LaRue County

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Infinite Energy

Our Project Ideas…

- Fluorescent Lighting.
  - Changing All Street Lights and City Buildings Bulbs.

- Outdoor Classroom
  - Building An Outdoor Classroom On Hodgenville Elem. Ground. Where Students Can Learn Outdoors and Have More Hands-On Learning.

- Rain Garden
  - Building A Rain Garden Down At The Creek Front To Prevent Flooding And Draining Into The Creek.

Why Save Energy?

✓ Save Money

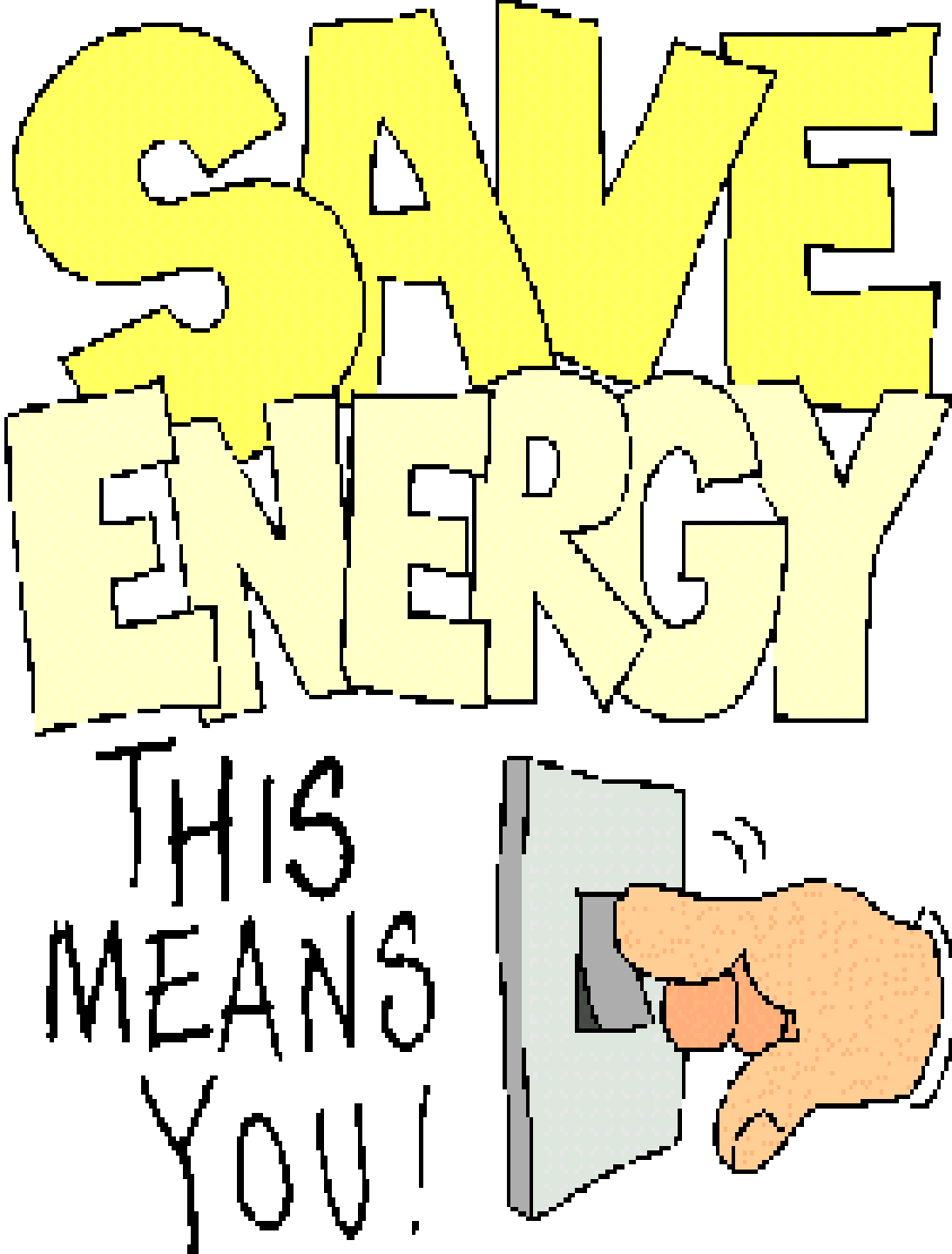
- Heat is also lost through windows, floors and draughts.
- Most households can save a large amount on fuel bills. Grants and discount schemes are available to help with energy efficiency measures.
- Relieve the strain of any future fuel price increases by using energy more efficiently.

✓ Improve Health

- Cold, poorly insulated homes can suffer from damp, condensation and mould growth.
- Asthma, bronchitis, emphysema, coronary heart disease and strokes are all conditions potentially related to cold homes.

✓ Improve Environment

- By minimizing the energy you waste and using energy more efficiently you reduce your overall energy consumption and the greenhouse gas emissions associated with it.
- Increased emissions of greenhouse gases are causing changes to our climate and environment on both a local and global scale, resulting in more extreme weather conditions, rising sea levels and changing vegetation.



Lighting Energy Saving Measures

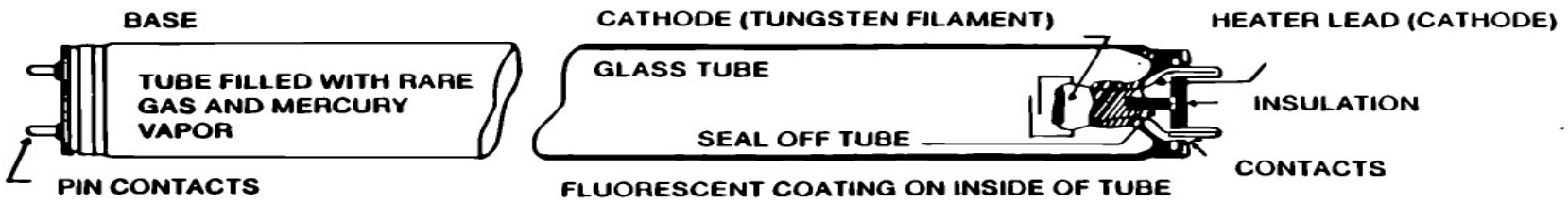
- Turn off lights in areas not in use
- Use day lighting / skylights
- Install occupancy sensors (incandescent and fluorescent lights only)
- Install photocells for outside lighting and lights in rooms with adequate day lighting
- Replace incandescent lights with compact fluorescent lights

Compact Fluorescent Lighting

- More efficient (20% of electricity converted to light)
- Long Life > 10,000 hrs
- Color rendering is fair
- Requires ballast (usually attached)
- Direct screw in replacement for incandescent lamps available

How Fluorescent Lights Work

- UV Radiation created in tube be electrode
- Phosphor on inside of tube converts UV to white visible light
- Ballast used to increase frequency of power so that lamps last much longer.



Incandescent vs. Fluorescent

Incandescent (Standard) vs. Compact Fluorescent Light Bulbs (CFLs)		
Bulb Type	75W Incandescent	20W CFL
Lumens Produced	830	1,200
Purchase Price	$0.75	$5.00
Number of Hours Burned per Day	4 hours	4 hours
Life of the Bulb	750 hours or ½ of 1 year	8,000 hours or 5.5 years
Number of Bulbs Needed to equal life of 1 CFL/Total cost of those bulbs	~11/$8.25	1/$5.0
Total Cost of Purchasing Bulbs	$8.25	$5.00
kilo-Watt hours (kWh) over the 5.5 years	75W x 750 hrs = 56,250 Whrs 56,250/1000 = 56.25 kWh 56.25 kWh x 11 = 618.75 kWh	20W x 8,000hrs = 160,000Whrs 160,000/1000 = 160 kWh
Total Cost of Electricity for 5.5 years (8 cents x kWh)	$49.50	$12.80
Total cost over the 5.5 years	$57.75	$17.80
Total Savings using a CFL compared to an incandescent bulb:		**$39.95**

OUTDOOR CLASSROOM

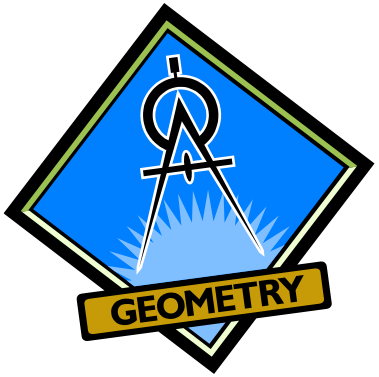
1. Empowerment, Define:
Increasing the spiritual, political, social or economic strength of individuals.

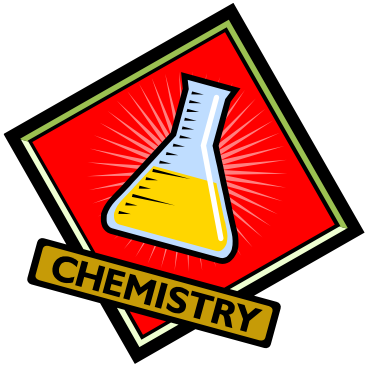
- Kids like to help the Earth, whether its planting a tree, studying an insect, or preparing gardens for the Winter. This makes them feel like they accomplished something. In return it motivates them to want to help more...

Outdoor Classroom

2. Academics

- Math, Science, Social Studies, Art, and Language Art can all be learned outside in a great way.



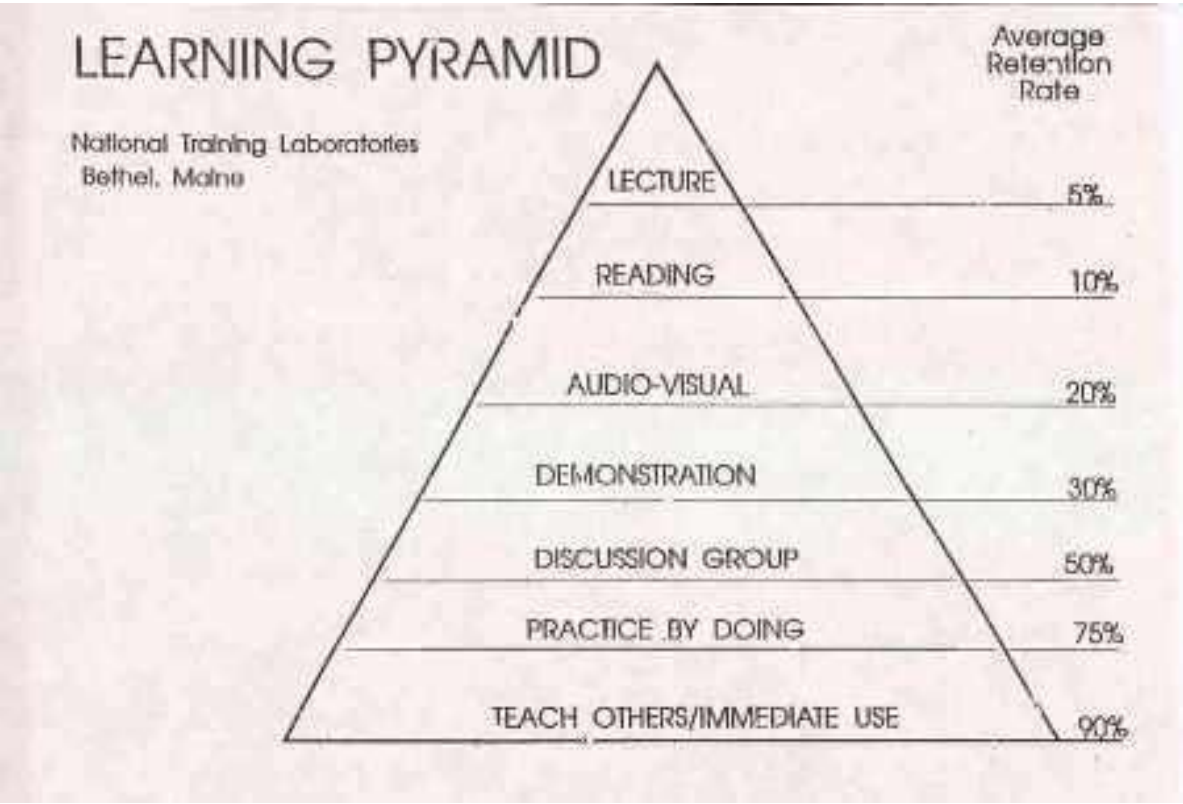


OUTDOOR CLASSROOM

Steps….

3. **Retention Rate** Defined: The rate at which students persist in their educational program.

- One of the big reasons teachers bring their students to an outdoor classroom is for hands on activities. At least 90% of the learning outdoors is hands on.



Outdoor Classroom

4. Teamwork

- Learning teamwork is more accessible in “real life” or “natural” surroundings.
- Communication and the ability to work together is essential through out our lives.

Our Outdoor Classroom

- Location: Hodgenville Elementary

What is a Rain Garden?

- A rain garden is a garden which takes advantage of rainfall and storm water runoff in its design and plant selection.
- A rain garden is a small bioretention cell in which storm water is cleaned and reduced in volume once it enters the rain garden.
- There are two basic types of rain gardens – under-drained and self-contained.

An Under-Drained Rain Garden

- This can move excess water into a conventional storm sewer pipe system.
- Typically are designed to drain within 2 hours of the design storm event.

A Self-Contained Rain Garden

- Typically hold moisture longer, particularly in the lower areas of the garden.
- As in the case of the under drained rain garden, the surface is drained within four hours, although the soil may be saturated.

Tools you may need for a Rain Garden

- tape measure
- shovels
- rakes
- trowels
- carpenter's level
- wooden stakes
- string
- 2x4 boards (optional)
- Small backhoe or friends

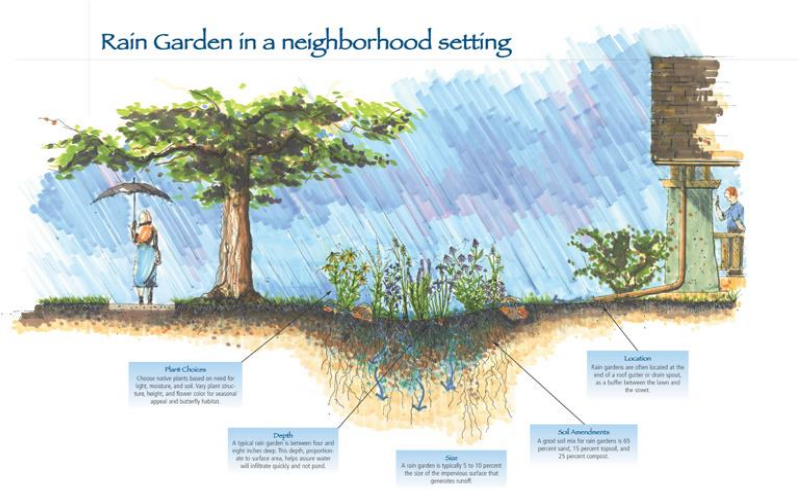
Preparing for a Rain Garden

- kill the existing grass before you begin. The best way to kill the grass is to place black plastic over the area where the rain garden will be.

- lay out the outline of your garden using stakes and string. Once you have the outline, begin digging the garden to the desired depth.

Success of a Rain Garden

- Start with healthy and smaller, rather than larger plants so that they have a chance to adapt to the conditions as they grow.
- Rain gardens are sited ideally close to the source of the runoff and serve to slow the storm water as it travels downhill, giving the storm water more time to infiltrate and less opportunity to gain momentum and erosive power.



Planting and Caring for Your Garden

1. Consider all physical site restrictions and limitations. Choose plants that are appropriate for the sunlight exposure and soil conditions of your garden. Also choose plants that can tolerate standing water for up to 48 hours and plants that can tolerate some periods of drought.

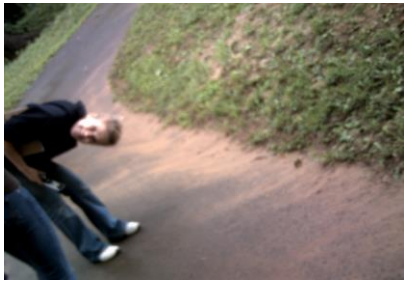
2. Choose plants that are aesthetically pleasing to you. You may want to choose a theme. Many people choose plants that attract hummingbirds or butterflies. It is always desirable to use native plants, because they are more disease resistant and tolerant to local conditions.

3. After planting your rain garden it is a good idea to mulch the entire garden with hardwood shavings. The mulch aids in the cleansing properties of the garden, and hardwood mulch does not float away.

4. Remember that your rain garden is a garden. It will take time for the plants to become established and the rain garden will need to be watered periodically and weeded. You may also need to re-mulch every couple of years.

Our Rain Garden

- Location: Creekfront Park
  - Reason: make good use of rainwater runoff, thus conserving precious water supplies and helping protect the water quality of downstream lakes and rivers.



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