

**INVESTIGATION QUESTION**

How does blubber provide insulation, and what does this tell us about the adaptations of Ice Age megafauna?

**HYPOTHESIS**

Hint: try writing it as "If \_\_\_\_, then \_\_\_\_, because \_\_\_\_."

**MATERIALS**

*disposable gloves, Crisco or shortening, large bowl, ice and cold water, optional thermometer*

**Results Table**

Condition	Time in Ice Water	Comfort Level (1-10)	Notes
Bare hand			
Blubber glove hand			

**If available, record temperatures:**

Temperature inside bare glove after 30 seconds: \_\_\_\_ C    Temperature inside blubber glove: \_\_\_\_ C

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**ANALYSIS**

*What physical property of fat makes it a good insulator? (Hint: think about how heat moves through different materials.)*

**CONCLUSION**

*Explain why Ice Age megafauna like the woolly mammoth were so dependent on both blubber and fur for survival. What happened to them when the climate warmed?*

**CONNECT IT**

*Research the overkill hypothesis and the climate hypothesis for megafauna extinction. Find one piece of evidence for each side and write a brief argument for which you find more convincing.*

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**THINK FURTHER**

*Modern whales have extremely thick blubber layers. What does this tell you about their evolutionary history and the environment their ancestors lived in?*

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**ADDITIONAL NOTES**

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