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| **Name**: Marshall Hacker  FA: Joan Erb  SA: Tim Westwick  Class: Metal 9-12 | | **Date**: | **Title**: Lathe | |
| **Overview/Rationale:** The lathe is one of the fundamental tools of machining. Its focus is to reduce diameters or to work on cylindrical types of stock. | | | **Objective:** Students will be able to correctly use a Lathe in a safe manor. They will be able to identify the parts and functions of the machine and know the correct speeds and feeds.  Big idea: Personal design interests require the evaluation and refinement of skills.  Curricular content: ferrous and non-ferrous metals and their applications | |
| **Materials**: Lathe and 1” stock piece. | | | **Teacher Notes and instructional materials:** prepare metal to preform a demo on. | |
| **Time**:  45 min  15 min  10 min | **Procedure**:  **Demo**  *Outline all the parts of the lathe on the overhead and explain how the lathe operates. Outline the safety features and safety procedures while using the lathe. Introduce the Speed formula (CSx4)/D and give them examples. Take students to the lathe and group them up, and show them how to use the lathe, and show them the parts and functions of the lathe. Do a cutting demonstration and allow the students to try this with supervision.*  *Have students use the lathe to do small cuts and practice the new techniques/skills learned in class today*  Continue on project work.  Clean up/Daily time sheet. | | | **Vocabulary**:  Chuck  Headstock  Auto-feed  Tailstock Carriage  Carriage hand wheel  Cross slide  Compound Slide  Tool  Tool post  Live center  Speed levers  Cutting speed  Clutch |
| **Evaluation and Assessment**:  How when do we use a live center?  What the cutting formula, how/whys is it used?  How do we turn it on and off?  How do we tighten stock and change the speed? | | | **Closure/Summary**: The lathe can be a dangerous tool if used incorrectly. Students can use this tool to do many different and unique things. It is important to use this machine for what it is intended for. You can do countless things with a good imagination. | |

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| Remember:   * Tell the class the objective of the lesson * Teach to your objective * Evaluate to your objective | IN A NUTSHELL:   * Tell them what you are going to teach them. * Teach them. * Tell them what you taught them. |