**Reflection Template**

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The goal of this project was to create a small box with a design that would allow light to pass through, creating an interesting pattern of light. We would take inspiration from around us and I chose to create a night ski theme to replicate the stars and moonlight. In addition, we added a box topper which I took inspiration from a mountain. We were able to create these boxes by using illustrator and the laser cutter to perfectly design our boxes.

The steps were as follows:

* Brainstorming
  + I took inspiration from the starry night sky
  + I wanted many holes in the side to reflect the stars
  + Lines connecting holes would act as constellations
  + Box topper = starry night sky and a mountain on top
* Design
  + Using a 3d drawing to represent the final product
  + Drawing = dimensions / depth / designs / final product
  + Many iterations/ decides to go with starry night sky as design
* Illustrator
  + Created a box
  + Implemented slots to act as press fit pieces
  + Struggled to get dimensions right
  + Many layers
    - Cut later = outline and holes to represent stars
    - Score layer = lines to act as constellations
    - Raster = name
  + 5 different files to get dimensions and press fit slots in correct places
* Test Piece
  + Created test piece to insure correct dimensions of press fit slots
  + Worked on first try
  + Was able to move onto final piece since dimensions were correct
* Peer Reflections
  + Many people said to add more detail to holes
  + This lead me to put in the mountain topper and lines of constellations
  + Most loved the holes which created a beautiful pattern when a candle was lit inside of it
* Final
  + Final iteration was successful in the laser cutter and my design came out the way I wanted it
  + My file got corrupted so the press fit pieces were too large which led to the box not being able to be assembled
  + Not being able to do it again since I was leaving for surgery, I sawed away at the wood and forced the pieces into each other
* Capture
  + I captured beautiful photos of the box in the night and with a light in it which simulated a sun setting and the night sky together, exactly what I had wanted

**The process:**

You can go into detail about your process.

I initially wanted to create a design that had more mountains in it. Still, I decided to go with the starry night design because I love how the night sky looks and I wanted to replicate it with a candle in the box, illuminating the design. I drew my design out on a sheet of paper with the dimensions and design incorporated to create a 3d model of what I wanted the box to look like. This drawing gave me the perfect understanding of how I wanted the final project to look. From the drawing, I went to an illustrator to create the shape of the box and the press-fit slots in order for the box to be assembled. While I did have some trouble with the pen tool and layers, I figured it all out and was able to move to the test piece stage. I created the 2 test pieces which were made to make sure that the slot dimensions were perfect and allowed for an exact fit of the box sides. I laser cut the pieces which ended up being the perfect size on the first try. This allowed me to focus on the final stage of the project, finalizing all aspects of the layers and sending them to the laser to be cut. I completed my design and set it to the laser, only for the file to be corrupted and have my slots cut out MM too big to fit. Not having time to completely redo my illustrator file, I sawed away at the wood and used a mallet to force the pieces into each other. Surprisingly, it worked and my box was very stable and completely intact. I moved on to the last stage of my project, capturing the photos. My idea was to create a completely dark environment and place a candle in the box's interior, which would simulate a starry night sky. Overall this project was one of the harder ones but I enjoyed it greatly because I was able to create my entire project from scratch.

**Challenges, setbacks, and solutions:**

You can identify and speak to solutions to challenges in your project

I faced some challenges but the most notable was when the file did not cut correctly so I was left with a box that did not fit at all. I improvised by sawing away at the wood and press-fit slots. Then I hammered the pieces together to ensure a tight fit. In the end, the box was very structurally sound and was very tight which makes sure it will never break apart.

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| *Caption* | *Caption* |

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| *Finished project* | |