FACILITIES FOR 21ST CENTURY LEARNING

Ideas for 21st Century Facilities

Facility as a Teaching Tool

Every square foot of the building and the grounds needs to be seen as an educational opportunity. We have to think about what we're putting into the building and see what we can get out of it. If we do a good job of creating these teaching tools, we will see the benefit. When the kids have an understanding of how the building works it will help to foster a sense of ownership and engagement with their learning environment. There are many ways that the building can be a teaching tool. The list below is provided to get the conversation started on how to utilize everything possible as a teaching opportunity.

Building/General

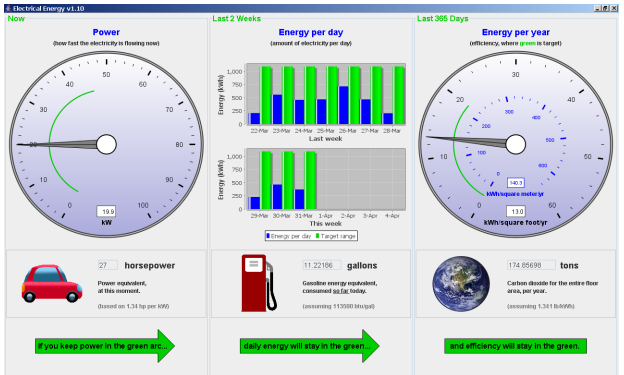
- Make systems visible, especially in gathering/ assembly areas – open structure can give opportunities to show the structure and systems of the building
- Provide windows into spaces such as the mechanical room. Label the piping and equipment and provide information on how these systems work.
- Provide signage around the school describing sustainability, technology, utility systems
- Open up a section of wall to show how the utilities run through it
- Provide a learning street to show how the building works and display student projects
- Identify indigenous plants used in the landscape
- Make connections to natural resources – how many natural resources go into a book?

High Tech High, San Diego, CA

- School as a body - "Operation Game"- veins = data/electrical wiring, lungs = HVAC, bones = structure
- Have the students give tours of the building – the building teaches the students – the students teach the visitors
- Highlight local culture or the legacy of who the school is named for

Energy/Utilities

- All new schools will have some sort of dashboard display in a prominent area to display information on the energy usage of the building.
- The dashboard may also be connected to demonstration solar panels or wind turbines specifically for educational use.
- Solar charging stations for laptops and handheld devices.
- The different wings or areas of the building can be metered separately – when the wing goes red, students find out why – making a competition out of it engages students at a new level
- Sub-metering can provide ways to give the students data they can use to monitor the energy usage of the building.
- Allow kids to have some way to adjust the settings on window shading for lessons on daylight and energy usage
- With building systems becoming more and more complicated and integrated, provide simple signage that explains how and when to use the system



- Photocell that turns a light green when light levels are low enough that supplemental lighting is needed. This gives them the "green light" to flip the light switch on.
- Rainwater harvesting – demonstration of the lifecycle of water
- An external gauge on the cistern will allow students to monitor the water level
- Clear piping can be provided to see the rainwater flowing to the rainwater harvesting system
- Spillways or troughs may be used as water features when utilizing the harvested rainwater for irrigation in an outdoor classroom
- Explain Low Impact Development (LID) features used at the school and their connection to the water cycle and responsible stormwater management