



PROJECT TITLE: SoLed Lamp

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DESCRIPTION: SoLed is a design-it-yourself solar powered LED lamp kit that enhances a child's learning experience through a hands-on interdisciplinary curriculum that fuses design methodology with emerging technology and renewable energy.

OBJECTIVES:

- ❑ Teach the design process
- ❑ Teach analytical & critical thinking skills through ind. presentations and group critiques
- ❑ Introduce sustainability concepts of material science and renewable energy
- ❑ Introduce structure, form, and function concepts
- ❑ Teach the universal concept of prob. solving using brainstorming, prototyping, & critiquing
- ❑ Teach use of relevant tools
- ❑ Intro. design as a tool for social change & how our actions affect our comm. locally & globally
- ❑ Inspire young minds to be future innovators and conscientious thinkers
- ❑ Engage students in their education
- ❑ Promote higher education in the classroom

IN THE CLASSROOM:

- ❑ Students will design and assemble a solar powered LED lamp
- ❑ Students will brainstorm and prototype their lamp shade design
- ❑ Students will ideate the process with sketches
- ❑ Students will interact with solar and LED technology
- ❑ Students will listen to presentations and demos relevant to lamp project
- ❑ Students will present their and participate in group critiques

LECTURES:

- ❑ Sustainable design: solar energy, LED's and materials
- ❑ Finding inspiration in Architecture and Fashion
- ❑ Form vs. Function
- ❑ Designing around the technology
- ❑ Innovation
- ❑ Industrial Design as a profession and as a tool for social change

DEMOS:

- ❑ Assembling and function of solar panel and LED's
- ❑ Assembly of lamp base
- ❑ Possible base and lamp solutions

- ❑ Brainstorming and Ideation
- ❑ Prototyping with paper and cardboard
- ❑ X-acto knife and glue
- ❑ Presenting and critiquing
- ❑ History and Importance of LED's
- ❑ History and Importance of Solar Power
- ❑ Importance of Sustainability
- ❑ Electricity

MATERIALS:

- ❑ FSC certified wood
- ❑ FSC certified paper and vellum
- ❑ Cardboard
- ❑ LED's
- ❑ Solar Panels
- ❑ Recycled Aluminum

TOOLS:

- ❑ X-acto knife
- ❑ Pencil and paper/sketchbook
- ❑ Straight edge
- ❑ Color Pencils

ASSESSMENT:

- ❑ Ability to execute a functioning Solar powered LED lamp
- ❑ Innovation, creativity and dedication throughout the design process
- ❑ Ability to incorporate Architectural and Fashion styles into the lamp design
- ❑ Ability to work with solar and LED technology
- ❑ Participation in individual presentations and group critiques