

Mary Idema Pew Green Building (LEED) VIRTUAL Scavenger Hunt – Self Assessment

Instructions: Welcome to the Mary Idema Pew Green Building (LEED) VIRTUAL Scavenger Hunt. On the website, you will find fourteen videos that describe and explain the green attributes of GVSU's platinum LEED certified library. Use the questions below to assess your understanding of the green building attributes and LEED certification!

Green Building (LEED) Attribute 01: Introduction

1. What does LEED stand for?
 - ☐ A. Leadership in Environmental and Ethical Design
 - ☐ B. Leadership in Energy and Environmental Design
 - ☐ C. Low Energy Emissions Development
 - ☐ D. Leading Energy and Ecological Development
2. How many levels of LEED certification are there?
 - ☐ A. Five: Copper, Bronze, Silver, Gold, and Platinum
 - ☐ B. Four: Silver, Gold, Diamond, and Platinum
 - ☐ C. Four: Bronze, Silver, Gold, and Platinum
 - ☐ D. Five: Bronze, Silver, Gold, Platinum, and Titanium

Green Building (LEED) Attribute 02: Green Spaces

3. Which of the following are sustainability functions of green spaces (*choose three*)?
 - ☐ A. Capture of stormwater runoff
 - ☐ B. Reduction in air pollution
 - ☐ C. Reduction in humidity
 - ☐ D. Decrease in roof temperature
 - ☐ E. Carbon dioxide absorption
4. Which of the following are the physical and/or mental health benefits of green spaces (*choose three*)?
 - ☐ A. Green spaces decrease cognitive function
 - ☐ B. Green spaces promote creativity and socialization
 - ☐ C. Green spaces reduce the likelihood of obesity and heart disease
 - ☐ D. Green spaces disrupt sleep patterns
 - ☐ E. Green spaces reduce stress and depression

Green Building (LEED) Attribute 03: Access to Public Transportation

5. What is the total contribution of transportation to global greenhouse gas emissions?
 - ☐ A. 28%
 - ☐ B. 32%
 - ☐ C. 19%
 - ☐ D. 53%
6. Compared to driving alone, how much does the use of public transportation reduce carbon dioxide emissions?
 - ☐ A. 45%
 - ☐ B. 35%
 - ☐ C. 25%
 - ☐ D. 50%
7. Which of the following are co-benefits of public transportation beyond LEED certification (*choose three*)?
 - ☐ A. Decreased physical activity
 - ☐ B. Reduced social interaction
 - ☐ C. Reduced traffic congestion
 - ☐ D. Improved air quality
 - ☐ E. Equity in access to transportation

Green Building (LEED) [Attribute 04: Double Door Airlock](#)

8. Which of the following are sustainability features of a double door airlock?
- ☐ A. Continuous airflow, increased humidity, and reduction of contaminants
 - ☐ B. Temperature regulation, protection of indoor air quality, and increased energy efficiency
 - ☐ C. Reduction in noise pollution, aesthetics, and decreased water use
 - ☐ D. Reduction in insulation, increase in natural daylight, and reduction of carbon dioxide

Green Building (LEED) [Attribute 05: Mechanical Systems](#)

9. Which of the following mechanical systems are regulated by sensors and automated systems.
- ☐ A. Electrical, ventilation, temperature, and air
 - ☐ B. Water, energy, temperature, and heat
 - ☐ C. Ventilation, book retrieval, doors, and electrical
 - ☐ D. Air, water, doors, and temperature
10. Which of the following are sustainability functions provided by the library's automated mechanical systems (*choose three*)?
- ☐ A. Alarms trigger if air quality flows below a target setpoint
 - ☐ B. Airflow automatically increases and decreases based on the presence of library users
 - ☐ C. Lighting is adjusted based on the presence of library users
 - ☐ D. Excess energy and heat are released to the outside
 - ☐ E. Doors automatically open to adjust indoor temperature

Green Building (LEED) [Attribute 06: Open Layout and Furniture Selection](#)

11. What are the sustainability functions of the library's open layout and diverse furniture selection?
- ☐ A. Energy efficiency and air flow are increased by reducing the amount of books
 - ☐ B. Ensuring that the library is a comfortable and functional space for students means that the building will be used for many years to come
 - ☐ C. They ensure that the library is uncomfortable so that students visit for a briefer period of time, thus demanding a lower amount of energy to keep the library running
 - ☐ D. They reduced the amount of building materials required to complete the library

Green Building (LEED) [Attribute 07: Book Retrieval Systems](#)

12. How many books can the library's Automated Storage and Retrieval System (ASRS) hold?
- ☐ A. 5,000
 - ☐ B. 50,000
 - ☐ C. 160,000
 - ☐ D. 600,000
13. Which of the following are sustainability functions of the Automated Storage and Retrieval System (ASRS)?
- ☐ A. Noise and air pollution are reduced by decreasing the number of people that must walk through the library
 - ☐ B. Energy efficiency is increased by reducing the need to manually return books to the library stacks
 - ☐ C. The books can be kept in optimal temperature, humidity, and light conditions for preservation without the need to keep the entire library at these conditions
 - ☐ D. The use of the ASRS allowed for a smaller library size which reduced resource demand

Green Building (LEED) [Attribute 08: Daylight Harvesting and Occupancy Sensor Lighting](#)

14. What is a lightwell?
- ☐ A. A type of solar panel used to generate electricity
 - ☐ B. A space that allows light and air to reach what would otherwise be a dark or unventilated area.
 - ☐ C. A large window designed to provide views of the outdoors
 - ☐ D. A decorative light fixture used to illuminate rooms

15. What are the sustainability functions of a lightwell?
- ☐ A. They collect rainwater for energy production, reduce stormwater runoff, and reduce carbon emissions
 - ☐ B. They reduce the need for electrical lighting, reduce carbon emissions, and positively affect mental well-being
 - ☐ C. They increase the need for artificial lighting and regulate temperature
 - ☐ D. They regulate temperature, reduce contamination, and provide an aesthetic view of the outdoors
16. How much of the library is lit by natural light during daylight hours?
- ☐ A. 75%
 - ☐ B. 60%
 - ☐ C. 50%
 - ☐ D. 35%
17. How much more energy efficient is the Mary Idema Pew library in comparison to a conventional building?
- ☐ A. 75%
 - ☐ B. 60%
 - ☐ C. 50%
 - ☐ D. 35%

Green Building (LEED) [Attribute 09: Energy Recovery - Water Stream](#)

18. How does the library's water use compare to a conventional building?
- ☐ A. The library uses 40% less water compared to a conventional building
 - ☐ B. The library uses 30% less water compared to a conventional building
 - ☐ C. The library uses 20% less water compared to a conventional building
 - ☐ D. The library uses 10% less water compared to a conventional building

Green Building (LEED) [Attribute 10: Green Roof and Cool Roof](#)

19. What are the sustainability features of the library's green roof (*Choose 3*)?
- ☐ A. Reduces the roof temperature by 30-40 degrees.
 - ☐ B. Reduces water usage within the building
 - ☐ C. Helps to manage stormwater runoff
 - ☐ D. Reduces the need for electrical lighting
 - ☐ E. Lowers the energy requirement for heating and cooling
20. How much cooler is the library's roof in comparison to a conventional building?
- ☐ A. 15 degrees cooler
 - ☐ B. 25 degrees cooler
 - ☐ C. 30 degrees cooler
 - ☐ D. 50 degrees cooler

Green Building (LEED) [Attribute 11: Energy Recovery - Air Stream](#)

21. What are the sustainability features of the library's HVAC (heating, ventilation, and air conditioning) system (*Choose 3*)?
- ☐ A. Sensors keep the library at a specific consistent temperature year round
 - ☐ B. Solar panels on the roof provide the energy to run the HVAC systems
 - ☐ C. Sensors adjust the temperature based on how many people are in various zones
 - ☐ D. An automated measurement system continuously monitors and adjusts the air quality
 - ☐ E. It cools without the use of environmentally harmful refrigerants

Green Building (LEED) [Attribute 12: Building Materials](#)

22. What percentage of the library's building materials are recycled?
- ☐ A. 10%
 - ☐ B. 20%
 - ☐ C. 30%
 - ☐ D. 40%

23. What percentage of the library's wood-based materials are certified in accordance with the Forest Steward Council guidelines?
- ☐ A. 25%
 - ☐ B. 50%
 - ☐ C. 75%
 - ☐ D. 100%

Green Building (LEED) [Attribute 13: Art in Green Buildings](#)

24. What is the relationship between art and green building?
- ☐ A. When a library includes a lot of art people are more likely to check out books
 - ☐ B. Art installations in green buildings are primarily made from recyclable materials
 - ☐ C. When people are attracted to a building aesthetically, they are more likely to keep it well maintained and in operation as long as possible
 - ☐ D. Art is solely used for decoration in green buildings without any functional impact

Green Building (LEED) [Attribute 14: Critiques of LEED, LEED 5.0, and Closing](#)

25. How has GVSU's energy footprint changed over the last 20 years?
- ☐ A. GVSU has reduced its energy use by 38% over the past 20 years while simultaneously increasing its overall square footage by more than 60%.
 - ☐ B. GVSU has reduced its energy use by 28% over the past 20 years while simultaneously increasing its overall square footage by more than 50%.
 - ☐ C. GVSU has reduced its energy use by 18% over the past 20 years while simultaneously increasing its overall square footage by more than 40%.
 - ☐ D. GVSU has reduced its energy use by 10% over the past 20 years while simultaneously increasing its overall square footage by more than 40%.

1.	B	14.	B
2.	C	15.	B
3.	A, B, & E	16.	A
4.	B, C, & E	17.	C
5.	A	18.	A
6.	A	19.	A, C, & E
7.	C, D, & E	20.	D
8.	B	21.	C, D, & E
9.	A	22.	B
10.	A, B, & C	23.	D
11.	B	24.	C
12.	D	25.	A
13.	C		

Assessment Answers