



NUCLEAR MELTDOWN

Ingredients

- Transparent Container
- 5 Long Candles
- Matches
- Water
- Clay

Science Terms

- **Nuclear Meltdown** – A meltdown is when the uranium dioxide fuel melts.
- **Fission** - The splitting of an atomic nucleus resulting in the release of large amounts of energy

Instructions

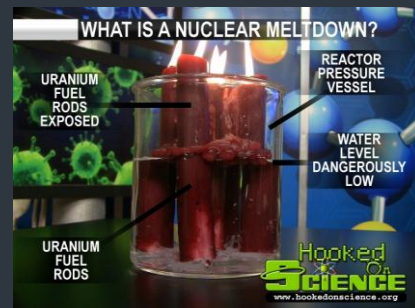
STEP 1: Place a small ball of clay on the bottom of each candle and secure each candle in the center of the container. Each candle should be standing straight up in the center of the container.

STEP 2: Fill the container half of the way with water.

STEP 3: Using the matches, ignite the candles and watch.

Explanation

The candles represent the uranium fuel rods and the transparent container represents the reactor pressure vessel. Typically water would cover the uranium fuel rods. The water is circulated around the rods to keep them cool. If the water isn't pumped through quickly enough, it heats up too much and starts boiling and evaporates. The exposed rods will continue to build heat and the rods melt. When this happens, radioactive materials could be released into the reactor vessel and then into the containment building. Since some water is left in your container this is consider a partial nuclear meltdown.



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