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| Lesson Plan: Cutting and Assembling a Splined Miter Joint | | Date: January 2017 |
| Course: Wood 9-10 | | Estimated time: 70 minutes |
| Lesson Objectives:   * Big Ideas - Complex tasks require the sequencing of skills.   - Complex tasks may require multiple tools and technologies   * Curricular Competencies   + Identify and use appropriate tools, technologies, materials, and processes for production   + Demonstrate an awareness of precautionary and emergency safety procedures in physical environments   + Make a step-by-step plan for production and carry it out, making changes as needed   + Choose, adapt, and if necessary learn about appropriate tools and technologies to use for   tasks | | |
| Introduction |  | |
| * Show students the woods they can use and what size boards they will need | | |
| Lesson Details | Important Points & Teaching Techniques/Strategies | |
| * **Attendance**   5 min  10 min  10 min  10 min  10 min  5 min  20 min   * **Introduction and question prior knowledge**   + Students have completed the table saw safety test and have used the table saw for ripping and cross-cutting   + Students have completed the band saw safety test and have experience using it for several projects   + Students have been taught about wood grain and the difference between end-grain, edge-grain, and face-grain * **Review Safety**   + Wear safety glasses and hearing protection   + Secure long hair and loose clothing   + Ensure students have completed the safety tests   + Review table saw safety * **Demonstrate procedure for cutting a miter on the table saw**   + How to set blade at 45 deg.   + How to set-up miter gauge   + How to safely make a cut with the miter gauge * **Demonstrate procedure for cutting slots using the splined miter jig**   + How to complete the layout for spline slots   + How to set-up the jig   + How to secure work in the jig   + How to safely use the jig * **Demonstrate procedure for cutting splines**   + What type of wood to use (something contrasting wood used for body)   + How thick should strips be? (width of table saw blade – 1/8 in.)   + Cut splines oversized on bandsaw then sand until flush   + Use only small amount of glue on both sides of splines * **Students work on projects** (jewelry box)   + Students who are ready begin work on the splined miter joint processes   + Teacher will supervise and be available to help on table saws   **Materials:**   * Wood – scrap for demo * Teaching aid – demo jewelry box body * Splined miter jig for table saw * Splines ready to be used   **Adaptations for ELLs:**   * Vocabulary handout and/or posted on board:   + Miter, spline, end grain, jig, kickback | | |
| Questions |  | |
| * Why is end-grain a poor gluing surface? * Where should you stand when using the table saw to reduce risk of injury due to kickback? * Which table saw can the splined miter jig be used on? | | |
| Closure |  | |
| * Review procedures and check-in with students re. their progress. | | |
| Reflection |  | |
| * What went well? What might you change? | | |