

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Types of Personnel	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

STATE STANDARDS: 3.6.10-C: Apply physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design to real world problems 3.7.10-A: Identify and safely use a variety of tools, basic machines, materials and techniques to solve problems and answer questions. 3.7.10-B: Apply appropriate instruments and apparatus to examine a variety of objects and processes. 3.8.10-A: Analyze the relationship between societal demands and scientific and technological enterprises. 3.8.10-B: Analyze how human ingenuity and technological resources satisfy specific human needs and improve the quality of life. 3.8.10-C: Evaluate possibilities consequences and impacts of scientific and technological solutions.	UNIT OBJECTIVES: <ul style="list-style-type: none"> - Students will understand the four categories of personnel use in the construction field.
ACTIVITIES: <ul style="list-style-type: none"> - Lecture notes - Discussion and video RESOURCES:	ASSESSMENTS: <ul style="list-style-type: none"> - Class Discussion - Quiz REMEDICATION: ENRICHMENT:

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Architectural Drawing Function	

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ACTIVITIES: <ul style="list-style-type: none"> - Students will study architectural book to assist them in finding a house design and floor plan. RESOURCES:	ASSESSMENTS: <ul style="list-style-type: none"> - Instructor evaluation of completed plan. REMEDIATION: ENRICHMENT: <ul style="list-style-type: none"> - Students will use imagination to develop a floor plan.

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Architectural Drawing Form	

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COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Architectural Drawing Elevations	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Studs - Top plate - Window and door header - Rafters - Ridge beam <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Instructor assessment of completed elevations <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Architectural Construction House Construction	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Students will construct a model house using: <ul style="list-style-type: none"> • Balsa • Cardboard • Foam Core • Wood - House will include truss, joist, windows, doors, wall, ceilings, roof shingles, wall coverings. <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Instructor assessment of completed house. <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Material Resources	

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COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Tools – Measuring and Layout	

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COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Tools – Cutting, Sawing and Drilling	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Students will use the circular saw to cut ends square. - Students will rip a length of wood using the circular saw. - Students will bore holes using the power drill. - Students will use a reciprocating saw to cut a stud. <p>RESOURCES:</p> <ul style="list-style-type: none"> - Construction Technology “Huth” - Hometime video series - “How to” pamphlets from Cramer’s 	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Quiz- Review quiz at the end of chapter. - In-class performance while demonstrating safe techniques. <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Tools- Fasteners and Fastening Tools	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Light Construction – Enclosing the Structure	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Students will enclose a wall section with vinyl siding. - Students will enclose a wall section with T-111 plywood siding. - Students will choose an erect siding on their model homes. <p>RESOURCES:</p> <ul style="list-style-type: none"> - Construction Technology “Huth” - Hometime video series - “How to” pamphlets from Cramer’s 	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Quiz- Review quiz at the end of chapter - Students will be graded on their in-class performance. <p>REMEDICATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Choose a no-so-common type of exterior material for the area that you live and report on it. (Example: “Stucco” in the Pocono’s)

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Light Construction- Roof Systems	

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ACTIVITIES: <ul style="list-style-type: none"> - Students will design and build roofs for their model homes. - Students will participate in shingling a roof. - Students will frame a roof section. - Students will enclose a roof section using strip edge, soffit, and fascia. RESOURCES: <ul style="list-style-type: none"> - Construction Technology "Huth" - Hometime video series - "How to" pamphlets from Cramer's 	ASSESSMENTS: <ul style="list-style-type: none"> - Quiz- Review quiz at the end of chapter. - Students will be graded on their model roof designs. - Students will be graded on there manipulative skills in class while roofing. REMEDIATION: ENRICHMENT: <ul style="list-style-type: none"> - Choose a not-so-common type of roof and report on it.

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Light Construction – Wall Framing Systems	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Students will plan and layout a wall. - Students will cut and assemble members for a wall section. - Students will erect and insulate their wall section once built. <p>RESOURCES:</p> <ul style="list-style-type: none"> - Construction Technology "Huth" - Hometime video series - "How to" pamphlets from Cramer's 	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Quiz- Review quiz at the end of chapter. - Students will be graded on their wall framing performance in class. <p>REMEDIATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Report on modular wall construction. - Report on post and beam construction.

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Non-structural systems- Electrical Wiring	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Students will wire common lighting and receptacle circuits. - Students will correctly hook up a breaker in a load center. - Students will design an electrical floor plan for their model home. <p>RESOURCES:</p> <ul style="list-style-type: none"> - Construction Technology "Huth" - Hometime video series - "How to" pamphlets from Cramer's 	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Quiz- Review quiz at the end of chapter. - Testing of all wired circuits for correct function, proper grounding, etc. <p>REMEDIATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Wire a common 220-volt circuit such as a water heater, stove, or well pump.

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Non-structural Systems – Painting (exterior)	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Students will finish a T-111 sided wall with solid color stain. - Students will scrape and paint exterior window units using primer, glazing putty, and glass paint. - Students will kill and seal mold as preparation for paint. - <p>RESOURCES:</p> <ul style="list-style-type: none"> - Construction Technology “Huth” - Hometime video series - “How to” pamphlets from Cramer’s 	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Quiz – Review quiz at the end of chapter. - Teacher evaluation on each individual component of unit. <p>REMEDIATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Apply a non-required exterior finish to a wall section. (Example: Stucco)

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Advanced Construction Systems	

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ACTIVITIES: <ul style="list-style-type: none"> - Class lecture/discussion - AV materials – overheads and possible video showing modular home factory. RESOURCES: <ul style="list-style-type: none"> - Construction Technology “Huth” - Cardinal Industries Inc. – possible video from this company. 	ASSESSMENTS: <ul style="list-style-type: none"> - Quiz- Review quiz at the end of chapter. - If a video is available, construct a test based on that video. REMEDICATION: ENRICHMENT: <ul style="list-style-type: none"> - Construct a cardboard model of the floor and walls of a two or three section house.

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Home Safety and First Aid	

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STATE STANDARDS: <p>3.6.10-C : Apply physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design to real world problems</p> <p>3.7.10-A: Identify and safely use a variety of tools, basic machines, materials and techniques to solve problems and answer questions.</p> <p>3.7.10-B: Apply appropriate instruments and apparatus to examine a variety of objects and processes.</p> <p>3.8.10-A: Analyze the relationship between societal demands and scientific and technological enterprises.</p> <p>3.8.10-B: Analyze how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.</p> <p>3.8.10-C: Evaluate possibilities consequences and impacts of scientific and technological solutions.</p>	UNIT OBJECTIVES: <ul style="list-style-type: none"> - Students will explore maintenance jobs. - Students will understand the benefits of home maintenance. - Students will understand safe work habits. - Students will become familiar with possible hazards. - Students will understand basic first aid procedures.
ACTIVITIES: <ul style="list-style-type: none"> - Create lists of jobs - Discuss benefits of maintenance. RESOURCES: <ul style="list-style-type: none"> - Video – Building Trades - Book – Home Repair and Maintenance 	ASSESSMENTS: <ul style="list-style-type: none"> - Pre/Post Test - List of hazards in home. - Demonstration of first aid. REMEDICATION: ENRICHMENT:

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Basic Hand Tools	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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ACTIVITIES: <ul style="list-style-type: none"> - List of common tools - Gain skills by using tools to cut, fasten, and drill. RESOURCES:	ASSESSMENTS: <ul style="list-style-type: none"> - Assessment based on neatness and craftsmanship. - Check the lists REMEDIATION: ENRICHMENT: <ul style="list-style-type: none"> - Students bring samples of scrap materials from home

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Power Tools and Fasteners	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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ACTIVITIES: <ul style="list-style-type: none"> - Use hand and power tools to drill and cut. List advantages and disadvantages. - Produce strong joints between materials. - RESOURCES: <ul style="list-style-type: none"> - Shop supplies 	ASSESSMENTS: <ul style="list-style-type: none"> - Pre/post test - Check list - Check joints REMEDICATION: ENRICHMENT: <ul style="list-style-type: none"> - Discuss tools students have at home, how do they differ? - Test adhesives for strength

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Lumber and Building Materials	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Use Home Depot flyer to price a deck. - Design a 2x4x6 to create a wall section with parts list. <p>RESOURCES:</p> <ul style="list-style-type: none"> - Cramer's - Home Depot - Lowe's 	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/Post test - Oral Assessment - Draw wall and parts list. <p>REMEDIATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Design a desk

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Exterior Wall Coverings	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Cut siding to fit model - Install siding on model - Assist building of full size - Siding on exterior wall. <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Completion of final project based on the following criteria: <ul style="list-style-type: none"> • built to visual design • Built to dimensions • Aesthetic appearance • Work habits <p>REMEDIATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Brick and siding on wall

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Plumbing	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Repair toilet bowl. - Module to join pip fitting and faucet. <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Completion of final project - Leak test - Neatness - Work habits <p>REMEDICATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Electrical Distribution Systems	

NATIONAL STANDARDS:
Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Read meter - Discuss current voltage resistance - Use module to wire switch, light, and fish wires - Modules <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/post test - Completion of final project - Work habits <p>REMEDICATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Interior Walls and Ceilings	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Discussion on tools and safety - Install drywall screws and spackle - Sand and inspect - Install ceiling tiles <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/post test - Inspection of finished drawing project - Inspection of finished ceiling project <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Paint and Wallpaper	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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ACTIVITIES: <ul style="list-style-type: none"> - Students will sand, prime and paint a drywall surface - Students will hang wallpaper - Students will look in newspapers for different brand names and types of paint RESOURCES:	ASSESSMENTS: <ul style="list-style-type: none"> - Inspection of finished project - Collect newspaper articles REMEDIATION: ENRICHMENT:

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Cabinets and Wood Machines	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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ACTIVITIES: <ul style="list-style-type: none"> - Layout a kitchen. - Safety on machines. - Discussion of wood frame repair. RESOURCES:	ASSESSMENTS: <ul style="list-style-type: none"> - Pre/post test REMEDIATION: ENRICHMENT:

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Concrete Masonry	

NATIONAL STANDARDS:
Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Learn tools and safety - Mix mortar - Layout and build a block corner - Compute amount of concrete needed for a job <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/post test - Assessment of completed wall - Demonstration of first aid <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Picture Framing	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Safety on machines - Make plans for frame - Build frame - Cut glass - Insert backing <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Assessment of finished project <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Appliance Maintenance, Mechanical/Electrical	

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Lecture and discussion - Troubleshooting - Design and build a lamp <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/post test - Assessment of lamp <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Home Energy Saving	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Discuss energy saving for the following home systems: <ul style="list-style-type: none"> • water heater • furnace, • fireplace • stove • dishwasher • refrigerator • shower • laundry <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/post test - Student derived audit form - Teacher assessment of storm window - Teacher assessment of model - <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Plumbing	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - Choose type of pipe for different jobs - Learn to solder copper pipe - Learn to join plastic pipe and fittings - List faucet repairs a home mechanic can do - Discuss water hammer - Repair minor leak <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Pre/post test - Teacher assessment of solder, pipe, plastic pipe, and leak repair - Evaluate lists <p>REMEDIATION:</p> <p>ENRICHMENT:</p>

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Window Screens and Glass	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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ACTIVITIES: <ul style="list-style-type: none"> - Bring broken windows or screens, plus glass and screen. - Repair and replace glass and screen. RESOURCES:	ASSESSMENTS: <ul style="list-style-type: none"> - Teacher assessment of completed enrichment project REMEDIATION: ENRICHMENT: <ul style="list-style-type: none"> - Entire unit is student motivated enrichment

COURSE: Residential Construction & Maintenance	GRADES: 9 - 12
UNIT: Landscape maintenance	

NATIONAL STANDARDS: Standards 1, 2, 3: The Nature of Technology. Standards 4, 5, 6, 7: Technology and Society. Standards 8, 9, 10: Design. Standards 11, 12, 13: Abilities of a Technology World. Standards 14-20: The Designed World

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<p>ACTIVITIES:</p> <ul style="list-style-type: none"> - List items needed to sharpen tools - Describe steps to sharpen a lawnmower blade - Describe storage of gas powered equipment - Describe rust removal techniques - Plant trees or grass <p>RESOURCES:</p>	<p>ASSESSMENTS:</p> <ul style="list-style-type: none"> - Teacher assessment of list - Teacher evaluation of descriptions - Check progress of grass growth <p>REMEDIATION:</p> <p>ENRICHMENT:</p> <ul style="list-style-type: none"> - Landscaping Maintenance is a total enrichment activity