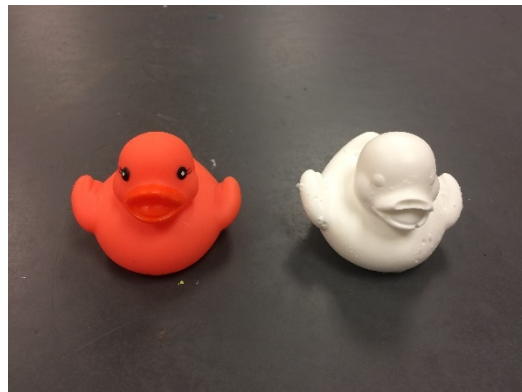


You Will Be Able To:

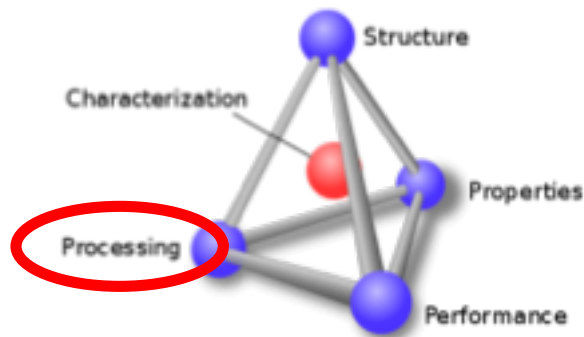
- 1) Explain the thermal casting process
- 2) Cast a plastic object using a silicone mold you made in the Mold Making Lab



Left: Original Object
Right: Plastic version of object casted in silicone mold

Pre-lab Questions:

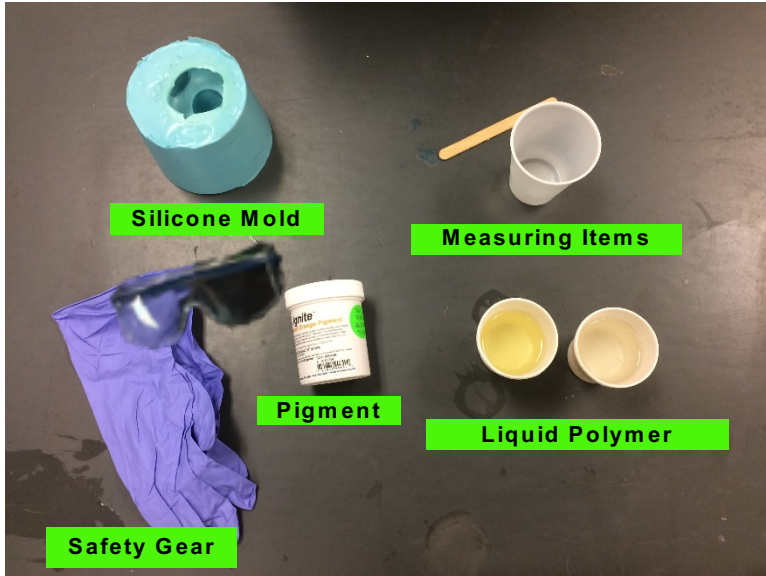
- 1) The casting activity fits into the processing category of the tetrahedron. Please explain why casting fits into processing.



- 2) What kind of materials can you cast?

Mold Casting with Plastic

What you need:



Remember:

Chemicals used in this lab are toxic. Please remember to wear safety gear (glasses and gloves)!

Important safety notes:

The reaction between the polymer and the cross-linker is extremely **exothermic**. The cup you mix the polymer in will get uncomfortably hot.

Concept check:

When you mix these polymers together the cup will become hot to the touch, but this was not the case for the silicone mold. What can you say about this reaction vs the reaction when creating silicone?

Explain your answer to a TA to receive your second polymer.

Casting your object:

- 1) Pour out equal amounts of each polymer
- 2) Mix thoroughly. Add color if desired.
- 3) Once color is added, quickly pour the liquid polymer into your silicone mold.
- 4) The process happens very fast (<15 minutes). The surface will change from clear liquid to a milky solid (see bottom two pictures).
- 5) Once cool and hard to the touch, very carefully peel your object from your mold.

