

Project Characteristics Checklist

Project: Solar Cooker

	Adult and Student Roles	Notes
<input checked="" type="checkbox"/>	Students are at the center of the learning process.	<i>Students brainstorm ideas, pose questions, select solar cooker designs, experiment with different designs, and contribute ideas throughout the project, students assess themselves relative to their learning goals</i>
<input checked="" type="checkbox"/>	The teacher is the facilitator of students' learning experiences.	<i>I support the students throughout the solar cooker project, acting as a guide as they make decisions, solve problems, and work together.</i>
<input checked="" type="checkbox"/>	Students work with peers, experts, and other community members.	<i>Throughout the project, guest speakers visit, students also visit a solar panel manufacturing plant.</i>
<input checked="" type="checkbox"/>	Students take on the roles of experts.	<i>Students become very knowledgeable about solar cookers and share their expertise with others.</i>
Project Structure		
<input checked="" type="checkbox"/>	The project focuses on specific learning objectives aligned to standards.	<p><i>Learning Objectives:</i></p> <ul style="list-style-type: none"> • <i>Apply scientific knowledge of heat transfer and solar energy</i> • <i>Develop a rationale for solar energy use</i> • <i>Collect, organize, display, and interpret data</i> • <i>Compare the use of fossil fuels with solar energy</i> <p><i>Standards</i></p> <ul style="list-style-type: none"> • <i>Convection, conduction, radiation</i> • <i>Natural energy</i> • <i>Collect, organize, display, interpret data</i>
<input checked="" type="checkbox"/>	The project is driven by important Curriculum-Framing Questions.	<p><i>EQ: How can we find new solutions to old problems?</i></p> <p><i>UQ: Should solar energy be considered an alternative energy to fossil fuels?</i></p> <p><i>How can we "plug into the sun?"</i></p>
<input checked="" type="checkbox"/>	21st century skills are integral to project work.	<i>Collaboration, self-direction, thinking skills, information literacy</i>
<input checked="" type="checkbox"/>	The project involves ongoing and multiple types of assessment to inform the students and teacher.	<i>Peer conferences, self-reflection, teacher notes, peer assessment, rubric</i>
<input checked="" type="checkbox"/>	Varied instructional strategies support and engage all learners.	<i>Small group, whole group mini lessons, experiments, data collection, design challenges</i>

The Learning Experience		
<input checked="" type="checkbox"/>	The project involves connected tasks and activities that take place over a period of time.	<i>4-week project</i>
<input checked="" type="checkbox"/>	The project has real-world connections.	<i>Studied issues related to cooking and natural resources in developing countries</i>
<input checked="" type="checkbox"/>	Students demonstrate knowledge and skills through published, presented, or displayed products or performances.	<i>Solar cookers, presentations, newsletters, wikis</i>
<input checked="" type="checkbox"/>	Technology supports and enhances student learning.	<i>Wikis, research, Web sites, Web conferencing, email</i>