TCJ 3C – Construction Technology
Lesson Plan – Framing – Design a Shed

Date: April 20, 2012	
Content – Desired Results	
Overall Expectations: **A4.** apply mathematical skills and scientific concepts in the planning and building of a variety of construction projects. **B1.** apply a design process and/or other problem-solving processes and techniques as appropriate when planning a variety of residential construction projects, and demonstrate an understanding of factors that affect construction design; **B4.** plan the installation of the systems for a building. **E1.** demonstrate an understanding of and comply with health and safety regulations and practices specific to the construction industry.	

Specific Expectations:	**Modified Expectations:**
A4.2 identify a variety of building types, architectural styles and construction engineering features. **A4.4** describe human factors (e.g., function, ergonomics, aesthetics) to consider when planning aspects of a house. **B1.1** identify the steps of a design process, and describe how the design process is used in the construction industry. **B1.2** use appropriate problem-solving processes and techniques to address challenges related to various residential construction projects (e.g., house, cottage, shed, renovation) **B1.3** use models, prototypes, and/or sketches to aid in improving the design of construction projects **B4.2** use the tables in Part 9 of the Ontario Building Code to determine the required sizes, spacing, and numbers of structural components. **B4.3** prepare detailed, accurate estimates of quantities and costs of materials for construction projects, using appropriate metric and/or imperial units. **B4.1** determine dimensions and lay out construction projects using mathematical principles and formulas (e.g., Pythagorean theorem, volume and area formulas) **B4.4** determine lengths and diameters of fastening devices needed to assemble various construction projects using appropriate metric and/or imperial units. **E1.1** describe hazards related to construction materials, processes, and equipment.	

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Understandings: ***Students will understand that/Students will know/Students will be able to…*** ● Gain an understanding of the framing process through design. ● Gain an understanding of industry specific building codes and process. ● How to properly assess the safety needs of a building site and work with local bylaws and building regulations. ● Gain an understanding of industry safety terms and policies.	
Product – Assessment Evidence	
Performance Tasks: ● Assessment – Shed design worksheet rubric and marking form. ● Presentation ● Discussion participation.	**Other Evidence:** ● Assessment is carried out by the teacher through observation of participation and student progress/ understanding and in rubric/ marking form for presentation and written component of assignment.
Process – Learning Plan	

Learning Activities: • Teacher leads discussion on the building process and an introduction to the design assignment. • Teacher introduces web based resources to students to help with design process including WSIB, local city hall bylaw office, Ministry of Labour, Occupational Health and Safety Act etc. • Students work on worksheet 'Design a Shed' completing both the written and presentation portion of the assignment. (Appendix A) • Using in class technology for presentations, have students present design to class. Collect written component of assignment. • Teacher and Self assessment forms. (Appendix B) • Teacher lead discussion compiling best design ideas, safety and bylaw parameters.	