Grade 11 Narrative

The ACT Pre-Test

Brrrnnng! For the 152nd time this year, you hear the obvious stated, "Class, the bell has rung."

Amazingly, and somewhat inexplicably, this declarative sentence—nearly shouted by your teacher at the top of his lungs—has to be exclaimed every single day. Quite a few cell phones are jammed into pockets and purses; bookbags are slung heavily onto the floor; fresh gum is unwrapped, passed around; a few notebooks are flung carelessly upon fairly-clean desktops. A few of your classmates, however, seem perplexed, and even miffed, by this daily ritual as they drift through each school day perpetually baffled at the notion that other students actually engage in this thing called school.

"Hey, do we need a pen today?"

"Dude, you ask that every day."

Your teacher, who, like many teachers, actually misses nothing, states, "As I told you yesterday and the four days prior to that, all you need today is a pencil—which I will provide—and your thinking cap."

Despite the chipper delivery of this information, a collective groan, accentuated with exasperated sighs, fills the room. Today, all of you "get" to take an ACT pre-test; even you find it bewildering that the school and your parents pay so much attention to you and your performance on this test. Students are supposed to be fired up, psyched up, pumped up for these sessions. Protein for breakfast was suggested yesterday, even for the pre-test. After all, your life in just two short years will "change significantly." How this multiple-choice test prepares you for that life-altering change escapes you. "Trust us" and "This is for your own good" seem to be slogans of both your teachers and your parents. A counselor came in last week, or was it a month ago, to explain how much money can be tied to an ACT test score. This particular enlightened teacher of yours has even spent copious amounts of time explaining it to you as a formative assessment, one that will inform his future instruction. You perceive the next 40 minutes akin to torture.

"O.K., class, please clear off your desks. Remember what I have been saying: No pressure; just do your best." Even though you feel quite a bit of affection for this singular teacher, you hear his voice droning on and on and on and on. You catch words and phrases that you have heard numerous times before: "read directions thoroughly," "don't agonize," "keep an eye on time," and "just relax."

“The #2 pencils are now being passed out. No need to poke your neighbor to check its sharpness. I will give directions, which must be followed explicitly, in just a few minutes.”

“Wait….what are we doing?”

“Just take a pencil, dude. We are only taking a test that could determine how the rest of our lives turn out.” No pressure!

Grade 11 Informational

Energy-efficient Landscaping

One common concept of landscaping consists of carefully trimmed trees and bushes; perfectly arranged flowers and green plants; and neatly manicured lawns and pathways. Landscaping is usually associated with efforts to beautify yards or grounds, but it can also be used strategically to conserve resources. The careful placement of trees and shrubs, the use of windbreaks, and the implementation of green roofs can all be used to conserve energy. Energy-efficient landscaping is a great investment because initial costs are eventually recouped through energy savings.

Energy Conservation

The careful use of trees and shrubs is a great way to begin any energy-efficient landscaping effort. Windows in a home, school, or other structure provide a welcome heat source during the winter months by allowing direct sunlight to come in. During summer months, however, direct sunlight can raise cooling costs by increasing energy consumption. Planting deciduous trees can provide year-round benefits. In summer, the trees' canopies provide shade, which minimizes the heating effects of direct sunlight. Paved areas, compressors for air conditioners, and outdoor patios are also kept cooler when shaded by trees. During winter months, deciduous trees shed their leaves, allowing sunlight to enter windows. Sunlight may help reduce heating costs during daytime hours.

The surface of a building tends to heat or cool along with the air's temperature, and wind accelerates this temperature change. Shrubs help insulate a structure by protecting it from winds and slowing the rate of temperature changes. Insulation can minimize temperature fluctuations within a building. Shrubs provide protection from cold, blustery winter winds. On cold, clear nights, the same plants create a thermal barrier that helps minimize heat loss to the surrounding atmosphere. In summer, shrubs reduce the effects of hot, humid winds and increase the efficiency of air conditioners.

Placement of Trees and Shrubs

Proper placement of trees and shrubs is essential to energy-efficient landscaping. Because the sun rises in the East and sets in the West, windows facing these directions are most susceptible to direct sunlight. One way to provide shade is to plant deciduous trees in an arc around the east, south, and west sides of a building. The placement depends on many factors, including the shape of the trees, the angle of the sun, and the desired view from the windows. The size of the mature trees must be considered to ensure proper spacing when the trees are planted as saplings.

Shrubs can be planted around the foundation of a building. The plantings provide insulation by creating a dead airspace next to the foundation. Shrubs also reduce the amount of wind that hits the structure. The size of the mature shrubs should be considered when planting

to ensure approximately one foot of space between the full-grown plants and the building.

Planting Windbreaks

A well-placed windbreak is an effective landscaping tool for energy conservation. A windbreak is a strategically placed cluster of trees meant to minimize surface air movements. Since wind accelerates heat loss in winter, a windbreak can protect a structure and reduce heating costs. During the first few years after planting, a windbreak may provide little protection or energy savings. As the trees mature in coverage and height, the effect of the windbreak will increase by minimizing the extreme temperature changes caused by winds.

A windbreak should be placed upwind of the prevailing winter winds—generally north or northwest of a building. Evergreen trees are ideal for use in windbreaks because they remain dense through the winter months. A mature windbreak can provide relief from winds up to ten times its height. In addition, blowing and drifting snow will settle near a windbreak rather than around the structure it protects.

Green Roofs

Energy-efficient landscaping can be implemented in urban areas through the use of green roofs. A green roof—a layer of vegetation planted on a rooftop—provides many benefits. The vegetation can improve air quality by removing pollution and excess carbon dioxide from the air and by producing oxygen. A green roof can provide a cooling effect. Other roofing materials tend to absorb ultraviolet radiation and become very hot in the summer, increasing urban heat. A green roof can actually be cooler than the air temperature. Through the process of transpiration, plants emit water into the atmosphere, which reduces the temperature of the surrounding air.

Green roofs also have economic benefits. Vegetation can insulate a building, which reduces cooling and heating costs throughout the year by lessening energy consumption. Green roofs tend to last longer than standard roofs, reducing future costs of replacement.

During storms or heavy rainfall, cities face problems with water runoff. Most cities have very few areas where water can be absorbed into the ground. Most water runs off rooftops and streets into drains and sewers. Flooding may occur as storm-water management systems are stressed. Green roofs absorb water, alleviating excessive runoff. Water that is not retained by the soil and plants is slowly released into drainage systems over a period of hours.

Landscaping is much more than making an area look more appealing. With accurate planning and proper implementation, landscaping can conserve energy and resources as well as save money.