Let's Design a...

Net-Zero Energy Classroom!
Create Power on Site

- Active Solar – PV (Photovoltaic) Panels convert sunlight into electricity.
- Wind Power – When the wind blows, the blades spin a turbine which generates electricity.
- Passive Solar Heating – Light shines through south facing windows and warms the inside space.
- Daylighting – Use outside light instead of turning on lights.
Efficient Use of Power

- Lights – CFLs (spiral bulbs) use $\frac{1}{4}$ the energy of incandescent lights (regular bulbs).
- Computers – putting computers, speakers and monitors on a power strip that you can turn off saves energy when you are not using it.
- Air Conditioning and Heating – power is needed to run a fan that blows air into the space and to power the heating and cooling device. Very efficient models are available.
Monitor and Controls

- **Smart Meter** –
  - Tracks the total amount of power being used and communicates with the utility.
  - Allows extra energy to flow into the grid. The utility will use your extra power and pay you $$$ for it.

- **Programmable thermostat** –
  - Allows temperature to adjust when occupants are not in room. Saves heating and cooling energy.
Water Conservation

- Water storage tank – rain water that hits the roof is collected and stored to water plants or even to flush toilets
- Xeriscape – Using native plants or lawn features that do not require much or any watering.
Reducing Waste

- Recycle – paper, bottles, cans and other items can be recycled instead of being put in the trash can and ending up buried in the ground.

- Compost – Food scraps can be put in a compost pile where they will decompose. Compost makes nutritious soil for plants.
Have fun!
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