

PASSIVE SOLAR DESIGN RUBRIC	Exceeds Expectations	Meets Expectations	Below Expectations	No Credit
Introduction				
<i>Importance of passive solar</i>	By the end of the class discussion, the student can name multiple practical applications for passive solar design and reasons passive solar design might be used.	By the end of the class discussion, student can identify one or two reasons that passive solar design might be used.	By the end of the class discussion, student has difficulty identifying any reasons to use passive solar design.	Student does not participate in discussion.
<i>Role of an engineer</i>	By the end of the class discussion, student can communicate multiple roles an engineer might play in creating a passive solar home.	By the end of the class discussion, student can communicate one or two roles an engineer might play in creating a passive solar home.	By the end of the class discussion, student cannot communicate the roles an engineer might play in creating a passive solar home.	Student does not participate in discussion.

PASSIVE SOLAR CAR RUBRIC	Exceeds Expectations	Meets Expectations	Below Expectations	No Credit
Design				
<i>Brainstorming</i>	Student's brainstorming notes, sketches, etc. reflect most of the points raised in the class discussion as well as prior knowledge. The brainstorming work shows creativity and effort.	Student's brainstorming notes, sketches, etc. reflect some of the points raised in the class discussion as well as prior knowledge. The brainstorming work shows creativity and effort.	Student's brainstorming notes, sketches, etc. reflect few of the points raised in the class discussion as well as prior knowledge. The brainstorming work does not demonstrate creativity or significant effort.	Student does not participate in brainstorming
<i>Team Work</i>	Student works exceedingly well with their group, sharing ideas and responding respectfully to the ideas of others as well as facilitating conversation and final planning.	Student works well with their group.	Student either does not contribute much to the group work or dominates the group work, not allowing others to participate fully.	Student does not work with their group.
<i>Final Design</i>	The final group design models multiple techniques used in passive solar design. The design includes precise measurements.	The final group design models use some techniques used in passive solar design. The design includes measurements.	The final group design models few techniques used in passive solar design and does not include measurements.	The final group design models no techniques used in passive solar design and includes no measurements.
<i>Build</i>	The group is able to transfer their design from paper to actual building materials efficiently and with no problems or alterations. Measurements are precise and accurate.	The group is able to transfer their design from paper to materials with only slight alterations or problems. Measurements are precise and accurate.	The group has a great of trouble actually building their design. Measurements are sloppy.	The group does not build their design.

	Excellent (15-13 points)	Good (13-10 points)	Satisfactory (9-6 points)	Need Improvement (5-0 points)
Reflect				
<i>Final Results</i>	The house heats up and maintains heat for the entire 8 minutes.	The house heats up and maintains heat for at least 2 minutes.	The house heats up but does not maintain heat	The house does not heat up at all
<i>Analysis</i>	Student is able to correctly graph their data and calculate various slopes with no mistakes. They are able to draw conclusions from their data and compare their results to those of other groups.	Student is able to correctly graph their data and calculate various slopes with few mistakes. They are able to draw conclusions from their data and compare their results to those of other groups.	Student graphs their data and calculates various slopes with many mistakes. They are unable to draw conclusions from their data or compare their results to those of other groups.	Student does not complete analysis
<i>Personal Reflection</i>	Student is able to identify multiple ways in which they would have changed their experiment or design and how these changes might have altered the outcome.	Student is able to identify some ways in which they would have changed their experiment or design and begins to identify how these changes might have altered the outcome.	Student is only able to identify one way in which they would have changed their experiment or design and does not identify how these changes might have altered the outcome.	Student does not complete a reflection
<i>Presentation</i>	Group presentation is polished, concise and contains information relevant to the design, building, analysis, and reflection stages of the project.	Group presentation contains information relevant to the design, building, analysis, and reflection stages of the project.	Group presentation contains information relevant to some of the following: the design, building, analysis, or reflection stages of the project.	Group does not complete a presentation