

Team Members: _____ Hour: _____ Team Insulation Material: _____

Unit Summary Table

Unit Name: Building Materials, How we use our Natural Resources

Unit Question: How can growing societies reduce impacts on earth systems and conserve natural resources through their choice of building materials?

Lesson Title	Lesson Question	What did we do?	What evidence did we gather?	What did we learn?	How does this evidence relate to the Unit Challenge?
	You should be able to answer this question by the end of the lesson.	Give a description of what investigation you did or what you explored.	Give a summary of the data and observations that you recorded during the investigation.	Write an explanation of what you learned from evidence you gathered. This explanation should be developed using the "Gotta Have Checklist" for the lesson.	Apply what you learned to the Unit Challenge. This explanation should be developed using the "Gotta Have Checklist" for the lesson
L1- Unit Opener					
L2					
L3					
L4					
L5					
L6					
L7					
L8					
L9- Unit Closer					

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Decision Matrix

DECISION CRITERIA	Objective Weight %	Fiberglass		Cellulose		Foam Board		Rock Wool		What evidence from your summary table supports your ratings.
		Rating	Score	Rating	Score	Rating	Score	Rating	Score	
Material Properties										
Insulating Value										
Local Availability										
Renewability										
Chemicals & Additives Required to Manufacture Material										
Energy Consumed										
Recycled Content										
Air Pollution Emitted (acid rain)										
Total	100%									

Objective Weight% x Rating = Score

Rating Value Chart

	Target:	<i>Check Your Rating...</i>
Material Properties (Flammability, Water Absorbent, Resistance to Sunlight.)	Materials are useful for the interior walls of buildings	4 points if material is not flammable, does not absorb water, is resistant to sunlight 3 points if material is not flammable, minimally absorbs water or is somewhat resistant to sunlight 2 points if material is somewhat flammable, absorbs water & somewhat resistant to sunlight 1 point if material is flammable, absorbs water, is not resistant to sunlight
Insulating Value	Minimize Thermal Energy Transfer	4 points if a R-Value of 19 is achieved with less than or equal to 4" 3 points if a R-Value of 19 is achieved with less than or equal to 6" 2 points if a R-Value of 19 is achieved with less than or equal to 8" 1 point if a R-Value of 19 is achieved with less than or equal to 10"
Local Availability	The material can be obtained locally.	4 points if the material is found locally 3 points if the material isn't found locally, but can be found somewhere in the state 2 points if the material isn't found in the state, but can be found in the United States 1 point if the material can't be found in the United States; it is only found in a different country
Resource Renewability	The insulation material is renewable	4 points if resource will always be available 3 points if it can be replaced in our life-time 2 points if it can be replaced in thousands of years 1 point if it can be replaced in millions of years
Chemicals/additives/inputs required	Reducing pollution, impact on environment	1 pt – less than 5% of material is made from other chemicals 0.5 pts – between 5-10% of material is made from other chemicals 0 pts – more than 10% of material is made from other chemicals
Energy consumed	Reducing pollution, impact on environment	1 pt – uses less than 25 MJ / kg material 0.5 pts – between 25-75 MJ / kg material 0 pts – more than 75 MJ / kg material
Recycled content	Reducing pollution, impact on environment	1 pt – uses more than 50% recycled material 0.5 pts – between 10-50% recycled material 0 pts – less than 10% recycled material
Air Pollution emitted (acid rain)	Reducing pollution, impact on environment	1 pt – emits less than 5 g SO ₂ eq air pollutants / kg material 0.5 pts – emits more than 25 g SO ₂ eq air pollutants / kg material 0 pts – emits between 5-25 g SO ₂ eq air pollutants / kg material