

TCJ 20

Construction Technology

Building a End Table

Abstract

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Project Overview

Developing and practicing skills for use in construction and woodworking classes is important for success in senior technology programs. This project is designed to culminate a series of smaller skill building activities/projects taught in the first part of the course. It is also designed to allow students to read and understand drawings, interpret information and complete a portfolio to support the documentation (Design Process) in the fabrication of a piece of furniture.

Project Challenge


Students will be challenged to explore alternate methods of fastening the legs to the rails of an end table other than the one provided on the plans. Students will also see how a simple change (e.g., edge profile, tapered leg, etc) can alter appearance and ultimately the style the piece or table. The assignment and plans provided in this project ([Appendix A](#)) are to be used and detailed just enough; however one or two dimensions will need to be calculated from the dimensions provided on the plan.

Connections

L: Literacy
ML: Mathematical Literacy
SEF Component 1 Indicators 1.1 - 1.7
SEF Component 1
Indicator 1.1 - Assessment is connected to the curriculum, collaboratively developed by educators and used to inform next steps in learning and instruction.
Indicator 1.2 - A variety of relevant and meaningful assessment data is used by students and educators to continuously monitor learning, to inform instruction and to determine next steps.
Indicator 1.3 - Students and educators build a common understanding of what students are learning by identifying, sharing and clarifying the learning goals and success criteria.
Indicator 1.4 - During learning, timely, ongoing, descriptive feedback about student progress is provided, based on student actions and co-constructed success criteria.
Indicator 1.6 - Assessment of learning provides relevant and meaningful evidence to evaluate the quality of student achievement at or near the end of a cycle of learning and to determine next steps.
Indicator 1.7 - Ongoing communication about learning is in place to allow students, educators and parents to monitor and support student learning.
SEF - Component 2
Indicator 2.4 Job-embedded and inquiry-based professional learning builds capacity, informs instructional practice and contributes to a culture of learning.

SEF - Component 3 - Indicators 3.1 - 3.4
SEF - Component 3



	<p>Indicator 3.1 - The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives.</p> <p>Indicator 3.2 - Students' stated priorities that reflect the diversity, needs and interests of the student population are embedded in School Improvement Plans (SIPs).</p> <p>Indicator 3.3 - Students are partners in dialogue and discussions to inform programs and activities in the classroom and school that represent the diversity, needs and interests of the student population.</p> <p>Indicator 3.4 - Students demonstrate a wide range of transferable skills, such as teamwork, advocacy, leadership and global citizenship.</p> <p>SEF - Component 4 Curriculum, Teaching and Learning</p> <p>Indicator 4.2 - A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</p> <p>FMNI - TCJ 20 - SE - D2.2 - describe the economic and cultural effects of the custom woodworking industry (e.g., ... opportunity to preserve and/or apply traditional designs) on a specific community or population (e.g.,. Aboriginal)</p>
<h2>Project Criteria</h2>	<h2>Examples</h2>
<ul style="list-style-type: none"> ● The end table must match the specifications on the plans. (16" wide x 16" deep x 16" tall) ● Create a complete bill of material ● Create one route sheet for the glued up top ● End table needs to be submitted at the white wood stage for marking. ● Maintain Documentation through the Design Process. ● Personalised finish will be applied after grading. 	<p>See Appendices - built within the project in other folder</p> 



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Project Synopsis and Timelines

Activity	Activity Title/Name	Time (hrs.)	Curriculum Expectations	Assessment & Evaluation	Connections
1	Looking at the Fundamentals	3	OE A1 SE A1.4, A1.5, A1.6 OE A2 SE A2.1, A2.2, A2.3 OE A3 SE A3.1	K/U K/U T	<ul style="list-style-type: none"> ▪ Ontario Curriculum ▪ Growing Success ▪ DI ▪ SEF ▪ STEM ▪ Math Literacy ▪ Literacy ▪ FNMI ▪ ESL
2	Planning the Project	4	OE B2 SE B2.1, B2.2 OE B3 SE B3.1, B3.2	K/U A	<ul style="list-style-type: none"> ▪ Ontario Curriculum ▪ Growing Success ▪ DI ▪ SEF ▪ STEM ▪ Math Literacy ▪ Literacy ▪ FNMI ▪ ESL
3	Fabrication, Assembly and Finishing	8-10	OE C1 SE C1.1, C1.2 OE C2 SE C2.1, C2.2, C2.3 OE C3 SE C3.1, C3.2 OE - E1 SE E1.2, E1.3, E1.5	A A A K/U	<ul style="list-style-type: none"> ▪ Ontario Curriculum ▪ Growing Success ▪ DI ▪ SEF ▪ STEM ▪ Math Literacy ▪ ESL



CONNECTIONS RESOURCE LIST

The Ontario Curriculum, Grade 11-12, Revised 2009

<http://www.edu.gov.on.ca/eng/curriculum/secondary/2009teched1112curr.pdf>

Growing Success

<http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf>

Differentiated Instructions

Educator's Package, 2010(DI)

<http://www.edugains.ca/resourcesDI/EducatorsPackages/DIEducatorsPackage2010/2010EducatorsGuide.pdf>

School Effectiveness Framework, 2013 (SEF)

<http://www.edu.gov.on.ca/eng/literacynumeracy/SEF2013.pdf>

Think Literacy

<http://www.edu.gov.on.ca/eng/studentssuccess/thinkliteracy>

Leading Math Success

<http://www.edu.gov.on.ca/eng/document/reports/numeracy/numeracyreport.pdf>

Ontario First Nations, Metis, and Inuit Education Policy Framework (FNMI)

<http://www.edu.gov.on.ca/eng/aboriginal/fnmiFramework.pdf8>

Ontario's Equity and Inclusive

Education Strategy <http://www.edu.gov.on.ca/eng/policyfunding/equity.pdf>

Ontario Skills Passport (OSP)

<http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayEssentialSkills.xhtml>

OCTE Resources SafeDocs, SafetyNet

<http://www.octelab.com/>



Activity 1 - Looking at the Fundamentals

Minds On (Engaging Prior Knowledge)

Activity 1 Looking at the Fundamentals

Activity Description:

Create a context for learning by explaining large scale production of a furniture product versus production of a 'one of piece'.

Provide some examples and walk through the manufacturing process and the benefits of production on a larger scale compared to custom handcrafted furniture.

Explain the pros and cons between Computer Aided Design (CAD) drawing and manual drafting/drawing.

Each student will complete one table but based on the prior experiences, decide whether students should complete the assignment individually or in pairs.

Activity 1 Criteria and Instructions

All drawings and supporting paperwork will be manually drawn and produced.

Review orthographic lessons and worksheets, review principles of hand drawing (drafting).

Introduce bill of materials and route sheets; have the class do a practice worksheet for both.

Discuss furniture styles (Arts and Crafts, Shaker, and Early American) , form and function of similar pieces of furniture. Have a discussion while showing examples on the screen or a whiteboard.

Review safe use of machinery and the basics of breaking out rough lumber and gluing to a panel.

Students will review the design process, learn how to complete a Bill of Material and route sheets.

([Appendix C](#), [Appendix D](#))



Activity 1 Prior Knowledge	Connections
<p>Students have sign-offs in the following:</p> <ul style="list-style-type: none"> • Safety passport • Shop safety agreement form <p>Students have experience in the following:</p> <ul style="list-style-type: none"> • Orthographic drawings and Manual drafting • Measurement • Defecting / breaking out rough lumber • Gluing and clamping • Dressing lumber • Individual and Group work • Basic skills in word processing used for the design process and documentation 	<p>Ontario Curriculum (OE - A1 SE- A1.4, A1.5, 1.6 OE - A2 SE A2.1, A2.2, A2.3 Growing Success (look at many types of evidence which will show that a student has learned the required curriculum content and skills) DI (Allow students choices on completing orthographic drawings) SEF (Indicator 1.1 - Multiple and varied opportunities are provided for students to demonstrate, communicate and refine their learning.) STEM (Science, Technology, Engineering and Math) is a vital piece in a student's studies and can not only drive the economy through the promotion of business innovation and increase employability opportunities. Math Literacy Literacy FNMI (foster school-community projects with appropriate cultural components.</p>
Activity 1 Planning Notes	Connections
<ul style="list-style-type: none"> • Building on your Grade 10 word wall introduce any new terminology. • Allow access to previous lessons for reference. • Review all student IEPs to be familiar with student learning styles and accommodations, necessary for their success. • Check all recommended resources prior to beginning lessons and activity ie. print material, websites, videos, exemplars. • Review all activities and prepare all resources (handouts, and materials) necessary for the delivery of content. • Ensure there is a whiteboard or screen for presenting examples. <p>Note: It is recommended that all resources be posted to your website</p>	<ul style="list-style-type: none"> • Ontario Curriculum • Growing Success • DI • SEF <p>Indicator 3.1 The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives.</p>



(either school or board based) to avoid too many handouts and to ensure full accessibility.

Action (Introduce or Extend Learning)

Activity 1 Instructional Strategies	Connections
<p>Teacher:</p> <p>This project lends itself to group discussion and teaching.</p> <ul style="list-style-type: none"> • Make sure everyone's notebooks are up to date and that all reference material relating to the project has been assessed and is accurate. • Make certain that while in the planning stage the students that move quickly through the process pair up with your weaker students to help them with the process. • Keep all examples and discussion simple and relevant to the specific table. • The top needs to be attached but able to expand and contract through changes in humidity. • Reassure the class that there are only nine pieces that make up the table and that it is not as complicated as it may look. <p>Students:</p> <ul style="list-style-type: none"> • Bring all necessary materials to class each day. (pencil, ruler, duotang, safety glasses) • Follow along with the process so not to fall behind. 	<p>Growing Success (Collaboration - students accept various roles and an equitable share of work in a group)</p> <p>DI (establish the starting point for the new learning, and helps teachers to plan differentiated tasks and assessments that meet students' learning needs, interests and learning preferences. A choice board with examples may help. The recommended material is noted as softwood wood, but some students may wish to use hardwood (e.g., oak, maple, etc).</p>
Activity 1 Assessment and Evaluation	Connections
<p>Ensure students are on task and within the timelines</p> <p>Knowledge and Understanding: Ensure students are researching the proper content and have a solid understanding of the requirements for the end table.</p> <p>Thinking: Ensure students are interpreting information</p>	<ul style="list-style-type: none"> ▪ Growing Success (page 13 B. Interacting in Heterogeneous Groups * The ability to relate well to others * The ability to cooperate and work in teams)



<p>provided for the end table</p> <p>Communication: Students will convey of meaning through various forms such as oral, discussion or presentation.</p> <p>Application: Students will make connections between what is required and the complexities that can arise in researching production of furniture .</p>	<ul style="list-style-type: none"> ▪ <i>AforL</i> share learning goals and success criteria with students at the outset of learning to ensure that students and teachers have a common and shared understanding of these goals and criteria as learning progresses; <p>Ontario Skills Passport - Reading, Oral Communication, Learning Skills - Responsibility, Organization, Initiative</p>
<h2>Activity 1 Accommodations</h2>	<h2>Connections</h2>
<p>Teachers are to be familiar with exceptional students' Individual Education Plans (IEPs) for legislated accommodations, and consult with the appropriate staff. By doing this, teachers will be aware of and can implement prescribed modifications accommodations and/or alternative program goals.</p> <p>Students can be assigned to support each other (e.g., Learning Styles, IEP's, complexity, etc) such as:</p> <ul style="list-style-type: none"> ● Grouping planning and build teams with varied abilities to allow for peer support. ● The teacher may choose or modify the teams depending on individual strengths and weaknesses. ● Providing a list of resources/websites that will assist with their findings. (specific research materials). ● Pairing experienced students with those who are not yet familiar with the techniques. ● When available, use of a support staff to assist students in reaching their IEP goals. ● Allow students extra time if needed. ● Provide classroom handouts for lessons or powerpoints ● Show class Exemplars with connections to level of achievement. 	<p>Ontario's Equity And Inclusive education Strategy 2009</p> <p>Guiding Principles of the Equity and Inclusive Education Strategy Equity and inclusive education: • is a foundation of excellence; • meets individual needs; • identifies and eliminates barriers; • promotes a sense of belonging; • involves the broad community; • builds on and enhances previous and existing initiatives; • is demonstrated throughout the system</p> <p>DI tip</p> <p>"When teachers recognize diversity in their students, in terms of how and what they identify with and how they learn, and when this recognition is reflected in how teachers teach, students are free to discover new and creative ways to solve problems, achieve success, and become lifelong learners." (Ferguson et al., 2005)</p> <p>DI (page 28 - use assessment to inform instruction, guide next steps, and help students monitor their (page 28 - use assessment to inform instruction, guide next steps, and help students monitor their</p>



Consolidation & Connections

(Provide Opportunities for Reflection)

Activity 1 Reflection Paper/Exit Card	Connections
<p>Student must complete their daily journal with specific details about the research phase of the table project. (Appendix E)</p>	<p>Growing Success (page 29 - analyse and interpret evidence of learning; give and receive specific and timely descriptive feedback about student learning; help students to develop skills of peer and self-assessment.)</p>

Materials, Equipment, Tools and Resources

<h3>Activity 1 Websites</h3>
<p>Furniture styles - http://www.connectedlines.com/styleguide/style02.htm Youtube - Tool Talk #6: Pocket Hole Jigs Google</p>
<h3>Activity 1 Publications</h3>
<p>Course textbook</p>
<h3>Activity 1 Computer Software</h3>
<p>Computer lab / Word processor Assess to the Internet</p>



Activity 1 Human Resources

Classroom teacher
Other Technological teachers (tech design)
Student success
Special Education department resources

Activity 1 Other

- Board computer policies

Activity 1 Appendices

[Appendix C - Appendix Title- BILL OF MATERIAL](#)

[Appendix D - Appendix Title- ROUTE SHEET](#)

[Appendix E - Appendix Title- WEEKLY JOURNAL](#)



Activity 2 - Planning the Project

Minds On (Engaging Prior Knowledge)

Activity 2 Planning the Project

Activity Description:

Each student will analyse the provided assignment sheet ([Appendix A](#)) and the drawing/plan ([Appendix B](#)) and create a complete Bill of Material (BOM) ([Appendix C](#)). With the plan BOM completed, each student will create a route sheet ([Appendix D](#)) for each part in the project. (there are 3 different parts required) Ensure that each step of the production process is documented.

[The following link](#) will assist if you need to teach how to use a Bill of Material!

Activity 2 Criteria and Instructions

Production of Orthographic Drawings:

- Individually or in small groups, students will begin to develop the drawings, BOM and Route List required to begin fabrication.
- Using another small project as an example have the class complete a BOM ([Appendix C](#)) and a route sheet ([Appendix D](#)) on the board with you guiding the discussion and progress.

Keep in mind that the sample plan students will be using has at least two dimensions purposely omitted in order to force them to think through the design process.



<h2>Activity 2 Prior Knowledge</h2>	<h2>Connections</h2>
<ul style="list-style-type: none"> • Students have knowledge of Orthographic Drawings. • Students have knowledge design, layout and of materials. • Students have a knowledge of bill of materials and route sheets. • Students know how to maintain their Portfolio and Design Process • skills in cooperative learning environment (interpersonal skills) and an understanding of personal responsibilities and commitment required for individual or group activities. • respect for the rights, responsibilities and contributions of self and others. • mathematical skills relevant to drawing accuracy, measurement units. 	<p>Ontario Curriculum OE B2 SE B2.1, B2.2</p> <p>OE B3 SE B3.1, B3.2</p> <ul style="list-style-type: none"> ▪ SEF Component 4 Curriculum Teaching and Learning Indicator 4.2-Numeracy specific concepts are explicitly used to deepen student learning and understanding in all subjects. ▪ DI (Allow students choices on completing orthographic drawings) <p>Teacher Tip: A great way to discuss Cartesian coordinate system as well a triangulation. OCTE Safety Resources</p>
<h2>Activity 2 Planning Notes</h2>	<h2>Connections</h2>
<p>Prior to beginning this activity:</p> <ul style="list-style-type: none"> • Review the Fundamental Concepts (page 5 of the Curriculum Document) • Review the project plan and familiarize yourself with the project. • Based on the prior experience of the students, the information gathered from their self-assessments, and ongoing conferences throughout the lesson sequence, set up short demonstrations or workshops as required (e.g. determining scale, calculating materials cut list, etc) to meet their needs. • Have student folders with their research information in a file folder for easy access. 	<ul style="list-style-type: none"> ▪ Ontario Curriculum - To address technological challenges and solve problems effectively, students need to take the full range of these concepts and elements of technology into account. ▪ Growing Success ▪ SEF - Indicator 3.0 - 3.1 - The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives. ▪ 3.4 - Students demonstrate a wide range of transferable skills, such as teamwork, advocacy, leadership and global citizenship.



<ul style="list-style-type: none"> ● Make sure there is adequate lumber and materials and supplies for each class. ● Continue daily machine inspections prior to class use. 	<ul style="list-style-type: none"> ▪ STEM ▪ Math Literacy ▪ Literacy ▪ FMNI - indigenous perspectives extend and enrich the educational experience, provide intercultural knowledge and experiences and afford opportunities to explore and appreciate Aboriginal socio-cultural, economic and ecological contributions to Canadian society
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Action (Introduce or Extend Learning)

Activity 2 Instructional Strategies	Connections
<p>Teacher will:</p> <ul style="list-style-type: none"> ● Have the plan on the screen (board) and walk the class through completing the BOM for the table. ● Hand out a copy the plan (Appendix B), the blank bill of material (Appendix C) and the assessment rubric (Appendix F) ● Review the lesson/ powerpoint on creating a bill of material and route sheets from an existing plan. ● Ensure all the math adds up and the dimensions for cutting are correct or material will be wasted. ● Hand out the three blank route sheets and walk the class through completing the sheet for the rails. (the rails are the simplest) ● Allow the class to complete the remaining route sheets in class and for homework. ● Once the BOM and route sheets are complete and accurate add a copy of the plan to a their folder/duotang for use on the shop floor. <p>Students will: Using the plan displayed on the board;</p> <ul style="list-style-type: none"> ● complete the Bill of Materials. ● Work in pairs to ensure that the BOM is accurate ● Use the completed and approved BOM to fill out the 3 route sheets. ● Compile all documents in their duotang for shop work. 	<ul style="list-style-type: none"> ▪ DI - It is crucial that the goals and criteria be shared with students at the outset of instruction, and referenced during instruction. When sharing the learning goals with students, state them from a student's perspective (e.g., "I can..., I will be able to..., We are learning to...").



<h2>Activity 2 Assessment and Evaluation</h2>	<h2>Connections</h2>
<p>Assessment strategies and tools in this activity will include opportunities to monitor student achievement levels, as well as learning skills.</p> <p>Assessment strategies and tools in this activity will include;</p> <ul style="list-style-type: none"> ● Feedback ● monitoring students' achievement levels ● learning skills. ● Bill of Materials ● Orthographic drawings 	<p><u>Growing Success</u> Using checklists allow for assessment as learning, also have conversations with the student about their progress to keep the process transparent. Final evaluations should not occur until the student has had verbal feedback along the way – assessment as learning.</p> <p>SEF Indicator 2.2- Provide explicit feedback about their engagement and learning as educators and advocate for what they need as learners</p> <p>SEF Indicator 3.3 -Students are partners in dialogue and discussions to inform programs and activities in the classroom and school that represent the diversity, needs and interests of the student population.</p>
<h2>Activity 2 Accommodations</h2>	<h2>Connections</h2>
<p>Teachers are to be familiar with exceptional students' Individual Education Plans (IEPs) for legislated accommodations and consult with the appropriate staff. By doing this, teachers will be aware of and can implement prescribed modifications and accommodations. Teaching Strategies for students with special needs may include:</p> <ul style="list-style-type: none"> - grouping students with varied abilities to allow for peer support. The teacher may choose or modify the groups depending on individual strengths and weaknesses; - providing a list of designs and suggestions where enrichment and challenge is needed, allowing students to be peer tutors/mentors; <p>pairing experienced students with those who are not yet familiar with the technique.</p>	<ul style="list-style-type: none"> ▪ Ontario Curriculum - page 35 - Classroom teachers are the key educators of students who have special education needs. They have a responsibility to help all students learn, and they work collaboratively with special education resource teachers, where appropriate, to achieve this goal. ▪ Growing Success - Students with Special Education Needs: Modifications, Accommodations, and Alternative Programs <p>SEF Indicator 3.1 Learning experiences are engaging, promote collaboration, innovation and creativity (i.e. are clear, meaningful, challenging, productive and include problem solving and critical thinking on a variety of issues).</p> <p>Demonstrate confidence, resilience, self-regulation and self-efficacy in their capacity to learn and succeed.</p>



Consolidation & Connections (Provide Opportunities for Reflection)

Activity 2 Reflection Paper/Exit Card	Connections
<p>Have students fill out exit cards at the end of this activity. Be sure questions are broad in nature but specific enough to measure student learner.</p> <p>Prepare half-slips of paper with typed questions or write questions on the whiteboard for students to answer.</p> <p>Have students complete exit cards during the final 5 minutes of the class period. Since exit cards must be turned in before students leave class, it is best if the prompts are specific and brief. Often they refer directly to the content that was studied, but they can also be general in nature such as:</p> <ul style="list-style-type: none">● List three things you learned in completing this activity.● What questions, ideas and feelings have been raised by this lesson?● What was your favourite part of this activity? Why? What was your least favourite part of this activity? Why?● Evaluate your participation in class today. What did you do well? What would you like to do differently next time.	<p><u>DI Connections</u></p> <p>The student completes and exit card to demonstrate their learning. This will provide an informal measure of how well students understood design concepts. Teaching strategies may need to be changed based on student feedback</p> <ul style="list-style-type: none">● SEF <p>Component 2 Classroom Leadership Connections Indicator 2.2- input, through the reflection papers will help refine instruction to improve student learning</p>



Materials, Equipment, Tools and Resources

Activity 2 Websites
Activity 2 Publications
Activity 2 Computer Software
Activity 2 Human Resources
<ul style="list-style-type: none">● Guest Speakers● Resource Staff/Special Education Staff● Tech Design, Art, English Department Staff
Activity 2 Other
Activity 2 Appendices
Appendix A - Appendix Title - END TABLE ASSIGNMENT Appendix B - Appendix Title - END TABLE PLAN



[Appendix C - Appendix Title - BILL OF MATERIAL](#)

[Appendix D - Appendix Title - ROUTE SHEET](#)

[Appendix F - Appendix Title - END TABLE EVALUATION RUBRIC](#)



Activity 3 - Fabrication, Assembly and Finishing

Minds On (Engaging Prior Knowledge)

Activity 3 Fabrication, Assembly and Finishing

Activity Description:

Once students has completed the drawings and BOM, students can begin in the fabrication process. The process of part fabrication and assembly will be completed in the appropriate steps. This process and timing is dictated by the construction technology teacher.

This process ensures that each student will follow each step and machine in order to ensure that all parts are made within tolerance, that everyone uses the machines safely and correctly, and so no one falls behind.

Applying a simple water based finish will be an individual process.

Activity 3 Criteria and Instructions

This activity is all hands on.

With all necessary documentation completed, students will safety begin the break-out process of all the required components of the end table. ([Appendix A,B,C,D](#))

When all components have been completed based on each step on the route sheet, students will be ready for assembly.

Assembly method for this project will be pocket holes / screws and glue.

The concept of wood movement should be taught in other programs.



<h2>Activity 3 Prior Knowledge</h2>	<h2>Connections</h2>
<ul style="list-style-type: none"> ● Students have completed their Passports to Safety for all machines on the floor. ● Selecting, defecting and dressing lumber. ● Gluing board to a panel. ● Location of tools and materials. ● White wood preparation (sanding). ● How to apply a finish. ● How to use the router to apply a profile edge. 	<p>Ontario Curriculum OE - C1 SE C1.1, C1.2</p> <p>OE - C2 SE C2.1, C2.2, C2.3</p> <p>OE - C3 SE C3.1, C3.2</p> <p>OE - E1 SE E1.2, E1.3, E1.5</p> <ul style="list-style-type: none"> ▪ - Before using any piece of equipment or any tool, students must be able to demonstrate knowledge of how the equipment or tool works and of the procedures they must follow to ensure its safe use. Personal protective gear must be worn as required. ▪ Growing Success ▪ DI
<h2>Activity 3 Planning Notes</h2>	<h2>Connections</h2>
<ul style="list-style-type: none"> ● Review all student IEPs to be familiar with student learning styles and accommodations, necessary for their success. ● Insure all students have complete Passports to Safety ● Make sure there is adequate lumber and materials and supplies for each class. ● Continue daily machine inspections prior to class use. 	<ul style="list-style-type: none"> ▪ Ontario Curriculum ▪ Growing Success ▪ DI ▪ SEF ▪ STEM ▪ Math Literacy ▪ Literacy



Action (Introduce or Extend Learning)

Activity 3 Instructional Strategies	Connections
<p>Teacher:</p> <ul style="list-style-type: none">● Using the duotang with all documents begin the process of material break out.● Allow students to partner up for growth in skills and confidence.● Talk in advance to your strong students and ask them to work with the students you have identified with different skill levels.● Ensure all material is easily accessible.● Reiterate to the group that everyone will be making a table and that the process will be stepped through in order.● KEEP IN MIND that the teacher should do all the tablesaw work.● Every step in the process should be explained and demonstrated by you to ensure complete understanding of the expectations.● Safe use of all the tools is the number one concern, keep all blades and guards in good working order. <p>Student:</p> <ul style="list-style-type: none">● Observe and listen to the discussions of students.● Ensure tools are safe to use and there are no trip hazards or any other hazards in the work area.● Follow the steps used to in the development of your Safety Passport to safely use the tools and materials to fabricate and assemble the nightstand.● Select appropriate lumber and begin the break-out process.● Which includes cross cutting, planing, jointing, rip sawing, edge detailing, drilling, sanding, sanding and finishing.● Work independently and collaboratively with peers every day.● Create a positive environment to ensure a happy workplace.	<p>SEF 4.3 teaching and learning in the 21st century is collaborative, innovative and creative with a global context * Building a success criteria as a class.</p> <p>Literacy Connection: Reading instructions, writing procedure notes and oral communications working together</p> <p>FNMI Connection To address the schools will to strive to “employ instructional methods designed to enhance the learning of all First Nation, Metis and Inuit students”, it is recommended that students consider cultural aesthetics (colour, fabric, beading, reinterpretations of traditional designs, etc.) that are in all cultures. Provide a checklist for steps on the project including any time guidelines</p>



<h2>Activity 3 Assessment and Evaluation</h2>	<h2>Connections</h2>
<p>Collect for assessment the student generated End Table supporting documents (duotang), and weekly journals and use the End Table Unit Rubric (Appendix F) to evaluate final product.</p> <p><u>Knowledge</u> Ability to demonstrate the proper choice of products, tools and understanding of design elements.</p> <p><u>Communication</u> Student's ability to work collaboratively and effectively with others.</p> <p><u>Practical Applications</u> Students ability to demonstrate effective use of tools, fabrication, assembly and finishing.</p> <p><u>Learning Skills</u> The following skills will be noted and encouraged to help improve students achievement.</p> <ul style="list-style-type: none"> ● Works independently ● Teamwork ● Organization ● Work habits ● Initiative ● Self-Regulation 	<p>Growing success; the primary purpose of assessment and evaluation is to improve student learning.</p> <ul style="list-style-type: none"> ● SEF <p>Component 1.1 Assessment for, as and of learning processes are evident as students undertake authentic and relevant performance tasks</p> <p>Component 1.2 Student achievement or data are collected (e.g., work samples)</p> <p><i>AofL</i></p>
<h2>Activity 3 Accommodations</h2>	<h2>Connections</h2>
<p>Teachers are to be familiar with exceptional students' Individual Education Plans (IEPs) for legislated accommodations and consult with the appropriate staff. By doing this, teachers will be aware of and can implement prescribed modifications and accommodations. Teaching Strategies for students with special needs may include:</p> <ul style="list-style-type: none"> - grouping students with varied abilities to allow for peer support. - allowing more time to complete tasks -limiting or simplifying number of tasks -allowing for word processing or speech to dictation -environmental preferences -more or less structure provided <p>Where enrichment is identified challenge students to use different joinery or finishing techniques.</p>	<p>Accommodations are to be made so students do not lose dignity because of any disabilities including poverty, lack of success, emotional or physical disabilities.</p>



Consolidation & Connections (Provide Opportunities for Reflection)

Activity 3 Reflection Paper/Exit Card	Connections
<p>Have all students display their tables prior to marking. Invite students to walk around, inspect, critique each others tables.</p> <p>Ask students to name two things that they really enjoyed about the production process and two things they would change.</p> <p>(Appendix G)</p>	<p>SEF Component 1</p> <p>Assessment for, as and of learning Connections</p> <p><u>Indicator 1.5</u> - Students are explicitly taught and regularly use self-assessment skills to monitor, improve, and communicate their learning.</p>

Materials, Equipment, Tools and Resources

Materials, Tools and Resources
<p>Materials: Softwood or other options, fasteners, glue, etc</p> <p>Tools: Major floor tools (e.g., thickness planer, jointer, table saw, router and table, Compound Mitre saw, etc) - Hand tools - power and non-power - (e.g., palm sanders, router, rubber mallet, chisels, pocket hole jig, biscuit jointer, etc)</p> <p>Resources: Folder location, material storage area, 'pencils, etc</p>



Activity 3 Publications

Activity 3 Computer Software

Activity 3 Human Resources

- Teachers
- Student body

Activity 3 Other

Activity 3 Appendices

[Appendix A - Appendix Title- END TABLE ASSIGNMENT](#)

[Appendix B - Appendix Title- END TABLE PLAN](#)

[Appendix C - Appendix Title- BILL OF MATERIAL](#)

[Appendix D - Appendix Title- ROUTE SHEET](#)

[Appendix F - Appendix Title- END TABLE EVALUATION RUBRIC](#)

[Appendix G - Appendix Title- END TABLE - SELF ASSESSMENT EXIT CARD](#)