

How Green is My School Scorecard Project

Key Problem: Based on the descriptions for each school design, your task is to create a sustainability scorecard that would help students, teachers, and school administrators evaluate and improve sustainability for their school. Make sure that you use these guiding questions when designing your card.

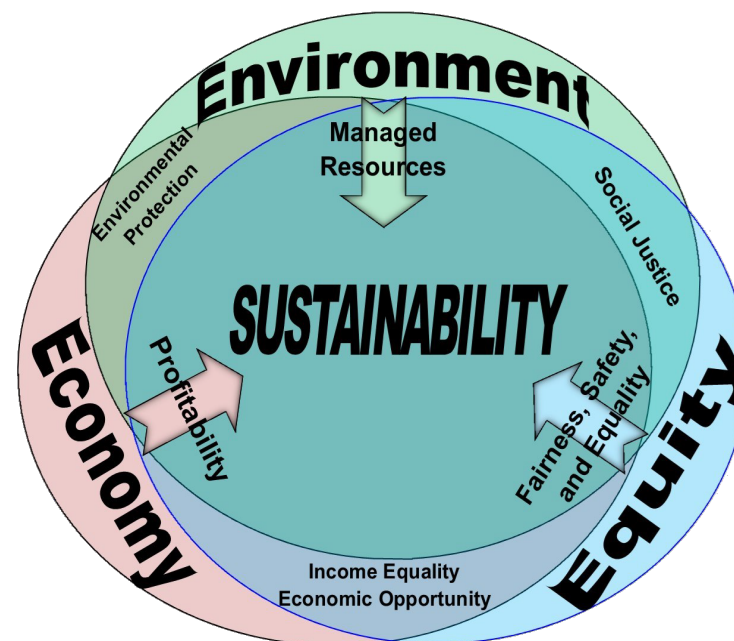
Guiding Questions:

1. What actions need to be taken to move the school to the center of the diagram?
2. What is being done to reduce the environmental impact?
3. What steps are being taken to build social responsibility?
4. What economic factors are influencing sustainability?

Creative Considerations for Taking Action:

How could you promote or share your scorecard?

- Create a Public Service Announcement (PSA).
- Design an infographic
- Develop an online resource, website, or survey.
- Write a letter to the school board explaining steps to take that make the school more sustainable.



Adapted From: Pajak, A. F. (2022). Historical Identity and Sustainability as Tools for Historical Inquiry. In *Handbook of Research on Adapting Remote Learning Practices for Early Childhood and Elementary School Classrooms* (pp. 276-300). IGI Global.

Online Resources:

- My EPA (Environmental Protection Agency) Student Page: <https://www.epa.gov/students>
- Sustainable Schools Project: <http://sustainableschoolsproject.org/>
- ASU Sustainability Program: <https://schoolofsustainability.asu.edu/about/defining-%20sustainability/>

How Green is My School?

Welcome to Rosalind Franklin High School

Construction of the school was completed just last year. Designed with energy efficiency and collaborative learning spaces, the school provides inner-city students with new opportunities in education.

The campus was built with automatic LED lighting and low flow toilets to conserve resources. Classrooms have flexible seating modeled after technology companies.

Students work on projects across subject lines. Recently, students addressed issues of homelessness in their area. The project culminated in a presentation to the City Council entitled, “Solutions Beyond the Soup Kitchen.”

Students also created a community garden using a nearby area. They conducted a social media funding campaign to gain financial aid for a water wise irrigation system, construction materials, community announcements, and gardening equipment. Both traditional and vertical gardens were designed and built. Students led educational programs to introduce the community to the gardening project at an opening event.



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How Green is My School?

Welcome to Old En School

Old En School was built nearly 100 years ago. It was a state-of-the-art high school at the time. Due to a local historical preservation movement, the school received a grant in 2018 to begin renovations.

The windows were first to be updated and replaced with energy efficient nitrogen filled dual pane glass. Unfortunately, due to COVID restrictions, the work stopped but resumed in late 2021.

In order to accommodate the new technology needed in classrooms, the wiring and fuse boxes are in the process of being upgraded. Water and heating systems, which were replaced in the 1950s, will be upgraded within the next two years. Solar panels will be added as parking lot coverings next summer. Renovations are on track to be completed in time for the 100th anniversary of the school.

As part of the grant, the school is required to add sustainability education to the curriculum. Students are being asked to contribute ideas for new classes based on ecology, economics, and social equality-the 3 Es of sustainability. The art and science classes are designing a series of community educational displays on energy efficient appliances, recycling, and community connections to be displayed at bus stops, parks, and libraries.



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How Green is My School?

Welcome to PS 1961

Public School 1961 was built in an era when energy was inexpensive. The population served by PS 1961 was affluent at the time it was built, but now is considered an inner-city school with a lower socioeconomic population. The parents and students complain about broken equipment. On cold days, the heaters may not even work. Leaky windows and poorly sealed doors create drafts and allow for rodents to enter the building. Restrooms are in disrepair. Toilets leak and faucets drip. Brown water flows from drinking fountains.

In 2007, the City Council approved a budget to replace the school building with a new energy efficient structure. With the Great Recession of 2008, tax income fell, and the project was set aside as money was directed elsewhere. There is a great deal of tension within the community between those affected by PS 1961 and the communities with well-maintained and updated schools.

The teachers care about the welfare of the students and their families. Students and staff staged a walkout protesting the learning conditions. Local media reported on the event forcing city officials to consider new options for the school.



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How Green is My Home Scorecard Project

Key Problem: Based on the descriptions for each house design, your task is to create a sustainability scorecard that would help families evaluate and improve sustainability for their homes. Make sure that you use these guiding questions when designing your card.

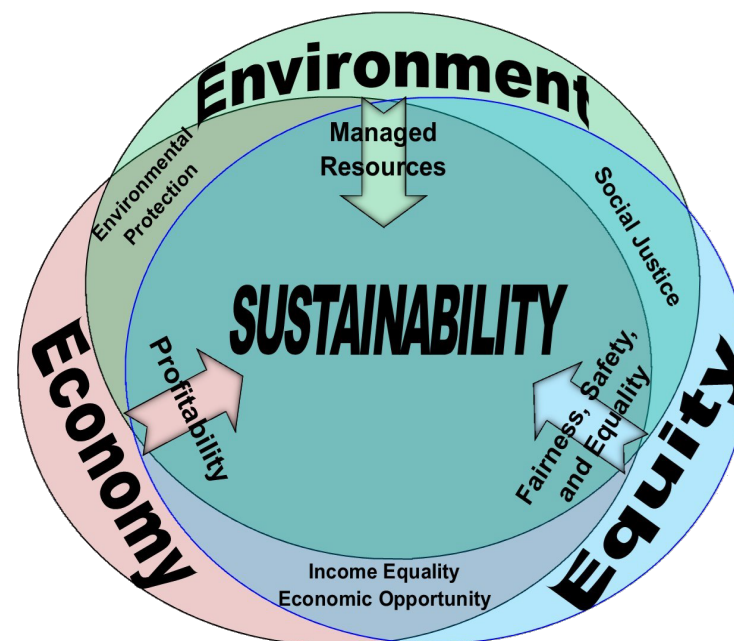
Guiding Questions:

5. What actions need to be taken to move the home to the center of the diagram?
6. What is being done to reduce the environmental impact?
7. What steps are being taken to build social responsibility?
8. What economic factors are influencing sustainability?

Creative Considerations for Taking Action:

How could you promote or share your scorecard?

- Create a Public Service Announcement (PSA).
- Design an infographic
- Develop an online resource, website, or survey.
- Write a letter to a public utility company asking how they could assist in making the home more sustainable.



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How Green is My Home?

The Hillside House

The Hillside House, built in 2015, was designed with sustainability in mind. Adobe walls and thatch roof provide for thermal efficiency and are locally sourced. A water reclamation system has been installed to collect gray water from the washing machine to be used in toilets. An aerobic septic system reduces waste and cleans the water that is used for irrigation.

The south wall contains pipes that use convection producing efficient heat exchange and cool the house in the summer. Reclaimed cement blocks and other construction materials provide walkways and retaining walls. Recycled glass skylights provide diffused natural lighting. Based on a life cycle analysis, the structure is completely recyclable. With little maintenance, the house should stand for 60 years. After this time, it could simply be returned to the ground.



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This is a model home, which has no residents, was designed to promote sustainable possibilities. Many people feel this structure is impractical, and that it could lead to gentrification.

How Green is My Home?

The Forest Home



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Built with views in mind, this former vacation house was never designed with long term use in mind. Although summer temperatures are mild, winter has heavy snows and temperatures below freezing. The bare walls of the frame structure and thin single pane windows provide little insulation from the extremes. An inefficient electric heater and wood stove produce heat. However, the heat collects in the peak of the A-frame leaving the lower floors cold. To keep the water pipes from freezing, the valves must be allowed to drip in the evenings when temperatures approach freezing.

The house was recently purchased by a family to use as their full-time home. They are in the process of upgrading the structure to improve efficiency. Their greatest expense comes from the utilities in the winter. The parents are socially conscious and leaders in the local community. They organize community clean-ups and work monthly in a local food bank.

How Green is My Home?

The Founder's Home

This historical home once served as the residence of the city founder. Built in 1882, the home was the first in the city to be equipped as with electric lights in 1894. On hot summer nights, a passive heat exchange system cooled the house. In the winter, windows on the south and west sides warmed the house.

In the 1950's, the house was divided into three apartments. At this time, electric heaters were installed, and walls were added that eliminated the passive heat exchange. Airconditioning was also added, and several of the windows were removed, and the openings were sealed. Asbestos shingles replaced the wood siding. By 1974, the foundation was cracked, and several walls, added to divide the house, contained mold.

In 1983, the house was purchased by a family concerned that the house had deteriorated to the point that it could be lost. Historical renovation began. An architect recognized the passive heat exchange system as an early type of Trombe wall. Today the house has dual pane windows and restored passive heat exchange. It is an historical building but also a model of energy efficient architecture.



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How Green is My City Scorecard Project

Key Problem: Based on the descriptions for each house design, your task is to create a sustainability scorecard that would help city planners evaluate and improve sustainability for their city. Make sure that you use these guiding questions when designing your card.

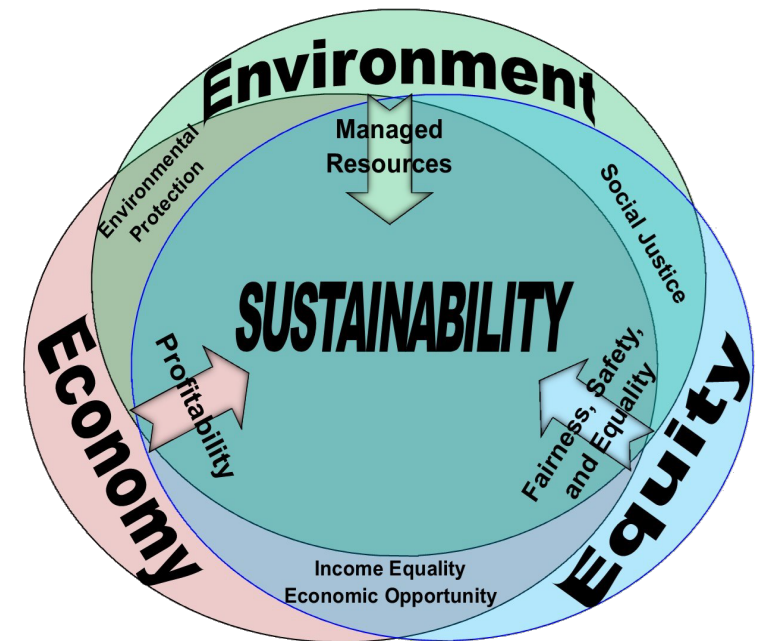
Guiding Questions:

9. What actions need to be taken to move the city to the center of the diagram?
10. What is being done to reduce the environmental impact?
11. What steps are being taken to build social responsibility?
12. What economic factors are influencing sustainability?

Creative Considerations for Taking Action:

How could you promote or share your scorecard?

- Create a Public Service Announcement (PSA).
- Design an infographic
- Develop an online resource, website, or survey.
- Write a letter to the city explaining how the city could be more sustainable.



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How Green is My City?

Welcome to Arborcity

Arborcity went through a period of social turmoil in the 1970s. This ultimately led to greater awareness of inequality and culminated in changing of the name from Snagtown to Arborcity.

Snagtown was known for polluted rivers and segregation. Schools and community buildings in some parts of the city were badly in need of repair. The residents were neglected and ignored because of their lower economic status and or racial intolerance. In the 1980s, a social and environmental movement resulted from mass protests leading to the reconstruction of the schools. Cleanup of the rivers began, and wetlands and riparian areas were restored. Through a “rails to trails” program, green belts were established throughout the city. Now, wildlife is returning to the parks, and people work together to improve the city. This rejuvenation spurred entrepreneurialism and new business growth. As trees replaced brown spaces, the public renamed Snagtown to Arborcity.



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Although these successes produced a city renewal, many steps need to be taken to improve sustainability. The landfill is near capacity. Yet, little effort is being made to recycle. Empty and neglected factory buildings stand as reminders of lost jobs. Social improvements, while promoting new growth, lead to a growing trend of gentrification displacing communities of lower socio-economic status. There is still work to be done.

How Green is My City?

Welcome to Anycity

Anycity is a product of development that outpaced infrastructure. City planning gave little regard for the natural environment leading to a loss of greenspace and crowded tract housing. Anycity is considered to be one of the least livable communities in the country.

The city planners struggle over the next steps to take to improve living conditions. A curbside recycling program was deemed too expensive since the public, even after an extensive information campaign, continued to mix trash.

Water is frequently contaminated by the aging sewer system. High pressure weather systems dominate the valley, trapping heat and lowering air quality. A local coal burning power plant, long commutes, congestion, and an aging oil refinery contribute to high pollution advisories and unhealthy air conditions especially in the summer months. The population self-segregates on the basis of culture, class, and race. Additionally, freeways, built through neighborhoods, affirm these barriers.

Some steps have been taken. New carbon scrubbers have been installed on the power plant. Public transportation was recently upgraded to include alternative fuel vehicles. An electric light-rail system has been approved and funded by the City Council. There is discussion of closing the refinery; however, this led to concerns over the loss of high paying jobs. A section of town with the remains of an old factory was recently converted to a public park and wetland. In general, the public needs to become more involved before major improvements can take place.



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How Green is My City?

Welcome to Diverse City

Diverse City, named for founder and humanitarian Wildomar Diverse, is a city that lives up to its name. Parks and natural areas favor a healthy lifestyle and reduce stress. Flat walls have become vertical parks designed by green space architect, Patrick Blanc, who designed these gardens to be living walls of art.

Filtered greywater, recirculates through the greenery and cools the building. A city block is both heated and cooled by a system of water pipes below the streets, which also keep the streets ice free in winter. Energy efficient LEDs light the structures and streets. Renewable energy is supplied from wind, solar, and tidal sources. A biofuel power plant is under construction and is expected to go online by the end of next year. This clean energy power plant relies on organic waste to produce electricity and is projected to reduce landfill reliance to near zero.

The greening of the city inspired public gardens in formerly neglected areas creating new social spaces. New technology companies, attracted to the area by the lifestyle, provide new jobs and a boost the economy. This influx of new industry provided a boost to small startup companies and a low rate of unemployment.

The population celebrates diversity--reflected in the mixture of ethnicities and lifestyles found throughout the neighborhoods. The target of zero materials added to landfills is within reach. The local community college, thanks to an endowment by the Wildomar Fund, provides free education propelling Diverse City to become one of the most educated cities in the country. There is no sign that this continued renewal will slow down.



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Name(s) _____

Score Generator

Use this chart to rank the sustainability of each of your place-based stories. Read one story. Then go back and

1. Circle positive examples (growing plants, education programs, community work, etc.)
2. Underline negative examples (drafty doorways, poverty, gentrification, pollution, etc.)
3. Color code the examples into the sustainability 3Es. (red for economic, blue for social, and green for environment)
4. Count the number of positive and negative examples for each category.
5. To calculate the score for each category, subtract the number of negative examples from the number of positive examples.
6. Plot the number on the scale below.

Story One: Name of Place _____

Economic (red)



Empathy / Social (blue)



Environment (green)



Story Two: Name of Place _____

Economic (red)



Empathy / Social (blue)



Environment (green)



Story Three: Name of Place _____

Economic (red)



Empathy / Social (blue)



Environment (green)



7. Each place has unique circumstances and character. What examples (like drafty doorways or community work) from above would you “weight” for more points? For example, you might consider a drafty doorway 1 negative point but community work might be 5 positive points.
8. What would the scale look like that could compare all 3?
9. What is your plan for “taking action?”

Word Bank

Environmental Protection

Social/Environmental Justice

Fairness, Safety, Equality

Sustainability

Managed Resources

Profitability

Economy

Equity

Environment

Income Equality and Opportunity

Answers (use the word bank)

1.

2.

3.

4.

5.

6.

7.

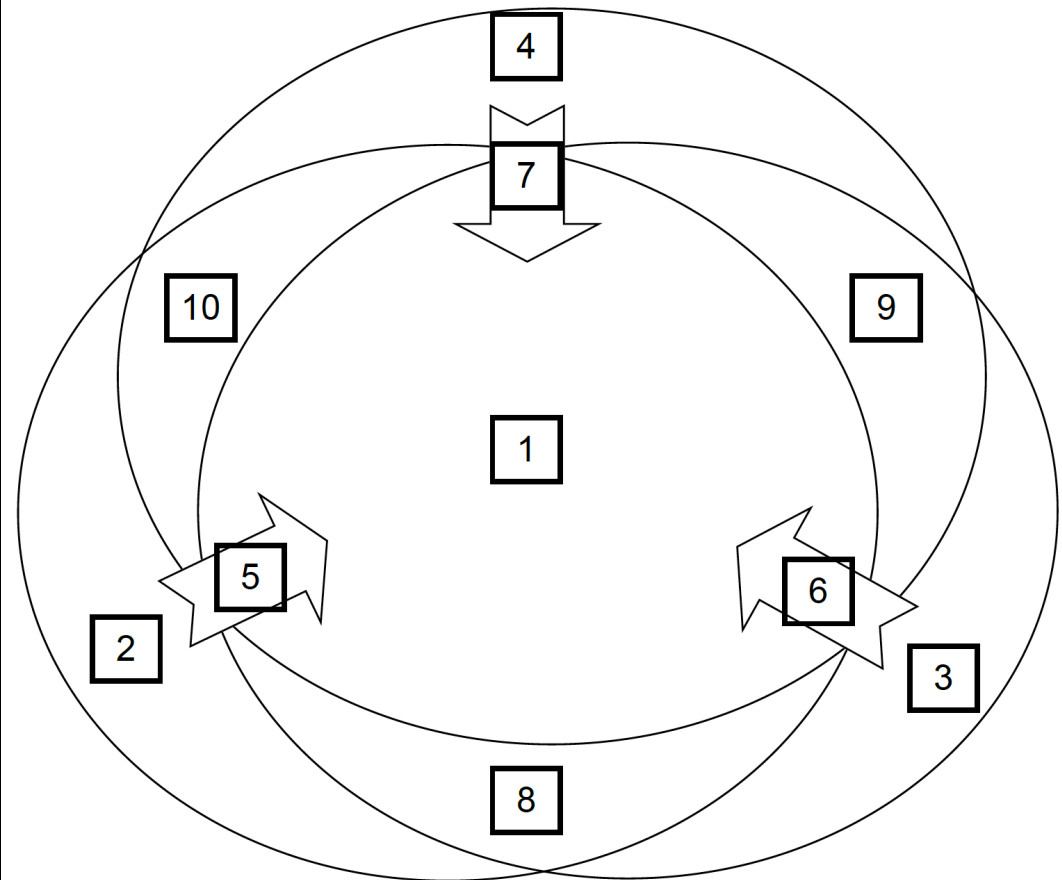
8.

9. Social/Environmental Justice

10. Environmental Protection

Green Venn Diagram Assessment

Name: _____



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Green Venn Diagram **Answer Key**

Answers (use the word bank)

1. **Sustainability**
2. **Economy**
3. **Equity**
4. **Environment**
5. **Profitability**
6. **Fairness, Safety, Equality**
7. **Managed Resources**
8. **Income Equality and Opportunity**
9. Social / Environmental Justice
10. Environmental Protection

Scoring Guide for Promoting or Sharing the Scorecards

Name(s)_____

Requirements	Points Possible	Points Earned
Gave 3 ways to reduce the environmental impact.	15	
Gave 3 ways to build social responsibility.	15	
Gave 3 factors that influenced sustainability.	15	
Product is attractive.	15	
Product is informative.	15	
Group worked well together.	25	
Total	100	
Comments:		