

Lesson Plan

Grade: 8

Subject: Career Technical Education

Unit: Computer Aided Design and Design Process

Materials and Technology Needed: School provided Computer, Autodesk Inventor program, Teacher supplied packets of information. In this case, 1.5.9 Playground Parts Document

Instructional Strategies:

- Direct Instruction
- Guided Practice
- Lecture
- Technology Integration
- Visual Aids/ Guided Aids
- Collaboration

Guided Practices and Concrete Application:

- Independent activity
- Collaboration
- Technology Integration
- Mimic/Repeat

Standards: See attachment: Design and Modeling Enduring Understandings provided to me by Mr. Husen

Objectives:

1. Create Tri-platform
 - a. XZ Plane (Use flat lines)
 - b. 44" width with 6" edge
 - c. 46" width with 7.75" edge
 - d. Extrude by 3"
 - e. Finish Sketch
 - f. Sketch
 - i. Point
 - ii. Set all 3 points at the same time
 - iii. Set dimensions – pull out measurement to appropriate side
 - iv. Finish Sketch
 - g. 3d model
 - i. Hole
 - ii. Termination – Through All
 - iii. Diameter 4" – set all 3 at once, that is why we set the points at the same time
2. Monkey Bars
 - a. Assembly

- i. Place the following already made components
 1. 2 Monkey Bars
 2. 2 Upright monkey Bars
 3. 2 Upright Monkey Ladders
- ii. Use constrain to mate pieces together
 1. Place
 - a. 4th option "Insert"
 - b. 2nd option "Aligned"
 2. Constrain 2 poles into other side to line it all up

Bloom's Taxonomy Level: Apply (Execute, Implement, Solve, use, Demonstrate, Operate, Sketch)

Procedures

Set-up/Prep: 3-5 minutes at the beginning of class

Engage/Explain: 30minutes. After re-watching my video, I notice that I jump back and forth between these two procedures over the course of 30 minutes. I was trying to help the quick and more obvious questions as I touched on each section.

Explore: 20minutes. This starts at the end of the video. We cut off the video at 39 minutes because the file size was getting so large, but I finished off the class period with concrete practice/application.

Review: Unfortunately, I did not do any review. The students had so many questions that the period was over before I realized it.

Classroom Management: Moving between the computer and the front screen to grab the attention of the students during a portion of the lesson that I felt should be highlighted. Also, moving around the classroom answering minor questions while repeating some of them out loud so that the other students could hear the answer in case they had the same question (the audio in the video is unfortunately pretty low). Not much other management was needed as the students were very respectful.

Behavior Expectations: We went with a learn by doing approach for my lesson. The students were at varying levels of understanding. The portion that I was showing on the screen was actually a review for most of the students. However, some had recently missed class for sports and a couple for illness, so it was new for those students. All students knew what the final project was (creating a playground) so I went over the two areas that seemed to bring up the most questions so that they could finish the unit over the next two class periods more easily.

Differentiation: The portions I was presenting were a review from earlier in the unit. Specifically, the "mate" function of the lesson was applicable to all other areas in the unit. Some students received this information for the first time and the students that were ahead were able to get a refresher because they would be using that function in the program quite a bit to finish the overall unit.

Formative Assessment: I was trying to show the students important points of the lesson while also assessing where they were at by answering questions. Specifically, I was trying to answer questions and verbalize the answer while I went over it with the student so that other students in the room that might have that same question could listen in as well.

Summative Assessment: There was no summative assessment in my particular lesson. That was coming in the following two days, which was combining all of the components of the playground into one final playground set.

Reflection: I believe that I took too long while going into too much detail. I should have completed my portion in about 10 minutes and then spent the rest of the time answering questions from the class and if I found that multiple students had a similar question, then I could go back to the computer and show it on the projector. I knew balancing a lesson plan and a classroom full of students would be difficult, but I had no idea just how difficult. You really cannot understand how hard it is to juggle until you are up there experiencing it. How many questions do I answer before going back to the computer to move further? Are the students losing interest in what I am saying, and should I break it up? Luckily, the students were incredibly good to me and stayed as focused as they could, I can only imagine if there had been a behavioral incident. I am glad that I was able to experience it though, it was an eyeopener, but it also made me fired up to give it a go again.