

## Need To Knows for Hand Warmer Project

- What material will hold in the chemicals (what will contain the reaction without leaking, melting or catching fire)?
- What is the best way to activate our specific hand warmer?
- How hot should it get?
  - How do you control the heat?
  - How are we going to measure it?
- How do we keep the chemicals from reacting before we want the reaction to take place?
- What materials are needed to create the hand warmer
  - Chemicals
  - Container
- Does the size of the hand warmer affect the heat or how long it will work?
  - How long will a hand warmer last? Maximum? Minimum?
  - How do you maintain constant temperature?
- What chemical reaction takes place in the hand warmer to create the heat?
- Who is our audience? Do they have a bias?
- What are the safety precautions that we should take into consideration?
  - MSDS for the chemicals?
  - LD 50?
- What are the environmental and health effects of the chemicals?
- What methods have been used in the past to create a hand warmer?
- Can you reuse the hand warmer or is it disposable?
- What are the steps we should follow to create the hand warmer?
- Does one's body heat or the environment affect how long it will last?
- Is this something that could be profitable?
- How much would it cost to make?
- How much better will it work than gloves?
- What formulas or calculations will be needed to measure the amount of heat that it produces?
- What is the best consistency for a hand warmer?
- What is the most effective exothermic reaction to use?
- Does the reaction create sound or color change?
- How can I make sure that my hand warmer works every time?
- If it does break, what happens?
- How long should it take to heat up?
- What should be on the warning label?
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