

<b>Vacuum Forming</b> Group Module: 10	TEL 204: Polymer Molding & Forming Department of Technology	<b>Student Names: (PRINT)</b>
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**Overview:**

We have several thermoforming machines in the Polymer Laboratory. You are to design, plan, draw and construct a vacuum forming mold to construct a **Marble Game** ! Your wood mold will have appropriate draft angle, be sanded, sealed and polished. Your completed game will be decorated using paint, markers, tape, decals, etc. Limit the overall dimensions to 7.5" x 9.5" OR 5" x 5". You will utilize the CNC router to cut portions of your mold.



**THE DRAWING OF YOUR MOLD MUST BE APPROVED BEFORE CONSTRUCTING MOLD !  
 THE COMPLETED MOLD MUST BE APPROVED BEFORE MOLDING A PRODUCT !**

**Instructor Approval Signatures:**

Sketch is approved:	Date:	(25 points)
Drawing is approved:	Date:	(25 points)
Mold is approved:	Date:	(25 points)

**Module Grade:**

All Signatures (75)	Mold: surface finish, construction, vacuum holes, draft angle, etc. (100)	Product: trim, finish, etc. (50)	Product decoration (50)	Lessons Learned (25)
Grade:				

**Molding Procedures:**

1. Obtain a piece of sheet stock, 10" x 12". Do not generate waste sheet stock!
2. Wear gloves and safety glasses.
3. Place mold on the center of the thermoformer platen.
4. Clamp sheet stock into clamp frame.
5. Slide the heater over the sheet and heat until it is uniformly "rubbery", even close to the clamp frame (where heat is "sunked" away). When you first begin heating the sheet it will become wavy. Then as you continue to heat the sheet it will flatten back out. Continue heating until the sheet just begins to deform for the second time.
6. Slide heater back, quickly raise platen (and hold tightly), and turn on the vacuum to form part. Allow to cool until you can place your hand on the top of the sheet.
7. Remove part, de-mold, and trim to a pencil line using scissors, snips, band saw (for thick stock), and finally wet sand with 180 grit for a final finished edge.

**Lessons Learned:**

List the most important lessons learned from this polymer module.

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**Notes:**