

**Activity 2.3.2 Green Building and Sustainable Design**

1. Rainfall falls on most parcels of property throughout the world. Describe one method that could be used to collect this natural resource.

A way you can collect rainwater is by using rain water barrels. A barrel is simply installed underneath the downspout of the guttering so that rain falling on the roof is funneled into the barrel.

Website: http//\_\_\_<http://www.conserve-energy-future.com/methods-of-rainwater-harvesting.php>

1. Describe a landscape design technique that benefits the environment.

Website: \_\_<https://www.asla.org/design/index.html#mainnav>

**Green Roofs — Instead of a black tar roof, a living system of plants and soil can actually reduce air temperature by 59 degrees in the summer, save winter heating costs, clean and store rainwater, and provide habitat to pollinating insects and birds.**

1. Energy use is high in commercial buildings. What might a building designer do to reduce energy consumption in a building?

Website: http//\_\_\_<http://www.constructionbusinessowner.com/topics/law/construction-regulations/recycling-construction-materialsimportant-part-construction>

**Construction & Disposal Waste Management Plan**

**• reduction, recycling, and reuse of wastes**

**• landfills regulated under Code of Federal Regulations**

**• Job Site Tasks:**

**– Sorting**

**– Collection & Hauling**

**– Tipping**

**– Picking**

**– Sorting**

1. Describe a design feature for a residential structure that would likely result in reduced water use.

Website: http//[www.asla.org/waterefficiency.aspx](http://www.asla.org/waterefficiency.aspx)

**RESIDENTIAL RAINWATER HARVESTING- is a system that collects, diverts, and stores rain in a catchment tank.**

**Rainwater harvesting benefits include:**

* **Reduced consumption of distributed potable water: 30 to 50 percent of potable water is currently used for landscape irrigation.**
* **Reduced water bills and demand on existing water supply.**
* **More efficient use of rainwater resources.**

1. Describe an innovative construction method or technique that benefits the environment.

Website: http//<http://www.legrand.com/EN/green-building-description_12850.html>

#### Natural construction

**A natural green building construction must satisfy two additional imperatives: the adaptation of the architecture to the landscape and its measurable data, alongside the use of natural materials, which if possible are renewable.**

1. During the construction cycle of the building, materials and components are delivered to the site. List a strategy that you will use to recycle the waste produced during the construction phase.

Website: http// <http://blog.capterra.com/5-tips-for-recycling-your-construction-waste/>

## Build It Back Into the New Building

**The smartest way to recycle construction waste is to integrate it back into the new building or the new building site.**

1. Describe a feature you could incorporate in a home design that would improve indoor environmental quality.

Website:<https://sftool.gov/learn/about/1/indoor-environmental-quality-ieq>

Adequate Ventilation and Exhaust

**Adequate ventilation and exhaust is important to prevent build-up of odors, carbon dioxide, allergens and toxins in indoor air.**

1. Building sites offer natural resources that can be utilized for the life of the building. Describe a method to use a site’s natural resources in the construction of the structure.

Website:<https://energy.gov/energysaver/passive-solar-home-design>

**• Passive Solar Heating:**

**– Use of a thermal mass, such as a stone or tile floor, to capture the heat from south-facing windows and release it in the evening when there’s a need for heat**

**Going Beyond**

1. (Optional) Select a company name and design a logo that you might use if you opened your own architectural design firm that illustrates a commitment to green and sustainable design.

**Conclusion Questions**

1. Describe an original green and sustainable idea that you have. Choose one that is not currently in use as far as you know.
2. Describe an improvement that you believe could be made to the building where you live to make it greener. Explain why it is an improvement.