

7

Lesson Exemplar for TLE

Quarter 4

Lesson

4

Lesson Exemplar for TLE Grade 7
Quarter 4: Lesson 4 (Week 4)
SY 2024-2025

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TLE / QUARTER 4/ GRADE 7

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES

A. Content Standards	The learners demonstrate an understanding of the uses and maintenance of hand tools, power tools, instruments, and equipment.
B. Performance Standards	The learners perform mensuration and calculations following safety precautions.
C. Learning Competencies and Objectives	<p>Learning Competency Classification of tools in industrial arts services</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. Classify different tools in industrial services 2. Identify examples of tools for each classification 3. Sort industrial arts services tools according to their classification
D. Content	Classification of Tools in Industrial Arts Services
E. Integration	History and Evaluation of Tools Occupational Health and Safety Procedures

II. LEARNING RESOURCES

Basic metalwork tools and equipments. (n.d.). <https://metalworkinginfo.blogspot.com/p/basic-metalwork-tools-and-equipment.html>

Dabu, C. (2015, September 13). Occupational health and safety procedures [Slide show]. SlideShare. <https://www.slideshare.net/cupaydabu/occupational-health-and-safety-procedures>






Miguel, C. G. (2019, November 7). The complete guide of Automotive tools: With names & pictures. philkotse.com. <https://philkotse.com/car-maintenance/the-complete-guide-of-automotive-tools-with-names-pictures-5741>

Nazarov, E. (2023, October 15). A Tool Odyssey: History of Tools from Prehistory to The Present. Ronix Mag. <https://ronixtools.com/en/blog/a-tool-odyssey-history-of-tools-from-prehistory-to-the-present/>

Rico, R. (n.d.). Carpentry tools. Scribd. <https://www.scribd.com/document/429157675/Carpentry-Tools>

Team. (n.d.). What are the masonry tools? CMP Stonemason Supplies. <https://cmpstone.com.au/what-are-the-masonry-tools/#:~:text=FAQs%20About%20Masonry%20Tools>

Team, W. R. (2024, February 27). 6 Essential carpenter tools for more precise and efficient projects. Woodsmith. <https://www.woodsmith.com/review/essential-carpenter-tools/>

III. TEACHING AND LEARNING PROCEDURE	NOTES TO TEACHERS
<p>A. Activating Prior Knowledge</p> <p>DAY 1</p> <p>1. Short Review: The teacher will show pictures of tools and let the students classify if they are analog or digital.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>1.</p> </div> <div style="text-align: center;">  <p>2.</p> </div> <div style="text-align: center;">  <p>3.</p> </div> <div style="text-align: center;">  <p>4.</p> </div> <div style="text-align: center;">  <p>5.</p> </div> </div> <p>2. Feedback (Optional)</p>	<p>If you have stable internet connections, you may use other activities, such as integrating Kahoot in class.</p> <p>Answer key: 1. Digital 2. Analog 3. Analog 4. Digital 5. Analog</p>
<p>B. Establishing Lesson Purpose</p> <p>1. Lesson Purpose: Pass the Alcohol, not the Virus! The teacher will play a song while the song is playing, and students will spray alcohol on their seatmates' hands. As the music stops, the last student who was sprayed will answer the question given by the teacher. The teacher will give examples of broken objects/fixtures and let the students guess what tool would be used in each object/fixture.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <ul style="list-style-type: none"> • Broken doors </div> <div style="text-align: center;"> <ul style="list-style-type: none"> • Broken electric fan. </div> <div style="text-align: center;"> <ul style="list-style-type: none"> • Damaged wall </div> <div style="text-align: center;"> <ul style="list-style-type: none"> • Clogged sink and toilet </div> <div style="text-align: center;"> <ul style="list-style-type: none"> • Broken grills </div> </div> <p>After the activity, the lesson objectives were introduced:</p> <ol style="list-style-type: none"> 1. Classify different tools in industrial services 2. Identify examples of tools for each classification 3. Sort industrial arts services tools according to their classification <p>2. Unlocking Content Vocabulary</p> <ul style="list-style-type: none"> • Masonry- the craft of building a structure with brick, stone, or similar material, including mortar plastering, often laid in, bound, and pasted together by mortar. • Plumbing- uses pipes, valves, fixtures, tanks, and other apparatuses to convey fluids. • Shallow- of little depth • Cylindrical- having straight parallel sides and a circular or oval cross-section in the shape or form of a cylinder. • Synthetic- made by chemical synthesis, especially to imitate a natural product. 	<p>The teacher may print or show pictures of broken objects/fixtures. They may also ask the following questions:</p> <ol style="list-style-type: none"> 1. What type of tool would be used in fixing the following: <ul style="list-style-type: none"> • Broken doors • Broken electric fan • Damaged wall • Clogged sink and toilet • Broken grills 2. Can you classify the tools based on their primary functions, such as carpentry, electrical, construction, painting, plumbing, etc.?








C. Developing and Deepening Understanding

DAY 1

Classification of Tools in Industrial Arts Services SUB-TOPIC 1: Carpentry and Masonry Tools

1. Explicitation

Carpentry Tools- instruments and equipment specifically designed for woodworking and construction tasks, primarily related to shaping, cutting, joining, and finishing wood materials. These tools are essential for carpenters and woodworkers to perform various tasks accurately and efficiently.

Name Of Tools	Images	Uses
Claw Hammer	 Source: https://en.wikipedia.org/wiki/Hammer#/media/File:Claw-hammer.jpg	This tool is used to break an object, drive a nail or spike into another, or mold the desired shape of the material.
Crosscut Saw	 Source: https://khmtools.com.ph/products/powerhouse-crosscut-hand-saw	They are used to cut across the grain of the wood.
Rip Saw	 Source: https://www.bianco.com.au/product/49075-rip-saw-solid-handle-380x5-point	They are used to cut along the grain of the wood.
Circular Saw	 Source: https://en.wikipedia.org/wiki/Circular_saw	A powered handheld tool is used to cut wood.
Hand Drills	 Source: https://www.istockphoto.com/photos/hand-drill	Hand drills make holes in some wood crafts and are helpful in outdoor projects.
Chisel	 Source: https://www.lie-nielsen.com/products/3-4-inch-bevel-edge-chisel	A cutting tool with sharpened edges at the end of metal blades or used for cutting or shaping wood,
Measuring Tape	 Source: https://www.ac-99.top/ProductDetail.aspx?id=63166638&pr=23.88	Measuring tape is a fundamental tool for accurately measuring various materials, primarily wood, lengths, distances, and dimensions.

Day 1 comprises two topics, but you can choose the important and common tools commonly used in carpentry and masonry, painting, and metalwork. Regarding the activities in each topic, you can modify them depending on how you will deliver the topics. This is also the same as the other topics; if you think this is too long and needs modification, you are free to do so.

Day 1 - The teacher will discuss sub-topic 1, carpentry and masonry tools.




The teacher may briefly discuss the history and evolution of tools.

A Tool Odyssey: History of Tools from Prehistory to The Present. (n.d.). Ronix Blog.
<https://ronixtools.com/en/blog/a-tool-odyssey-history-of-tools-from-prehistory-to-the-present/>





The teacher may give additional examples for each classification of tools.

(Note: Emphasize to them that some tools can also be used in other areas in the construction sector.)





You may also classify them as guiding, testing, measuring,

Square	 <p>Try square Mitre square Block</p> <p>Source: https://www.wonkeedonkeetools.co.uk/try-and-mitre-squares/what-are-the-parts-of-a-try-and-mitre-square</p>	It is a 90-degree standard right-angle tool sometimes called a try or trying square (90-degree angle), a miter square (45-degree angle), a combined try and miter square, combined square framing, or steel square.
Plane	 <p>Source: https://www.ubuy.com.ph/product/13JO9JXJA-kapaini-woodworking-plane-hand-planer-wood-planer-wooden-carpenter-woodcraft-tool-for-finishing-wood</p>	A hand plane is a tool for shaping and refining wooden surfaces. It can also be operated as a powered tool.
Wood lathe Machine	 <p>Source: https://www.wikihow.com/Use-a-Wood-Lathe</p>	A wood lathe is a machine used in woodworking to shape wood into various cylindrical forms, such as balusters.

Masonry Tools- are instruments and equipment specifically designed for working with materials such as bricks, stones, concrete blocks, and mortar in construction and masonry projects. These tools are essential for cutting, shaping, laying, and finishing materials and maintaining and repairing masonry structures.

Name of Tools	Images	Uses
Trowel	 <p>Source: https://itemscatalogue.redcross.int/upload/products_data/images/big/ETOOCOMETR06-art.jpg</p>	A handheld tool with a flat, pointed blade is used for spreading and shaping mortar and scooping and applying other masonry materials.
Float	 <p>Source: https://cornishlime.co.uk/products/tools/rendering-tools/marshalltown-wooden-float/</p>	A hand tool used for smoothing and finishing freshly applied mortar or concrete
Hawk tool	 <p>Source: https://speedex.com.au/index.php?route=product/category&path=59_85</p>	A hawk is a tool consisting of a flat, square board with a handle underneath. It holds a small quantity of mortar or plaster while working.
Masonry Hammer	 <p>Source: https://commons.wikimedia.org/wiki/File:Masons_hammer.jpg</p>	Also known as a brick hammer has a chisel-shaped edge for splitting bricks and a flat face for striking or setting bricks and stones.

holding, tooth-cutting, boring, and sharp-edge tools.

Masonry Saw	 Source https://www.wonkeedonkeetools.co.uk/media/wysiwyg/Ha ndsaws/Part-2/HS81/HS-81-1.jpg	A power tool equipped with a diamond-tipped blade for cutting bricks, blocks, or stones.
Masonry Drill	 Source https://powercraft.ph/wp-content/uploads/2018/05/MASONRY-DRILL-BIT.jpg	A drill bit specifically designed for drilling holes in masonry materials such as bricks, blocks, or concrete.
Brick Jointer	 Source https://www.amazon.com/-/es/ensamblador-ladrillos-herramienta-recorte-trabajar/dp/B08NZ9YQNF	A handheld tool with a pointed or rounded edge shape and smoothing mortar joints between bricks or blocks.
Cold Chisel	 Source https://gharpedia.com/blog/40-masonry-tools-used-in-masonrv-work-of-your-home	A sharp edge for cutting bricks and shaping stone in masonry works.

2. Worked Example

Let the students reflect on what they learned about carpentry and masonry tools. Encourage them to consider how understanding the differences between these tools can help them in future projects or careers related to construction and building trades.

3. Lesson Activity: Tool Sorting Challenge

Ask students to sort various tools into two categories: carpentry and masonry. Through this hands-on activity, they will identify and differentiate between tools commonly used in carpentry and masonry work.

(To apply what the students learned with the lesson, a supplemental activity is given. See worksheet #1 for the activity which students will accomplish.)

SUB-TOPIC 2: Construction Painting and Metal Works Tools




1. Explicitation

Construction Painting Tools are essential for preparing surfaces, applying coatings, and achieving quality finishes in construction and painting projects.




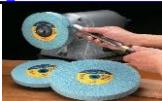
Name of Tools	Images	Uses
Paint Brushes	 Source: https://papercart.ph/products/paint-brush-size-1-2in-3-4in-1in-1-1-2in-2-1-2in	Paintbrushes are handheld tools with bristles used for applying paint to surfaces.
Roller Frames		Roller frames are handheld devices that hold paint roller covers and




Teachers can print names or pictures of carpentry and masonry tools. Provide large bins or boxes labeled "Carpentry Tools" and "Masonry Tools."

The teacher will provide a worksheet for this activity.

	Source: https://tolsen.com.ph/cdn/shop/products/viber_image_2019-12-03_15-23-43f.jpg?v=1575601583	facilitate smooth and even paint application over large surfaces.
Paint Trays	 Source: https://res.cloudinary.com/rsc/image/upload/b_rgb:FFFFFF/c_pad,dpr_2.625,f_auto,h_535,q_auto,w_950/c_pad,h_535,w_950/F2076510-01?pgw=1&pgwact=1	Paint trays are shallow containers used for holding paint during roller application. They typically feature ribbed sections to distribute the paint evenly on roller covers and raised edges to prevent spills.
Paint Scrapers	 Source: https://tolsen.com.ph/cdn/shop/products/37b76d68329a5f5584796f373c036ecc.jpg?v=1578901314	Paint scrapers are handheld tools with sharp blades that remove old paint, dirt, and debris from surfaces before painting.
Roller Covers	 Source: https://m.media-amazon.com/images/I/513K9NmipOL.AC_UF1000,1000_QL80_.jpg	Also known as roller sleeves, they are cylindrical sleeves made of absorbent material such as synthetic fibers or sheepskin.

Metal Works Tools- are instruments and equipment specifically designed for shaping, cutting, joining, and finishing metal materials in various manufacturing, fabrication, and repair applications. These tools are essential for machining, welding, forging, and forming metal components to precise specifications.

Name Of Tools	Images	Uses
Hacksaw	 Source: https://d1rlzxa98cyc61.cloudfront.net/catalog/product/cac/he/1801c418208f9607a371e61f8d9184d9/1/5/154691_2022.jpg	A handheld saw is a cutting tool with a fine-toothed blade for cutting metal rods, pipes, and sheets.
Metal Shear	 Source: https://cdnassets.hw.net/23/cc/ee74d42a429186c3ee40264694c9/double-cut-shears.jpg	A cutting tool used for shearing or cutting sheet metal, plate, and bar stock.
Welding Machine	 Source: https://www.gigatools.ph/cdn/shop/products/Powerhouse_300_3.JPG?v=1587399739	A power tool is used to join metal pieces together by melting and fusing them with heat.
Grinding Wheel		Rotating abrasive wheel grids, smoothing, and finishing metal surfaces.

	Source: https://assets.leevalley.com/Size4/10063/62012-norton-3xt-grinding-wheels-u-01.jpg	
Drill Press	 <p>Source: https://diyhardware.ph/cdn/shop/products/A6P0006.jpg?v=1595339770</p>	A machine used for precision and accuracy to drill holes in metal workpieces.
Cut-off	 <p>Source: https://shop.goldpeaktools.com.ph/products/jackson-cooper-cut-off-machine-14</p>	A cut-off tool refers to a handheld power tool or machine used to cut through materials such as metal,
Chipping Hammer	 <p>Source: https://www.faiithfulltools.com/p/FAIWCH/Welders-Chipping-Hammer-290mm</p>	A chipping hammer is a handheld tool used in welding and metalworking to remove slag and unwanted materials from welded joints and metal surfaces.

2. Worked Example

Students will be given scenarios to identify whether construction painting or metal works tools would be used in each situation.

(See worksheet #2 for the activity which students will accomplish.)

3. Lesson Activity: Paint Me a Picture

1. Divide the class into the construction painting group and the metal works group.
2. Assign each group a specific scenario to act out, incorporating construction painting tools or metal works tools.
3. In their groups, students will brainstorm and plan their scenarios, focusing on how they will use the assigned tools in their performance.
4. Encourage students to be creative and think of engaging ways to showcase the tools and their functions within the scenario context.

DAY 2

SUB-TOPIC 3: Plumbing Tools and Tile Setting Tools

1. Explicitation






Plumbing Tools- are instruments and equipment specifically designed for installing, repairing, and maintaining plumbing systems, including pipes, fittings, fixtures, and

Answer key:

1. Construction Painting Tools
2. Metal Works Tools
3. Construction Painting Tools
4. Construction Painting Tools
5. Metal Works Tools

With many students, the teacher can divide the class into four groups. Two groups are for construction painting, and the others are for metal works.





appliances. These tools are essential for various tasks such as cutting, joining, tightening, and testing plumbing components.

Name Of Tools	Images	Uses
Pipe Wrench	 Source: https://www.gigatools.ph/cdn/shop/products/10_inch_es.jpg?v=1603964100&width=720	A heavy-duty wrench with serrated teeth is used to grip and turn pipes, fittings, and other plumbing components.
Pipe Vise	 Source: https://khmttools.com.ph/products/ridgid-portable-chain-yoke-pipe-vise	A pipe vise is a specialized tool used in plumbing and pipefitting to hold pipes securely in place during cutting, threading, and assembly operations.
Pipe Cutter	 Source: https://img.lazcdn.com/g/p/395d80b14fd2f0aa21404720394b58e6.png_720x720q80.png	Pipe cutters are handheld tools used for cutting pipes cleanly and accurately. They come in various types, including standard, tubing, and ratcheting cutters, each suited to different pipe materials and diameters.
Pipe Threader	 Source: https://www.walmart.com/ip/Hand-Pipe-Threader-Set/747525950	A pipe threader is a tool used in plumbing and pipefitting to create threads on the ends of pipes, allowing them to be joined together with fittings or other pipes.
Plunger	 Source: https://alwaysplumbing.ca/wp-content/uploads/AdobeStock_24961992.jpeg?x10522	A rubber suction cup attached to a handle clears clogged drains, toilets, and sinks by creating hydraulic pressure to dislodge blockages.

Tile Setting Tools- are instruments and equipment specifically designed for installing, aligning, cutting, and finishing ceramic, porcelain, or stone tiles during tiling projects. These tools are essential for achieving precise and professional-looking tile installations.

Name Of Tools	Images	Uses
Tile Cutter	 Source: https://tolsen.com.ph/cdn/shop/files/41032_c63cab27-9ceb-4633-b17e-9cdf33179f2.jpg?v=1695455371	A handheld tool used for cutting ceramic, porcelain, or stone tiles to size. Tile cutters come in various types, including manual, tile scoring tools, and tile nipper pliers.

Day 2 - The teacher will discuss Sub-topic 2, Construction Painting and Metal Works Tools.

Tile Saw	 Source: https://m.media-amazon.com/images/I/71t8OkD-HBL_AC_UF894,1000_QL80_.jpg	A power tool with a diamond-tipped blade cuts tiles significantly larger or thicker than those that cannot be cut with a manual tile cutter. Tile saws come in various types, including tabletop tile saws, wet tile saws, and bridge tile saws.
Tile Trowel	 Source: https://images.thdstatic.com/productimages/05162609-3321-434d-85b8-2467537a24ae/svn/roberts-tile-trowels-49737-64_600.jpg	A handheld tool with a flat, notched blade spreads adhesive or mortar onto the substrate before laying tiles. Tile trowels come in various sizes and shapes, including square-notch, V-notch, and U-notch trowels.
Tile Leveling System	 Source: https://firma-pro.com/media/magefan_blog/systemy_low12.jpg	A system of clips and wedges ensures level and uniform tile installations. Tile leveling systems are designed to hold tiles in place and maintain consistent spacing between tiles during installation, preventing lippage and ensuring a flat surface.
Grout Float	 Source: https://www.ferro-carbon.com/upload_files/products/104/530001-05.jpg	A handheld tool with a flat, rubber, or foam pad applies, and smooths grout into the joints between tiles. Grout floats come in various sizes and shapes, including square-edged and rounded-edge floats.

2. Worked Example

Ask the students to work in small groups to design their dream bathroom layout. Then, let the students identify and list all plumbing, and tile-setting tools needed to install fixtures and tiles in their designs.

(See worksheet #3 for the activity which students will accomplish.)

3. Lesson Activity: Tool Hunting

Under students' chairs, there are pictures of plumbing and tile-setting tools. Students will search for images and post them on the board according to their classification.






DAY 3

SUB-TOPIC 4: Electrical Tools and Electronic Tools


Day 3—The teacher will discuss subtopic 3, Plumbing Tools and Tile Setting Tools. The teacher can print “Plumbing Tools” and “Tile

1. Explicitation

Electrical tools are instruments and equipment specifically designed for working with electrical systems, components, and wiring. These tools are essential for installing, maintaining, repairing, and troubleshooting electrical systems in residential, commercial, and industrial settings.

Name Of Tools	Images	Uses
Wire Stripper	 Source: https://tolsen.com.ph/cdn/shop/products/38050.jpg?v=1695364370&width=1946	A handheld tool removes insulation from electrical wires to expose the conductive metal underneath. It features cutting jaws or blades with various-sized notches for stripping wires of different gauges.
Multi Meter/Volt-Ohm-milliammeter	 Source: https://ph.element14.com/productimages/large/en_GB/IN07444-40.jpg	This, also known as a volt-ohm meter (VOM), is a handheld device for measuring electrical parameters such as voltage, current, resistance, and continuity.
Wire Crimper	 Source: https://laz-img-sg.alicdn.com/p/67df48648c19777facf848a761eed841.jpg	Wire crimpers are tools for attaching terminals or connectors to the ends of electrical wires.
Voltage Tester	 Source: https://mobileimages.lowes.com/productimages/952e12a3-39da-47b8-9293-aa73585e53d1/16820294.jpg	A voltage tester is a handheld tool for quickly and safely checking the presence of electrical voltage in wires, outlets, switches, and other electrical components.
Circuit Tester	 Source: https://dam-assets.fluke.com/s3fs-public/fluke-t6-pro-inc.jpg	A circuit tester, continuity tester, or test light is a handheld tool for checking the continuity or integrity of electrical circuits.

Electronic Tools—Electronic tools are devices or instruments that utilize electronic components to perform specific functions. They range from simple handheld devices to complex machinery and equipment used in various industries.

Name Of Tools	Images	Uses
Soldering Iron	 Source: https://www.flickr.com/photos/30478819@N08/50838189846	A soldering iron is a handheld tool used for soldering electronic components.






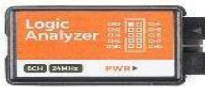

Setting Tools” and post them on the board.

Day 3 – The teacher will discuss sub-topic 4, electrical and electronic tools.

Note: Emphasize to the students that some tools can be used, both electrical and electronic works.

Teachers may integrate occupational health and safety procedures by using electrical tools.

10 Occupational Health And Safety Procedures You Need to Know. (n.d.). [Www.linkedin.com.](https://www.linkedin.com/pulse/10-occupational-health-safety-procedures-you-need-know-hsewatch)
<https://www.linkedin.com/pulse/10-occupational-health-safety-procedures-you-need-know-hsewatch>

Soldering Stand	 Source: https://commons.wikimedia.org/wiki/File:Soldering_Iron_Stand.jpg	A soldering stand is a tool used to hold a soldering iron when it's not in use,
Desoldering Tool	 Source: https://www.flickr.com/photos/30478819@N08/50838275232	They remove soldering material (often a metal alloy) from electronic components and circuit boards.
Breadboard	 Source: https://www.flickr.com/photos/adafruit/52606902601/	Breadboards are essential for testing circuit designs, trying new ideas, and troubleshooting electronics projects.
Spectrum Analyzer	 Source: https://www.flickr.com/photos/129143611@N03/16347568292	Used to measure frequency information on a signal,
Oscilloscope	 Source: https://www.flickr.com/photos/tompagenet/33748966674/	They are used to measure the timing information around a signal.
Logic analyzer	 Source: https://www.flickr.com/photos/sparkfun/45074039664	Captures and analyzes digital signals in electronic circuits
Signal Generator	 Source: https://en.wikipedia.org/wiki/Signal_generator	Produces precise electrical signals of different frequencies and waveforms for testing electronic devices.

2. Worked Example: Electrify Your Vocabulary

Let the students search for different words related to the topic discussed in this lesson.
Connect the letters with zigzag lines.

(See worksheet#4 for the activity which students will accomplish.)

3. Lesson Activity

Let the students identify which type of electrical tools will be used in the given scenarios.

(See worksheet #4 for the activity which students will accomplish,

V. Synthesis/Extended Practice/Differentiation)

Answer key:

1. Circuit Tester
2. Multi Meter
3. Wire Stripper
4. Wire Crimper
5. Voltage Tester

Answers key:








1. Multimeter

DAY 4

SUB-TOPIC 5: Automotive and Small Engine Tools




1. Explicitation

Automotive and small engine tools are specialized equipment for diagnosing, repairing, and maintaining vehicles, including cars, motorcycles, boats, and lawnmowers. These tools are essential for automotive technicians, mechanics, and hobbyists working on engines, transmissions, brakes, suspension systems, and other vehicle components.

Name Of Tools	Images	Uses
Socket wrenches (Ratchet)	 Source: https://www.flickr.com/photos/30478819@N08/50920134163	They are used for loosening and tightening nuts and bolts of various sizes.
Spark Plug Socket	 Source: https://www.flickr.com/photos/116745893@N02/12640075785	They specifically designed sockets for removing and installing spark plugs in engine cylinders.
Wrenches	 Source: https://www.pickpik.com/wrench-allen-screw-craft-tool-hardware-store-157387	Includes combination wrenches, adjustable wrenches, and specialty wrenches for different applications.
Torque Wrench:	 Source: https://www.desertcart.ph/products/178609271-amazon-basics-1-2-inch-drive-click-torque-wrench-27-1-203-5-nm	Used to apply a specific amount of torque to fasteners to ensure they are tightened to the correct specification.
Oil Filter Wrench	 Source: https://www.apexinds.com/blog/types-oil-filter-removal-tools.html	They are designed to remove and install oil filters on vehicles. It is either a chain, cap, strap, or jaw type.
Jack and Jack Stands:	 Source: https://sunextools.com/products/3-5-ton-capacity-service-jack-with-quick-lifting-system/	Essential for lifting and supporting vehicles safely during maintenance and repair work.
Battery Tester	 Source: https://www.hioki.com/global/products/resistance-meters/battery/id_6614	Check the voltage and condition of vehicle batteries.

2. Multimeter
3. Wire Stripper
4. Wire Crimper
5. Soldering Iron
6. Breadboard

You may add automotive tools necessary for automotive and

	<table border="1" data-bbox="479 148 1626 320"> <tr> <td data-bbox="479 148 707 320">Diagnostic Scan Tool</td><td data-bbox="707 148 1167 320">  Source: https://www.lazada.com.ph/products/thinkcar-cs90-car-obd2-scanner-diagnostic-tools-engine-system-free-lifetime-automotive-tool-professional-car-tools-diagnost-scanner-j2598639570.html </td><td data-bbox="1167 148 1626 320">Used to scan for and diagnose problems in the vehicle's onboard</td></tr> </table> <p>2. Worked Example: Tool Matching Game Objective: This task aims for grade 7 learners to match each automotive tool name with its corresponding picture or illustration. Directions:</p> <ol style="list-style-type: none"> 1. Distribute the printed worksheet with tool names for identification to each student. 2. Display pictures or illustrations of common automotive tools in the classroom where all students can see them. 3. Instruct students to match each tool name on their worksheet with the corresponding picture or illustration. 4. Allow students sufficient time to complete the task independently. 5. Once students have finished matching the tool names with the pictures, review the answers together as a class. Encourage students to explain their choices and discuss the purpose of each tool. 6. Provide feedback and clarification as needed. 7. Conclude the activity by summarizing the key points about automotive tools and their importance in vehicle maintenance and repair. <p>(See worksheet #5 for the activity which students will accomplish.)</p> <p>3. Lesson Activity: Build Your Own Simple Automotive Repair Kit Objective: Create a personalized basic automotive repair kit. (See worksheet #6 for the activity which students will accomplish.)</p>	Diagnostic Scan Tool	 Source: https://www.lazada.com.ph/products/thinkcar-cs90-car-obd2-scanner-diagnostic-tools-engine-system-free-lifetime-automotive-tool-professional-car-tools-diagnost-scanner-j2598639570.html	Used to scan for and diagnose problems in the vehicle's onboard	<p>small engine servicing that were not mentioned.</p> <p>You may also design an activity to help the learners better understand the topic.</p> <p>Materials Needed: (If actual tools are not available, you may use printed or mockup tools)</p>
Diagnostic Scan Tool	 Source: https://www.lazada.com.ph/products/thinkcar-cs90-car-obd2-scanner-diagnostic-tools-engine-system-free-lifetime-automotive-tool-professional-car-tools-diagnost-scanner-j2598639570.html	Used to scan for and diagnose problems in the vehicle's onboard			
<p>D. Making Generalizations</p>	<p>DAY 4</p> <p>1. Learners' Takeaways</p> <ol style="list-style-type: none"> 1. Can you enumerate the seven classifications of industrial arts services tools? 2. How does each classification differ from the other? <p>2. Reflection on Learning: Have the students complete the following sentences:</p> <p>I understand that _____.</p> <p>I realize that _____.</p> <p>I need to learn more about _____.</p>				

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION	NOTES TO TEACHERS
<p>A. Evaluating Learning</p> <p>Day 4</p> <p>1. Formative Assessment</p> <p>Multiple Choice</p> <p>Directions: Students will answer the 10-item test about classifying industrial arts services tools.</p> <ol style="list-style-type: none"> What instruments and equipment are specifically designed for installing, aligning, cutting, and finishing ceramic, porcelain, or stone tiles during tiling projects? a. Plumbing Tools b. Tile Setting Tools c. Electrical Tools d. Carpentry Tools These are instruments and equipment specifically designed for woodworking and construction tasks, primarily for shaping, cutting, joining, and finishing wood materials. a. Plumbing Tools b. Tile Setting Tools c. Electrical Tools d. Carpentry Tools What classification of tools are specifically designed for shaping, cutting, joining, and finishing metal materials in various manufacturing, fabrication, and repair applications? a. Metal Works Tools c. Tile Setting Tools b. Construction Painting Tools d. Carpentry Tools These are essential instruments and equipment for preparing surfaces, applying coatings, and achieving quality finishes in construction and painting projects. a. Metal Works Tools c. Construction Painting Tools b. Tile Setting Tools d. Carpentry Tools All are examples of electrical tools except for: a. Wire Tester b. Wire Crimper c. Pipe Cutter d. Circuit Tester Which tools commonly remove and install nuts and bolts in automotive repair? a. Pliers b. Wrench c. Jack Stand d. Screwdriver Which of the following electronic tools is used to check the battery's voltage and assess its overall condition in automotive applications? a. Battery tester b. Digital oscilloscope c. Clamp Meter d. Circuit Tester What classification of tools is used to measure, test, diagnose, or repair electronic circuits and components? a. Automotive tools b. Electrical tools c. Electronic tools d. Metalwork tools What is the purpose of a soldering iron in electronics work? a. To cut wires. b. To strip insulation from wires. c. To join electronic components together with solder. 	<p>Note: You may add more test items.</p> <p>Answers:</p> <ol style="list-style-type: none"> b. Tile Setting Tools d. Carpentry Tools a. Metal Works Tools c. Construction Painting Tools c. Pipe Cutter b. wrench a. battery tester c. Electronic tools c. To join electronic components together with solder c. Spark plug socket

	<p>d. To measure voltage.</p> <p>10. Which tool removes and installs spark plugs in an engine?</p> <p>a. Ratchet b. Pliers c. Spark plug socket d. Adjustable wrench</p> <p>2. Homework</p> <p>Let the students make a list and classify industrial arts services tools available at home. They may ask their father or older brother to assist them.</p>			You may give another type of homework.
B. Teacher's Remarks	<i>Note observations on any of the following areas:</i>	Effective Practices	Problems Encountered	<p>The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement and other related stuff.</p> <p>Teachers may also suggest ways to improve the different activities explored/ lesson exemplar.</p>
	strategies explored			
	materials used			
	learner engagement/ interaction			
	others			
C. Teacher's Reflection	<p><i>Reflection guide or prompt can be on:</i></p> <ul style="list-style-type: none"> ▪ <u>principles behind the teaching</u> What principles and beliefs informed my lesson? Why did I teach the lesson the way I did? ▪ <u>students</u> What roles did my students play in my lesson? What did my students learn? How did they learn? ▪ <u>ways forward</u> What could I have done differently? What can I explore in the next lesson? 			Teacher's reflection in every lesson conducted/ facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.