects environmental sustainability?
3. Think of a way that traffic congestion affects economic sustainability?
4. Think of a way that traffic congestion affects social sustainability?

Activity 1, Part B:

After viewing the videos on the Weebly Web Quest, discuss or describe how the following technologies reduce:

- traffic congestion
- vehicle emissions
- fuel consumption

Tollbooth EZ-Pass (<https://www.youtube.com/watch?v=WqTyPztVjbs>)

EZ-Pass Flex Transponders (<https://www.youtube.com/watch?v=YBdnj-wMxbM>)

Congestion Pricing (<https://vimeo.com/20735277>)

Ramp Metering Systems (<https://www.youtube.com/watch?v=QDMYODIgLcs>) and
(https://www.youtube.com/watch?v=9QwPfe-_T7s)

Adaptive Signal Control (<https://www.youtube.com/watch?v=04HIKOJ5CNw>)

Multi-Modal Transportation (<https://www.youtube.com/watch?v=ARzxakIOxdU>)