

Heat Capacity of Lead

Video Link: http://www.youtube.com/watch?v=_6y7VyDjjiU ^[1]

Heat Capacity of Lead

(This demonstration will cause burns if not done properly)

MATERIALS

- About 25g of lead shot
- Large test tube
- Ring stand
- Test tube clamp
- Hot plate
- 500mL beaker
- 300mL distilled water
- Test tube tongs

PRESENTATION

- *At the beginning of class, or at least 10 minutes before the demonstration*

Begin boiling the water and lower the test tube containing the lead shot into the water using the ring stand and clamp

- When you're ready to begin the demonstration, wet one of your hands with cool tap water
- Remove the test tube containing the lead shot from the water with the tongs
- Pour the lead shot into your very wet hand

- Because water has a much higher heat capacity ($4.184 \text{ J/g}^\circ\text{C}$) than lead ($0.160 \text{ J/g}^\circ\text{C}$), it should only heat the water a few degrees and not burn your hand
- *Please do not perform this demonstration without being shown how to do so without burning yourself*

DISCUSSION

- Heat Capacity

HAZARDS

- Please do not burn yourself.

[Undergraduate](#)^[2]

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http://www.chem.arizona.edu/lecture_demos/boyle%27s_law_quan

Links:

[1] http://www.youtube.com/watch?v=_6y7VyDjjiU

[2] <http://www.chem.arizona.edu/taxonomy/term/11>