Engineering Design Sheet

Engineering Design: Insulated Plastic Bottle

Initiating and Planning

The goal is to prevent heat from leaving your bottle. What types of materials do you think would be good at this? Why?

Does the thickness of your insulation matter? Explain what you think would happen if you doubled the amount of insulation for each bottle.

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Initiating and Planning			
Follow the procedure provided in the learning activity and record your results in the following table.			
	Temperature		
Material	**Initial**	**5 minutes**	**10 minutes**
Control: No insulation			
Test case:			
Test case:			
Test case:			

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Analyzing and Interpreting

What material kept the water the hottest?

Is this what you predicted?

Extending

If a fan was used for ten minutes, would that change the temperature or effectiveness of the insulation? Why or why not?

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Connecting

Based on what you've learned, how does a winter jacket keep you warm in the winter months?

How can you apply what you learned about the construction of insulated beverage containers to the design of insulation for homes and buildings to make them more energy efficient?