**Sustainable Japanese Garden 8 Block Table for Designing and Implementing Service Learning Exercises or Courses**

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| Project DesignResource managementHarnessing water and solar power to create a sustainable gardenIncorporate the basic concepts of Earth System science for 8th gradersProvide a sense of community service with students before and after school as well as weekends.Math connections in calculating the requirements of the pumps to be powered by solar energy, water harvest area on the roof using satellite images, pump--head pressure and landscape design and implementation.  | Community Partner RelationsCreating relationships between partners such as our Public Service Utility (PNM) who would like to encourage energy awareness and have given us a Energy Exploration Grant. Using our BP grant for water harvesting components. Partnering with our parents association as well as alum. Instilling sustainable practices with our students by using grounds people as the teachers: sheet mulching, xeriscaping, irrigation in the arid SW. Mark Mellott a geologist who now leads the sustainable/grounds group will help us with resources, expertise and a commitment to service learning around campus. Working with noted author Brad Landcaster on water harvesting practices using cisterns, and catchments (See Landcaster’s book…Harvesting Rain Water) The image in the PowerPoint will be a “I read poster” posted throughout our community. Using National Lab Day Scientists to help problem solve and engineer sustainable hook ups. |
| Building Community in the ClassroomProvide the background knowledge for students to understand how solar energy can be used, what are the options of alternate energy, basics of cycles such as water, CO2, rock cycles and see how they play out in the garden.Building sensitivity to diversity and social justice by honoring the internees and creating a garden dedicated to their unjust treatment due to fear.  | Building Student CapacityStudents are inundated with what is “wrong” with the Earth using the sustainable garden we will build the capacity for students to see how they can play an important part in understanding and solving the problems of Global Climate Change, water resource management etc.Students wiring solar panels understand capacity of solar panels, pumps and calculating what is needed to solve problems will build capacity. |
| Problem StatementThe problem is to create a 100% sustainable SW Japanese Garden based on the gardens created in the Japanese American Internment Camps.  | Project ManagementThe project will be supervised by the Earth Systems Teachers and used as an outdoor classroom. The Sustainability Committee under the direction of Karen Beamish and Mark Mellott will help implement the project with financial support and expert labor.  |
| Assessment of LearningThere will be 5 partnered Earth Systems Science units that have a classroom and A Sustainable SW Japanese Garden component. EnergyWaterPond EcologyPlate TectonicsCyclesBasic concept will be introduced with lab activities and then the skills and content will be applied to the garden. For example, creating solar cars and then using that technology to create solar pump hook ups.  | Reflection and ConnectionsDesigning a project that makes Earth Systems curriculum come alive as well as being connected to social justice cause has possibilities of engaging students on many levels. The students will be dedicating the garden to survivors of the internees and they will be able to offer up a gift as well as see “life in balance.” Students are already committed to the garden and have a sense of pride when they look at how much has been accomplished and what we can still do to be 100% sustainable by not using power from the grid or water from the faucet.  |