

Service Learning Scenario # 5 Building and Grounds

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Set up – Your students conducted the Building & Grounds school investigation and decided that there are not very many trees or flowers. It is just kind of boring and sparse. They also noticed that the run off from parking lots flows into a drainage ditch that dumps into a local creek and it looks kind of gross. In addition, when the busses arrive at the end of the day, they idle for 30 minutes before the final bell rings.

Question – What types of service learning projects can be designed using these findings?

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Finding #1 – Research the advantages and disadvantages of planting native species. Investigate locations of tree plantings around buildings to maximize energy efficiency. Design and install several plantings or gardens based on function such as energy conservation, edible gardens, butterfly/pollinator gardens, prairie plot, etc.

Finding #2 – Invite a speaker to come talk about water quality particularly related to problems in your area. Have the water in the ditch and creek tested and research the environmental implications of each pollutant. Conduct a Blue Thumb training and adopt the creek while raising community awareness of local water issues. Investigate and plant a vegetation buffer strip around the parking lot to filter runoff.

Finding #3 – Determine the chemical composition of bus exhaust and emission rates. Calculate the amount and type of pollutants emitted during the 30 minute idle time including CO₂. Investigate fuel efficiency of the busses, the amount of fuel consumed during idling and the cost to the district. Compare data to similar data for CNG busses. Make a recommendation to the district on the cost effectiveness of converting busses to run on CNG.