

Anoka-Hennepin Secondary Curriculum Unit Plan

Department:	Technical Education	Course:	Design and Manufacturing	Unit Title:	Tools and Machines	Grade Level(s):	8
Assessed Trimester:		Pacing:	All Year	Date Created:	2/28/2013	Last Revision Date:	6/27/2013

- Course Understandings:** *Students will understand that:*
- A technologically literate person understands the significance of technology in everyday life
 - The use of technology has impacts and consequences both desirable and undesirable
 - Inventions and innovations from various times in history effect technological development in society and history
 - Manufacturing requires safe and responsible use of technology
 - That the attributes of design are necessary components to the development of a product
 - Learning about design and manufacturing technologies will introduce students to career opportunities
 - Manufacturing requires safe and responsible use of technology

DESIRED RESULTS (Stage 1) - WHAT WE WANT STUDENT TO KNOW AND BE ABLE TO DO?

Established Goals
<p>Standard and Benchmark Mastery</p> <ul style="list-style-type: none">• Standard STL #12 Students will develop the abilities to use and maintain technological products and systems.• Standard STL #19 Students will develop an understanding of and be able to select and use manufacturing technologies.• Standard STL #8 Students will develop an understanding of the attributes of design.• High Priority – Students must know:<ul style="list-style-type: none">12-H Students will understand that information is provided in manuals or experienced individuals to understand how things work.12-I Students will understand that tools, materials, and machines are to be used safely.19-F Students will understand that manufacturing systems and processes change the form of materials.19-H Students will understand that manufacturing will include the designing, developing and producing products and systems.• Medium Priority – Students should know:<ul style="list-style-type: none">8-E Students will understand that creative planning leads to useful products and systems.8-G Students will understand that requirements for design are made up of criteria and constraints.8-F Students will understand that there is no perfect design19-G Students will understand that manufactured goods may be classified as durable and non-durable• Low Priority – It is nice for students to know:<ul style="list-style-type: none">12-J Students will understand that computers and calculators are used in numerous applications.
Transfer
<p>Students will be able to independently use their learning to: (product, high order reasoning)</p> <ul style="list-style-type: none">• 12-T Apply information to project construction• 19-T Produce a product or system through design, developing and manufacturing• 19-T Construct a durable or non-durable product

<ul style="list-style-type: none">● 19-T Create a product using manufacturing processes	
Meaning	
Unit Understanding(s): Students will understand that: <ul style="list-style-type: none">● Correctly use tools and machines● Specific tool are used for specific processes	Essential Question(s): Students will keep considering: <ul style="list-style-type: none">● I can correctly use tools and machines● I can use the correct tool for the job
Acquisition	
Knowledge - Students will: <ul style="list-style-type: none">● 12-T Understand information obtained from manuals or experienced people● 12-T Understand tools machines and materials● 12-T Know how to use a computer and calculation in various applications● 19-T Understand that manufacturing systems and processes change the form of materials● 19-T Understand that manufactured goods may be classified as durable and non-durable● 19-T Understand that manufacturing will include design, developing and producing products and systems Reasoning - Students will: <ul style="list-style-type: none">● 12-T Interpret information required from manuals and experienced people● 12-T To be able to evaluate materials used for a project● 12-T Analyze information through the use of a computer or calculator● 19-T Organize manufacturing through design, developing and producing products and systems	Skills - Students will: <ul style="list-style-type: none">● 12-T Utilize information read from manuals● 12-T To be able to perform hand tool and machine operation safely● 19-T Carry out manufacturing through designing, developing and producing products and systems● 19-T Perform processes that change the form of materials such as cutting bending or shaping
Common Misunderstandings <ul style="list-style-type: none">● Using the wrong tool for the process	Essential new vocabulary <ul style="list-style-type: none">● cut line● table● safety zone