

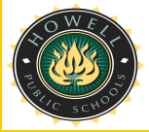




Construction Trades 1

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Month	Content Sub-Category or Strand	National Common Core Standards	Michigan Standards High School Content Expectations (HSCEs)	Essential Skills	Examples of Formative Assessments	Vocabulary
Example Sept/Jan		Code & Language	Code & Language			
1st Quarter		Industry-Wide Health & Safety Standards	46.000 -1-A-J / MI Technical Standards Industry-Wide Health & Safety Standards- Complete OSHA 10 hour instruction from state safety inspector	Excavations and associated safe procedures Introduction to safe practices Crane use and safe care Fall protection Materials, handling, storage, use and disposal Stairways and ladder safety Tools/hand and power safety Electrical safety/construction PPE - Personal Protection Equipment Scaffold use and safety	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	(GFCI) Angle Of Repose Class A Fires Class B Fires Class C Fires Ground Fault Circuit Interrupter Pressure Treated Lumber Safety Factor



Construction Trades 1

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1st Quarter	Material Safety Data Sheets		46.000 - 2 / MI Technical Standards Examine Material Safety Data Sheets (MSDS)	Examine Material Safety Data Sheets (MSDS) and follow the procedures as necessary	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	MSDS
1st Quarter	Personal safety		46.000 - 3-A-D / MI Technical Standards Describe personal safety at any type of construction site	Select, inspect, and use personal protective equipment such as respiratory protection and fall protection equipment Work to create a hazard-free, accident-free environment Know effects of and how to deal with temperature extremes and weather conditions Work safely in confined spaces or at heights	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	Dust masks Ear protection Foot protection Hard Hat Safety Glasses
1st Quarter	Mitigate safety hazards		46.000 - 4 -A-G / MI Technical Standards Recognize and mitigate safety hazards including hazardous materials, environmental hazards and accident conditions at any type of construction site	Follow rules and regulations to comply with personal and jobsite safety standards	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	Chemical safety electrical safety fire safety shop safety worksite safety



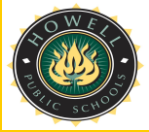
Construction Trades 1

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				Identify workplace/jobsite environmental hazards to promote workplace/jobsite safety Understand shop and worksite safety, fire safety, electrical safety, and chemical safety Follow ladder and scaffold safety procedures Demonstrate knowledge of hazardous properties of materials such as radiation, toxicity, flammability, reactivity, corrosives, and limits of fire resistance exposure Complete accident reports in accordance with required standards; file reports with appropriate personnel Use Material Safety Data Sheets (MSDS) information to manage, use, and dispose of hazardous materials		





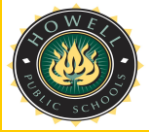
Construction Trades 1

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1st Quarter	Lead Safe Work practices		46.000 - 5 -A-H / MI Technical Standards Describe procedures for the Renovation, Repair, and Painting--Lead Safe Work practices	<p>Determination that lead-based paint (LBP) is present using a lead based paint test kit</p> <p>Training for protecting working environment</p> <p>Pre-Renovation procedures</p> <p>Treating LBP hazards</p> <p>Prohibited Work Practices</p> <p>Threshold minimum amounts of interior paint disturbance which trigger lead activities.</p> <p>Confirmatory Testing and documentation</p> <p>How to notify occupants.</p> <p>Use of construction equipment and tools.</p>	<p>Homework Quizzes</p> <p>Tests</p> <p>Job Performance Work</p> <p>Ethic Attitude</p> <p>Attendance</p>	<p>Lead based paint</p> <p>Notification of Occupants</p> <p>Work site procedures</p>
2nd Quarter	Construction Equipment and Tools		46.000 A-1-A-H / MI Technical Standards Use and maintain common hand tools in the construction industry	Identifies and selects correct tool for task	<p>Homework Quizzes</p> <p>Tests</p> <p>Job Performance Work</p> <p>Ethic Attitude</p> <p>Attendance</p>	<p>Bar Clamps</p> <p>C-Clamp</p> <p>Chalk Line</p> <p>Claw Hammer</p> <p>Coping Saw</p> <p>Framing Square</p>





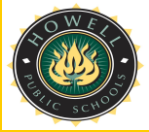
Construction Trades 1

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				<p>Handles tools in a safe manner</p> <p>Wears Personal Protective Equipment (PPE) during tool operation</p> <p>Use a claw hammer to drive and pull out nails.</p> <p>Use handsaws to cut boards.</p> <p>Use screwdrivers to drive in screws.</p> <p>Drill holes with hand-powered drills.</p> <p>Identifies and use various types of tools such as: wrenches, pipe wrenches and plumbing tools, chisels, staple guns, wood planes, woodworking files, spirit levels, socket wrench sets, hand or block sanders, carpenter's squares.</p>		<p>Hacksaw</p> <p>Level</p> <p>Nail Set</p> <p>Pencil</p> <p>Plumb Bob</p> <p>Pry Bar</p> <p>Rasps</p> <p>Speed Square</p> <p>Utility Knife</p> <p>Wood Chisel</p>
2nd Quarter	Common portable power tools		46.000 A2 A-E /MI Technical Standards Use and maintain common portable power tools in the construction industry	<p>Identifies and selects correct portable power tools for task</p> <p>Handles tools in a safe manner, checking guards and safety cords</p>	<p>Homework Quizzes</p> <p>Tests</p> <p>Job Performance Work</p> <p>Ethic Attitude</p> <p>Attendance</p>	





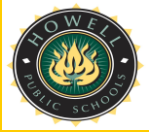
Construction Trades 1

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				<p>Wears Personal Protective Equipment (PPE) during tool operation</p> <p>Identify and use power tools such as :sanders, drills, screwdrivers, hand-held saws, radial-arm saws, table saws, drill presses, band saws, planes, electronic routers.</p> <p>Identifies and selects correct portable power tool for task</p> <p>Passes Safety Test for all power tools as identified</p> <p>Handles tools in a safe manner, checking guards and safety cords</p> <p>Wears Personal Protective Equipment (PPE) during tool operation</p> <p>Identify and use power tools such as :sanders, drills, screwdrivers, hand-held saws, radial-arm saws, table saws, drill presses, band saws, planes, electronic routers.</p>		





Construction Trades 1

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3rd Quarter	Wood/Fasteners		46.000 - 5 -A-H / MI Technical Standards Describe procedures for the Renovation, Repair, and use of wood fasteners	Identifies common defects in lumber Calculate lumber sizes according to established industry standards Identify nail types and size List precautions to observe while working with treated lumber	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	Annular rings, Blue Stain, Board foot, Cambium, Casein glue, Composite board, Composite panels, Conifers, Contact cement, Core, Cross-bands, Decay, Deciduous, Edge-grained, Engineered Lumber Products, Equilibrium Moisture Content, Faces, Factory and Shop Lumber, FAS, Fiber Saturation Point, Flat-grained, Glue Laminated Beams, Glulams,





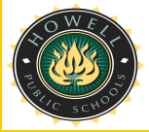
Construction Trades 1

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						Hardboard, Heartwood, Holes, Honeycombing, Kiln-dried, Knots,Laminated- strand lumber (LSL), Laminated- veneer lumber (LVL), Lignin, Lumber, Lumber core, Mastics, Moisture content (M.C.), No.1 common, Open- grained woods, Open time, Oriented strand board (OSB),



Construction Trades 1



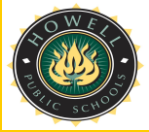
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						Parallel lamination, Parallel-strand lumber (PSL), Particleboard, Phloem, Photosynthesis, Pitch pockets, Plain-sawed, Polyvinyl resin emulsion adhesive, Polyurethane adhesives, Premium grade, Quarter-sawed, Sapwood, Selects, Shakes, Span ratings, Splits and checks, Steel framing members, Tension bridging, Thermoplastic, Thermo set adhesives, Tracheids, Urea- formaldehyde resin lue, Veneer core, Wane, Warp, Wood I-beams, Xylem





Construction Trades 1

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3rd Quarter	Plans and Specifications		Plans, Specifications, and Codes – 3.1 Set of Plans – 3.1.1 Drawings in a Set of Plans – 3.1.2 Stock Plans – 3.1.3 Scale – 3.1.4 Floor and Foundation Plans – 3.1.5 Elevations – 3.1.6 Framing Plans – 3.1.7 Section and Detail Drawings – 3.1.8 Dimensions – 3.1.9 Lists of Materials – 3.1.10 Symbols – 3.2 How to Scale a Drawing – 3.3 Changing Plans – 3.4 Specifications – 3.5 Modular Construction – 3.6 Metric Measurement – 3.7 Building Codes – 3.7.1 Model Codes – 3.7.2 Standards – 3.7.3 Building Permits and Inspections	Use current house blueprints to link knowledge of academics with real examples.	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	Architectural Drawings, Bill of Materials, Blueprints, Building code, Building Permit, CADD-CAM, Detail Drawing, Dimension Lines, Drawn to Scale, Elevations, Floor plans, Footprint, Foundation plans, Framing plans, Lumber list, Mill list, Model Codes, Modular Construction, Pictorial Sketch Plot Plan, Prints, Scale,

Construction Trades 1



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						Schedule, Section drawing, Section view, Set of Plans, Setback, Specifications, Stock plan, Symbols, Unicam





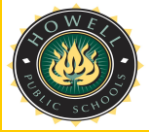
Construction Trades 1

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4th Quarter	Footings & Foundations		Chapter 7 Footings & Foundations 7.1 Clearing the site – 7.2 Laying Out Building Lines - 7.2.1 Batter Boards – 7.3 Excavation – 7.4 Foundation Systems – 7.4.1 Frost protected Shallow Foundations - 7.4.2 Footings – 7.4.3 Slabs – 7.4.4 Forms for Footings – 7.5 Erecting Wall Forms 7.5.1 Re-establishing the Building Line - 7.5.2 Form Hardware – 7.5.3 Panel Forms –	Students will write a paper and list their knowledge of footings and foundations. Students will define all Technical Vocabulary as listed in Modern Carpentry textbook PG 169 Modern Carpentry Textbook - Test Your Knowledge PG 220	Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance	Admixtures, Aggregate, Anchor Bolts, Anchor Straps, Backfilling, Batter Boards, Bucks, Cement Chairs, Closure, Block, Concrete blocks, Control Point, Corbel Blocks, Course Pole, Crawl space Foundation, Curing, Drywood Termites,



Construction Trades 1

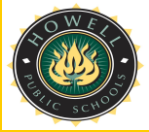


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			7.5.4 Wall Openings – 7.5.5 Forming a Wall Pocket – 7.5.6 Pilasters – 7.5.7 Column Forms – 7.6 Concrete – 7.6.1 Effect of Improper Amount of Water in Mix - 7.6.2 Proper Curing			Fixed Anchor, Flat ICF Wall, Floating, Form Ties, Grade Beam Foundation, Ground Supported Slab, Head Joints, Foundations, Plain Footings, Post and Beam ICF Wall, Rebar,





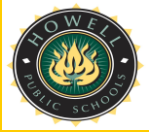
Construction Trades 1

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			7.6.3- Curing Methods -7.6.4 Slump Testing – 7.6.5 Giving Concrete Tensile Strength – 7.6.6 Cement – Effect of Improper Amount of Water in Ordering Concrete – 7.8 Mix - 7.6.2 Proper Curing – 7.6.3 Curing Methods 7.6.7 Aggregates – 7.7 7.8 Placing Concrete – 7.8.1 Anchors – 7.8.2 Removing – 7.9 Concrete Block Foundations - 7.9.1 Sizes and Shapes – 7.9.2 Mortar – 7.9.3 Laying Concrete Block			Reinforced Footings, Screeding, Screen grid ICF Wall, Slab Foundations, Slab on Foundations, Slab on Grade, Spread Foundation, Stepped Footing, Structurally Supported Slab, Subterranean termites, Troweling, Waffle grid ICF Wall, Walers, Wall Pocket





Construction Trades 1

Construction Trades 1						
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			Forms Estimating Materials -7.9.4 Anchoring Intersecting Walls – 7.9.5 Lintels – 7.10 Insulating Block Walls – 7.10.1 Waterproofing – 7.11 Backfilling – 7.12 ICF Foundation and Wall Systems – 7.12.1 Code Restrictions for ICFs -7.13 Slab on Grade Construction – 7.14 Basement Floors – 7.14.1 Super insulated Basement Floors – 7.15 Entrance Platforms and Stairs – 7.16 Sidewalks, Steps and Drives – 7.16.1 Finishing Walks and Drives – 7.16.2 Forming Control Joints – 7.17 Wood Foundations – 7.18 Cold Weather Construction – 7.18.1 Protecting Concrete – 7.18.2 Mortar Temperatures – 7.18.3 Admixtures – 7.19 Insect Protection – 7.19.1 Termites – 7.19.2 Termite Control – 7.20			Hydration Ledger Boards, Lintel, Masons Line, Monolithic Pour, Mortar Nailing Strips, Permanent Wood Foundation, Pilaster, Piling and Girder, Foundations, Plain Footings, Post and Beam ICF Wall,



Construction Trades 1

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4th Quarter	Floor Framing		8.1 Types of Framing, 8.2 Girders and Beams, 8.3 Sill Construction, 8.4 Joists, 8.5 Special Framing Problems, 8.6 Open Web Floor Trusses, 8.7 Solid Web Trusses, 8.8 Subfloors, 8.9 Estimating Material	<p>On site procedures followed as instructed in class – Correction as needed</p> <p>Demonstrate proper procedure of set-up and clean-up on the job site.</p> <p>Students will now write a list of the procedures covered above.</p> <p>Students will define all Technical Vocabulary as listed in Modern Carpentry textbook PG 223</p> <p>Modern Carpentry Textbook - Test Your Knowledge PG 251</p> <p>Students will write a paper and list their knowledge of the following commonly used framing methods.</p> <p>Modern Carpentry Textbook is acceptable resource to enhance awareness.</p>	<p>Homework Quizzes Tests Job Performance Work Ethic Attitude Attendance</p>	<p>Types of Framing Girders and Beams, Sill Construction, Joists, Special Framing Problems, Open Web Floor Trusses, Solid Web Trusses, Subfloors, Estimating Material</p>