

Lesson 1.5: Tools and Equipment

Unit: Unit 1, Kitchen Skills and Smart Eating (Nutrition and Wellness) **Topic:** 1.2 Tools, Measuring, and Recipes **Grade:** 6 to 8 (written at grade 7; see Differentiation for the grade 6 support and grade 8 stretch) **Days:** 2 class periods of 40 minutes **Room:** FACS lab with kitchen stations (a no-kitchen version is below)

Standards

- NYS module line: NYS N&W 1. Culinary Management a) Identify common kitchen tools and equipment and the uses for each
- NYS module line: NYS N&W 1. Culinary Management b) Demonstrate safety and sanitation procedures when handling food and equipment
- CTE theme line: CTE HSW 4. Classroom and Workplace Safety c) Apply safety practices when using tools, machines, and equipment
- NYS FACS Learning Standard 1 (Intermediate), Key Idea: Students will use an understanding of the elements of good nutrition to plan appropriate diets for themselves and others. They will know and use the appropriate tools and technologies for safe and healthy food preparation.; Performance Indicator: Students understand the relationships among diet, health, and physical activities; evaluate their own eating patterns; and use appropriate technology and resources to make food selections and prepare simple, nutritious meals.
- CDOS Standard 3a Universal Foundation Skills: Technology
- National FCS 3.0: 14.3.3 Show the ability to select, store, prepare, and serve food that is nourishing and looks good on the plate.
- National FCS 3.0: 8.3.6 Name the kinds of equipment used to process, cook, hold, store, and serve food.

Enduring understanding and essential question

Big idea: Every tool in a kitchen was built for a job. Picking the right tool, and knowing where it lives, is what makes a cook fast and safe. A machine is only safe when you know its parts and what goes wrong. **Essential question:** Which tool would you reach for, and how do you know?

Objectives

By the end of this lesson, students will be able to:

1. (Low) Given a numbered tray or a photo, identify eighteen common kitchen tools and five kitchen machines by name and state the job of each.
2. (Mid) Given a cooking task on a card, select the correct tool or machine and explain why a different tool would fail or be unsafe.

3. (High) After the blender demo and the equipment walk, evaluate a staged “what went wrong” scene for each machine and recommend the safe procedure that would have prevented it.

Vocabulary

Tier 2 (general academic): identify, select, function, procedure Tier 3 (FACS): dry measuring cup, liquid measuring cup, measuring spoons, whisk, spatula, tongs, colander, kitchen shears, peeler, grater, sheet pan, saucepan, skillet, oven mitt, food thermometer, burner, element, blade. See the unit vocabulary list (Vocabulary 01.md) for Turkish, Portuguese, and Spanish.

Materials and setup

- Day 1, six tool ID stations, each with three tools laid out on a labeled tray with a number card at each tool (numbers 1 to 18). Station A: dry measuring cups (the nested set), liquid measuring cup (glass, with the pour spout), measuring spoons. Station B: mixing bowls (a small and a large), whisk, wooden spoon. Station C: rubber spatula, tongs, colander. Station D: cutting board, kitchen shears, can opener. Station E: peeler, grater, sheet pan. Station F: saucepan, skillet, oven mitt, food thermometer (four tools at this station).
- Day 1, one “which tool would you use” card at each station (six cards; see Handout 01.05 - Tool ID and Where It Lives.md, Part 3).
- Day 1, Tool ID handout, one per student: Handout 01.05 - Tool ID and Where It Lives.md
- Day 1, a blank map of the kitchen stations (Part 2 of the handout) and one colored pencil per pair.
- Day 2, the machines: one stove and oven per station, one microwave per station, one stand or hand mixer, one blender. *[Sal: if there is only one mixer in the room, run Step 2 as a demo at the front.]*
- Day 2, blender demo supplies: a plastic blender jar and a glass jar if the room has both (or a photo of each), one banana, one cup of milk, a handful of ice, a scoop of frozen berries, a spoon (to show what must never go in).
- Day 2, “what went wrong” scene cards, five cards, one per machine (printed from Slides 01.05 Day 2).
- Day 2, Tools Check, one per student (Part 4 of the handout; ten items, scored as daily work).
- Slides: Slides 01.05 - Tools and Equipment.md (Day 1 and Day 2 marked)
- Setup notes: stage the six trays after the previous period leaves. Tape the number cards down so they do not move. Photograph each tray for the no-kitchen version. Day 2: unplug the blender until the demo begins; check the microwave interior is clean; confirm the oven is off and cool. Allergy check: the blender demo uses banana, milk, and berries. Nobody eats the demo unless you choose to and the allergy list allows it.

Pre-assessment

The Unit 1 pre-assessment (Lesson 0.5) asked students to name three kitchen tools and what they do. Count how many named a measuring cup and how many named a spatula; that tells you whether Day 1 is new or review. The do now is the second read.

Do now and hook (Time: 4 min, each day)

Day 1, on the board: “Draw or name one kitchen tool you have used at home. What job did you use it for? One sentence.” Debrief: call four students. Write the tools on the board. Hook: “There are eighteen tools on the trays in this room. By the end of today you will know all eighteen, what they do, and which drawer they sleep in. Then I will hide them and you will find them.”

Day 2, on the board: “Which is more dangerous, a stove or a blender? Give one reason.” Hand vote, then two students defend each side. Hook: “Both can hurt you, and both are easy to use safely if you know three things: the parts, the steps, and what goes wrong. Today you learn all three for five machines.”

Procedure

Step	Teacher will	Students will	Time
Day 1, 1. Direct instruction: tool families	Show the three families on one slide: measure, mix and move, cut and cook. Say the rule: “Name it, say the job, say the drawer.” Assign pairs to a starting station. Give the station rules: pick up, look, put back where you found it; write, do not carry tools to another station.	Copy the three families into the handout header. Move to the first station.	4 min
Day 1, 2. Learning activity: tool ID stations	Start the timer. Rotate pairs about every 3 minutes with the reset cue (six stations in 17 minutes). At each rotation, call out one tool number and have the room say the name. Circulate	At each station, write the tool name and its job on the handout next to the tool number (Part 1). Answer the “which tool would you use” card on the tray (Part 3).	17 min

	with the clipboard checklist.		
Day 1, 3. Drawer scavenger hunt	Announce the hunt: “Every tool has a home. Find where each of the eighteen lives in your station. Draw it on the map.” Set a rule: open, look, close; nothing comes out of a drawer. Time it.	In their station team, open drawers and cabinets, find the eighteen tools, and mark each tool’s number on the station map (Part 2).	8 min
Day 1, 4. Share	Ask each station to name the drawer where the measuring cups live and one tool that was hard to find. Reveal the answer key on the slide.	One reporter per station shares. Students correct their own map.	3 min
Day 2, 1. Guided walk: stove, oven, microwave	At one station, with the class gathered, show the parts of each machine: stove (burners, knobs, on and off markings, which knob runs which burner), oven (racks, door, temperature dial, the light), microwave (door, turntable, time buttons, stop button). For each, state the three safe-use steps and the one thing that goes wrong most. Model: pot handle turned in; oven mitt before touching a rack; no metal in the microwave. Hand out the machine	Follow along, label the parts on the diagram slide (drawn on their handout, Part 4 diagram), and repeat the three steps for each machine when asked.	10 min

	parts sheet.		
Day 2, 2. Demo: blender safety, then mixer	Run the blender demo Sal did at Queens College. Show the order of ingredients (liquid first, then soft, then frozen or hard on top) and why. Show the lid on and one hand on the lid before the switch. Show glass jar vs plastic jar: glass is heavier and does not scratch or hold smells, plastic does not shatter if dropped; both must be seated on the base before it runs. Show the spoon and say the rule: nothing goes in while it runs, and it is unplugged before a blade comes out. Then show the mixer: beaters locked in, speed starts low, hands and spoons out of the bowl while it runs, unplug before removing beaters.	Watch, then answer the three call-and-response questions on the slide: "What goes in first?" "Where is your hand?" "When can a spoon go in?"	8 min
Day 2, 3. Learning activity: what went wrong	Give each station team one scene card (a smoking pan on a burner left on, a foil tray in the microwave, a blender turned on with the lid off, a mixer with a spoon in the bowl, an oven	In teams, read the scene, write the answer on the handout (Part 5), and trade cards with another team for a second scene.	7 min

	rack grabbed with a dish towel). Task: name the machine, name what went wrong, write the safe procedure that would have stopped it. Rotate cards once.		
Day 2, 4. Tools Check	Hand out the Tools Check (ten items: six tool photos to name, four “which tool” questions). Score it as daily work and use it to decide who needs the review station before the performance check.	Complete the check alone, quietly, and turn it in.	7 min

Questions to ask

Monitor understanding:

- What is the difference between a dry measuring cup and a liquid measuring cup? How can you tell them apart on the tray?
- What job do tongs do that a spoon cannot?
- Which knob runs the front left burner? How do you know it is off?
- What goes into the blender first, and why?

Deepen learning:

- Why do you think a professional kitchen keeps every tool in the same place every day?
- A recipe says “grate the cheese.” What happens if you use a peeler instead? What if you use the shears?
- Why is a microwave safer than a stove for a first lab, and what is the one way it can still hurt you?
- Which machine in your kitchen at home do you not know how to use safely? Who could show you?

Check for understanding

Day 1 clipboard checklist during Step 2: for each pair, a yes or no on “names the tool without the answer key,” “states the job,” and “answers the which-tool card correctly.” A pair with three yeses at two stations in a row is on track. A pair with a no on “states the job” gets a callout at the next rotation. Day 2: the three call-and-response questions after the blender demo. A “got it” answer is “liquid, on the lid, never while it runs.”

Closure (Time: 4 min, each day)

Day 1: 3-2-1 exit card: 3 tools you can name and place without looking, 2 tools you mixed up today, 1 tool you have never seen at home. Three students read one line aloud. Sort into “got it” and “needs more.”

Day 2: one sentence on the exit card: “The machine I will be most careful with in Lab 1 is ___ because ___.” Two students read theirs. The cards and the Tools Check together decide who visits the review tray during Lesson 1.6.

Differentiation and supports

- ELL: the tool names on the slides have a picture each and the handout has a word bank with the Turkish, Portuguese, and Spanish words for the eighteen tools (see Vocabulary 01.md); sentence starter for the job column: “You use this to ___.” Pair each ELL student with a partner who can point and name. The blender call-and-response is short and repeated three times.
- IEP and 504 (general): the handout has a matching column (tool photo to name) so a student can mark instead of write; extended time on the Tools Check; a student who cannot rotate stays at one station and the teacher brings the other trays past; printed steps for the three machines stay taped at the station all year.
- Grade 6 support: twelve tools on the trays, not eighteen (drop can opener, peeler, grater, food thermometer, saucepan vs skillet contrast, and the second bowl); the drawer map is pre-labeled with drawer names.
- Grade 8 stretch: students also sort the eighteen tools into the National FCS categories on the slide (processing, cooking, holding, storing, serving) and write one tool the room is missing and why it matters. On Day 2, the stretch team writes the safe procedure for a machine not in the room (an air fryer or an electric kettle).
- UDL checkpoint used: multiple means of representation (the real tool on the tray, a photo on the slide, and a label in three languages) and multiple means of action and expression (matching, writing, or pointing at the drawer map).
- No-kitchen alternative: the six trays become six photo posters on the walls (use the tray photos). The drawer scavenger hunt becomes a “design the drawer” task: teams draw where the eighteen tools should live in a kitchen and defend it. The equipment walk uses the labeled diagrams on the slides; the blender demo runs at a table with any outlet. *[Sal: a plastic blender and a mixer travel fine on a cart.]*

Assessment

Objective	Standards met	Learning task	Assessment (formative or summative; tool)
1. Identify tools and machines	N&W 1. a); Std 1 PI A; National FCS 8.3.6	Tool ID stations, Day 1 Step 2; equipment walk, Day 2 Step 1	Formative; handout Part 1 checked against the key, Tools Check scored as daily work;

			summative on the Tools and Measuring Performance Check (tool tray station)
2. Select the right tool and explain why	N&W 1. a); CDOS 3a Technology; National FCS 14.3.3	Which-tool cards, Day 1 Step 2; Tools Check items 7 to 10	Formative; clipboard checklist, Tools Check
3. Evaluate a what-went-wrong scene and recommend the safe procedure	N&W 1. b); HSW 4. c)	What went wrong, Day 2 Step 3	Formative; team answers scored complete, partial, or missing for daily work; the scenes return as the safety row of the Lab Rubric

Objectives 1 and 2 are assessed summatively on Assessment 01.2, Tools and Measuring Performance Check, at the start of Lesson 1.8.

Homework

None. Optional: open one drawer at home, name three tools in it, and tell someone what each one does.

Connections

Science: the blender and mixer are simple machines with a motor and a blade or beater; the science teacher's simple machines unit can borrow the parts diagram. Technology or engineering, if the school has it: a student can bring a tool from that room and the class decides where it would live in a kitchen.

Sources

- NYS Middle Level CTE FACS Content Module 05, Nutrition and Wellness (nycotecenter.org, June 2018), lines 1. a) and 1. b). Copy in 02 Standards/NYS Module PDFs/.
- NYS Middle Level CTE Theme Module 04, Health, Safety, and Wellness, line 4. c). Same folder.
- NYS Learning Standards for Health, Physical Education, and Family and Consumer Sciences (1996), Standard 1, Intermediate, FACS strand. Wording per 02 Standards/STANDARDS SOURCES - web research.md, section 2. [*Sal: confirm against the NYSED PDF.*]
- CDOS Intermediate Standard 3a, Technology. Same file.
- National Standards for Family and Consumer Sciences Education 3.0 (LEAD FCS Education, 2018), competencies 14.3.3 and 8.3.6.

- Sal's own materials: the blender safety demo he ran at Queens College (order of ingredients, lid on, glass vs plastic), and the zero-knife policy from his King Kullen station cards (Education/TeachingWork/LessonPlans), which is why kitchen shears and a butter knife are the only cutting tools on the trays.

Teacher notes

- If Day 1 runs short, cut the station rotation to five stations (fold Station F into a teacher-held tray at the front) and keep the drawer hunt; the map is what saves time in every lab after this.
- Common mistake: students call the liquid measuring cup “the big measuring cup” and use it for flour. Point out the pour spout and the space above the top line every time it comes up. Lesson 1.6 makes this the whole point.
- The blender demo: put the ice in first once, on purpose, with the lid on, and let them hear the motor struggle. Then do it in the right order. The sound is the lesson. *[Sal: you have run this demo; use your own script.]*
- Tape the drawer map inside the cabinet door at each station after Day 1. Every lab this year starts with “check the map.”
- Keep the tray photos. They become the review slide before the performance check and the pictures on the tool tray station of Assessment 01.2.