

# ENVIRONMENTAL SUSTAINABILITY

PT. 1 / MATH



Levi's® Stadium is the first NFL stadium to open as LEED (Leadership in Energy and Environmental Design) Gold Certified. Its use of **solar energy** helps our environment by decreasing the use of fossil fuels that pollute the earth. We can use math and science to learn more about how solar energy works, and how it can help reduce our environmental impact.

## MATH

**ACTIVITY** In 1 year, our panels produce about 375,000 kWh (Kilowatt Hours). This is about as much energy as we use for all 10 of our home games. See if you can answer these energy questions:

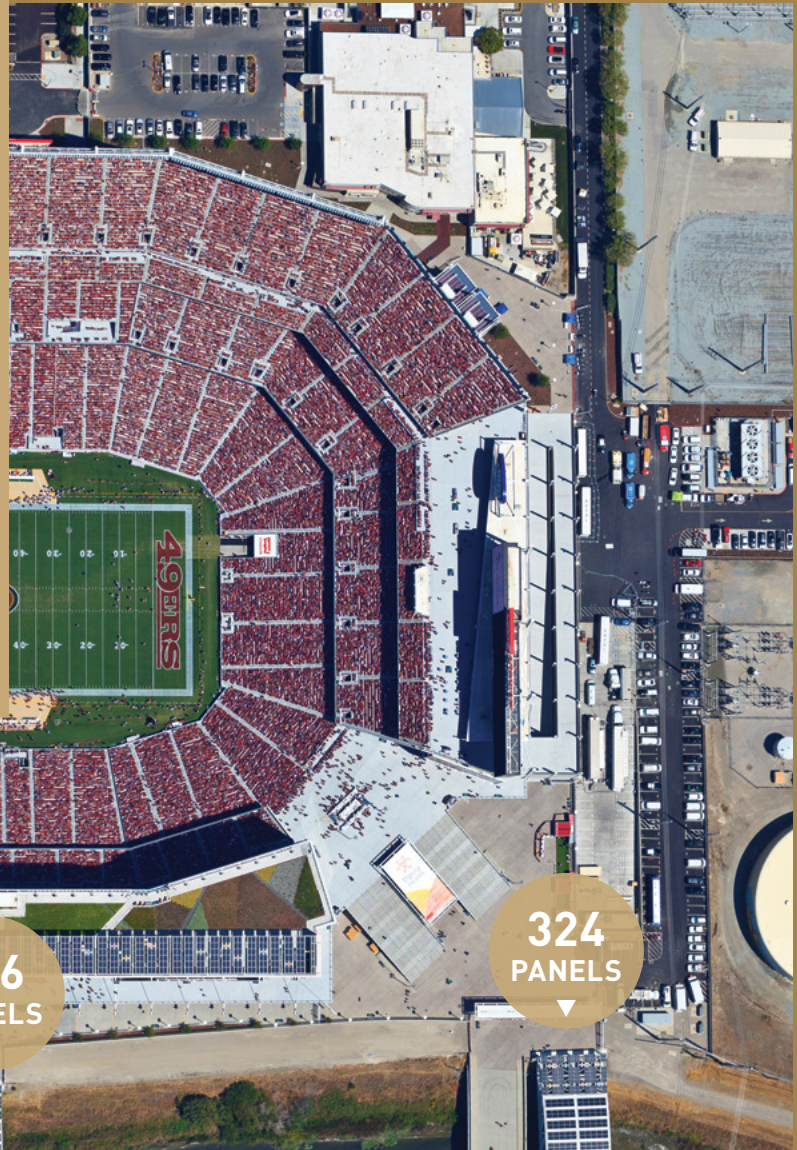
- How much energy does it take to run Levi's Stadium for one 49ers game?
 

☐ 37.5 KWH
 ☐ 375 KWH
 ☐ 37,500 KWH
 ☐ 375,000 KWH
- How many games do the 49ers have to play to reach 1,000,000 kWh?
 

☐ 3
 ☐ 14
 ☐ 27
 ☐ 49
- How many kWh are used per minute, if the 37,500 kWh is based on a 4-hour game?
 

☐ 149.49
 ☐ 156.25
 ☐ 194.6
 ☐ 199.4

## SCIENCE





# ENVIRONMENTAL SUSTAINABILITY

## PT. 2 / SCIENCE

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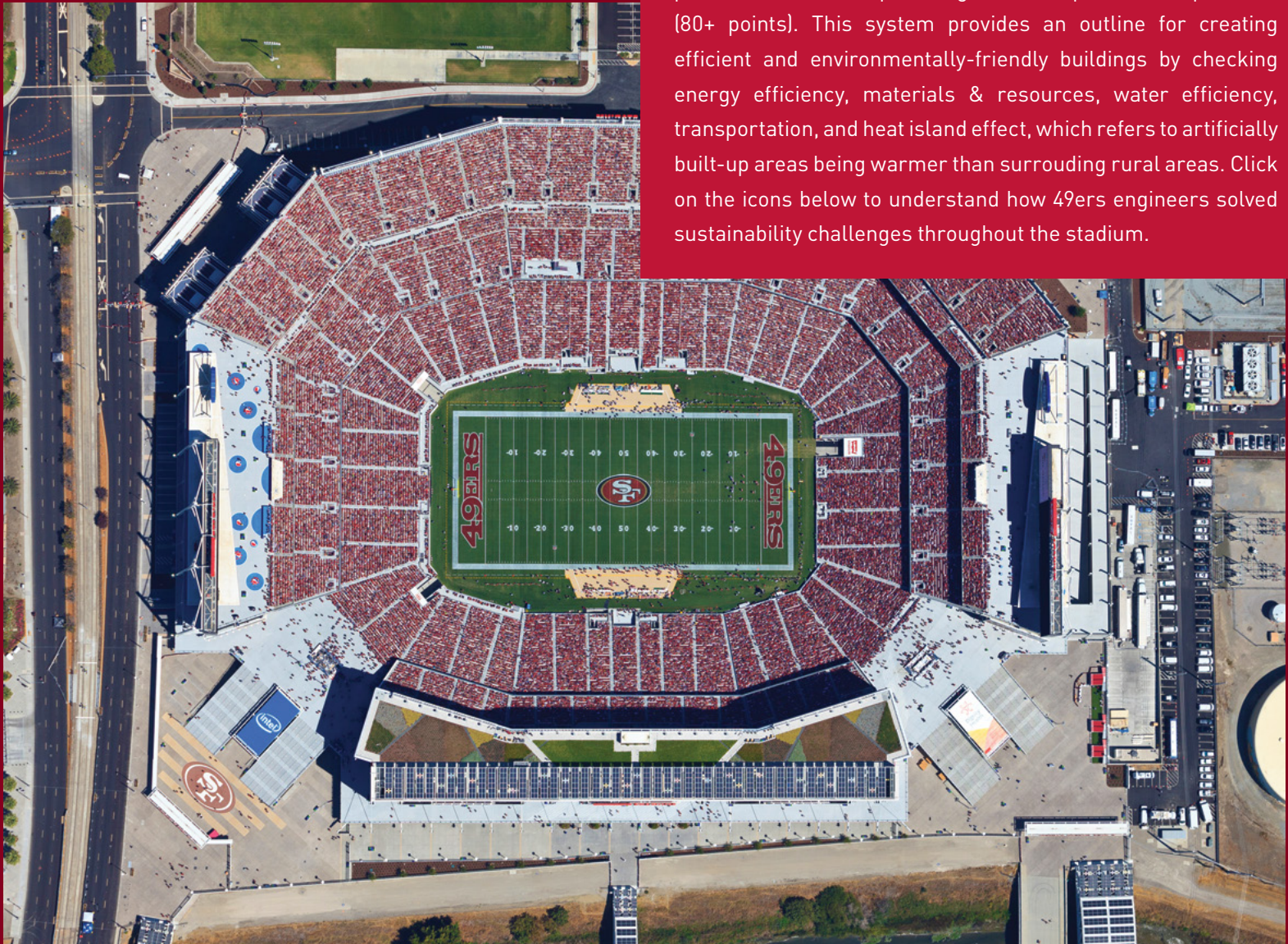


### MATH

### SCIENCE

## LEED GOLD CERTIFICATION

Leadership in Energy and Environmental Design is a sustainable rating system. Ratings include certified (40-49 points), silver (50-59 points), gold (60-79 points), and platinum (80+ points). This system provides an outline for creating efficient and environmentally-friendly buildings by checking energy efficiency, materials & resources, water efficiency, transportation, and heat island effect, which refers to artificially built-up areas being warmer than surrounding rural areas. Click on the icons below to understand how 49ers engineers solved sustainability challenges throughout the stadium.



# ENVIRONMENTAL SUSTAINABILITY

## PT. 3 / SCIENCE

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MATH

## LEED GOLD CERTIFICATION

SCIENCE



## SCIENCE ACTIVITY

The United States Green Building Council has criteria for residential buildings. Using their criteria, we've made a checklist you can fill out to see how many of the practices you are currently following in your building. They may also give you ideas for what you can improve on to help support the sustainability of our environment.

- ☐ Home is located near public transportation for use instead of driving
- ☐ Family chooses alternative transportation such as walking, biking, or public transportation
- ☐ Home is insulated with energy efficient insulation
- ☐ Trees are planted strategically to provide shade for home
- ☐ Materials used for construction are natural, and do not contain harmful chemicals
- ☐ Home has been outfitted with low power usage appliances
- ☐ Windows provide sufficient daytime lighting
- ☐ Home uses energy efficient lighting
- ☐ Home has been outfitted with low water usage appliances
- ☐ Efficient irrigation to reduce need for watering
- ☐ Rainwater collection barrels to use when fresh water is not needed
- ☐ Use of renewable resources such as solar power to heat water and generate electricity
- ☐ Sorts waste in Landfill, Recycle, and Compost consistently
- ☐ Reduce disposable use - consider purchasing reusable items when available
- ☐ Consider a garden, whether private or community, to grow herbs, fruits, and vegetables

