

Lesson 5.5: Sewing Tools and Safety

Unit: Unit 5, Make It, Mend It, Wear It (Apparel and Textile Production and Design) **Topic:** 5.2 Hand Sewing Skills **Grade:** 6 to 8 (written at grade 7; see Differentiation for the grade 6 support and grade 8 stretch) **Days:** 1 class period of 40 minutes (day 121 of the year) **Room:** FACS lab, three sewing stations of about seven students (a no-station version is below)

This is the sewing unit's version of Lesson 1.1 and Lesson 1.4 put together, and it is held to the same standard as the kitchen. Nobody sews until this period is done. The one thing that makes a sewing room safe is not a poster, it is the count: every needle and pin that comes out of the kit gets counted out and counted back in, every single day, before anyone leaves the station. That routine starts today and it never stops.

I have not taught a sewing lab before. I observed a colleague's sewing labs at Brentwood South and analyzed one for a Queens College course, and the thing I took away is that the tool discipline has to be set on day one or it never gets set. So this lesson is written tight on purpose, for me and for any teacher who picks it up.

Standards

- NYS module line: NYS ATPD 2. Production a) Identify common equipment and supplies used in hand and machine sewing
- NYS module line: NYS ATPD 2. Production b) Demonstrate safe use and storage of equipment used in hand and machine sewing
- CTE theme line: CTE HSW 4. Classroom and Workplace Safety c) Apply safety practices when using tools, machines, and equipment
- CTE theme line: CTE HSW 4. Classroom and Workplace Safety e) Participate in housekeeping procedures that help to establish and maintain safe working conditions in the classroom or workplace
- NYS FACS Learning Standard 2 (Intermediate), Key Idea: Students will know the basic principles of home and community safety. They can demonstrate the skills necessary to maintain their homes and workplaces in a safe and comfortable condition. They can provide a safe and nurturing environment for themselves and others.; Performance Indicator: Students use age-appropriate techniques to select and maintain clothing.
- CDOS Standard 3a Universal Foundation Skills: Personal Qualities. Students demonstrate an understanding of the relationship between individuals and society and interact with others in a positive manner.
- National FCS 3.0: 16.4.1 Work skillfully with traditional and newer equipment, tools, and supplies to construct, alter, repair, and recycle textiles and apparel.
- National FCS 3.0: 1.2.7 Examine what keeps school, work, and community settings safe and healthy.

Note on the citations: the task asked for two of HSW 4. a), c), d), e). Lines c) and e) are used because today is about applying practices while using tools and about the housekeeping

routine that ends every station day; a) was taught in Lesson 5.3 and d) in Lesson 5.1, so the topic covers four of the nine HSW 4 lines across the unit. HSW 4. i), on demonstrating workplace safety skills through practice in a variety of classroom applications, is the line that the count routine satisfies across all fourteen sewing days of the unit, the ten in Topic 5.2 and the four project build days; it is cited in Lesson 5.11 where the sampler is scored.

Enduring understanding and essential question

Big idea: A sewing station is a shop. The tools are sharp, small, and easy to lose, and a needle lost in a classroom floor is a needle in somebody's foot next period. The count is how a professional room proves it is safe. **Essential question:** How does this room prove, every single day, that every sharp thing we took out went back?

Objectives

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

1. (Low: remember or understand) Identify by name and job at least ten hand sewing tools from the station kit, and state where each one lives when it is not in a hand.
2. (Mid: apply or analyze) State the six needle rules and the six steps of the count-out and count-in routine in order, and demonstrate the routine at their own station with a complete, matching count.
3. (High: evaluate or create) Given three unsafe station scenarios, evaluate what rule was broken, what could happen, and what the station should do instead.

Vocabulary

Tier 2 (general academic): routine, procedure, count, verify, consequence Tier 3 (FACS): hand needle, needle size, pin, pin cushion, thimble, fabric shears, snips, seam ripper, measuring tape, tailor's chalk, spool, bobbin, iron, pressing. See the unit vocabulary list (Vocabulary 05.md) for Turkish, Portuguese, and Spanish.

Materials and setup

Three stations of about seven students. Every station gets the same kit, in the same box, with the same layout, all unit long, so a missing tool is visible from across the room.

Station kit (one per station, times three):

Tool	Quantity per station	What it does	Where it lives
Hand sewing needles, sizes 5 to 9 sharps, plus two large-eye embroidery needles	10 in the cushion, counted	Carries the thread through fabric. A smaller number is a bigger needle.	In the pin cushion, point in
Pin cushion	2 (one per sub-team)	Holds every needle and pin that is not in	Center of the table

		a hand	
Straight pins with glass or ball heads	30, counted	Holds two pieces of fabric together before stitching	In the pin cushion
Thread, all-purpose polyester, spools	4 colors	The stitch itself	Kit box
Needle threaders	4	Pulls the thread through the eye for anyone who needs it	Kit box
Thimble	4	Protects the pushing finger when the fabric is thick	Kit box
Fabric shears, 8 inch, marked FABRIC ONLY	2	Cuts fabric. Nothing else, ever.	Shears bin, blades down
Small snips or thread nippers	3	Cuts thread close to the fabric	Shears bin, blades down
Seam ripper	2	Opens a stitch line that went wrong	Kit box, cap on
Measuring tape, 60 inch	2	Measures fabric and a body	Kit box, rolled
Tailor's chalk or a chalk pencil	2	Marks the cut line and the seam line on fabric	Kit box
Paper scissors, marked PAPER	1	Cuts patterns and paper so the shears stay sharp	Kit box

Shared, for the room:

- One iron and one small pressing board or a folded towel on a heatproof mat, at the front, on a table nobody walks past. One operator at a time and that operator is me until Lesson 5.10.
- A magnet on a stick, or a strong magnet in a sandwich bag, for sweeping the floor when a count does not match
- A sharps container, or a labeled hard plastic jar with a lid, for bent needles and broken pins
- The PPE bin from Lesson 5.1 (closed-toe shoes reminder, hair ties)
- Handout, one per student: Handout 05.05 - Tool Kit Guide and Count Sheet.md
- Slides: Slides 05.05 - Sewing Tools and Safety (outline in 05 Materials; the site renders it as a deck)
- The class agreement chart paper from Lesson 5.2, still posted

- Index cards for the closure
- Timer visible to the class
- Setup notes: build the three kits before the unit starts, in identical boxes, with a photo of the correct layout taped inside each lid so a student can see at a glance what is missing. Count the needles and pins into each cushion yourself and write the starting numbers on the station's count sheet. Tape a small "10 needles, 30 pins" card to the table. Sweep the floor before the unit begins so a needle found later is a needle from this unit. Check the roster for any student with a latex or nickel sensitivity before handing out thimbles and pins.

Pre-assessment

The do now is a tool sort against the kit photo, which shows who has used these tools before. Add one question out loud: "Who has sewn something before, at home, with a relative, or at another school?" Those students become the station helpers in Lesson 5.6, and knowing who they are now is worth more than any pre-test.

Do now and hook (Time: 5 min)

On the board: "Twelve tools are in the box on your table. Do not open the box. On your handout, Part 1, write down every sewing tool you can already name and what you think it does. Two minutes."

Debrief by taking three names and writing them up. Then the hook. Hold up one hand needle so the class can barely see it. "This is the whole unit. It is an inch long and it costs about four cents. If one of these ends up on that floor, the next person who finds it finds it with a foot, or a knee, or a hand. So we are going to count. Every needle, every pin, out and back, every day, and nobody leaves a station with a number that does not match." Then extended time students from Lesson 5.4 finish the quiz at the front while the debrief runs.

Procedure

Step	Teacher will	Students will	Time
1. Direct instruction: the kit, tool by tool	Open one kit at the front, hold up each tool, name it, say what it does, and say where it lives. Keep it to twenty seconds per tool. Hit these points hard as they come up: needle sizes run backwards, so a 9 is finer than a 5; a pin holds fabric so your hand does not have	Fill in Part 2 of the handout: tool name, job, and where it lives, using the kit photo taped in the lid.	11 min

	to; a thimble is not optional on thick fabric, it is what keeps a needle out of a fingertip; fabric shears cut fabric only because paper dulls a blade in one cut and a dull blade makes you push, and pushing is how people get hurt; a seam ripper is the tool that means a mistake is not a disaster; the paper scissors exist so the shears survive. Then the single most important sentence of the unit: a needle or pin is in the cushion, in the kit, or in your hand. There is no fourth place.		
2. Direct instruction: the six needle rules	Put the six rules on one slide and say each one with the object in hand. (1) A needle or a pin lives in the pin cushion or the kit. Never on the table, never in your mouth, never in a pocket, never in the chair. (2) Count out, count in. No station is dismissed until the numbers match. (3) Snips and shears travel closed and pointing down, and they are handed over handle first. (4)	Copy the six rules into Part 3 and sign the bottom of the handout, which is the station agreement for this topic.	7 min

	Fabric shears cut fabric only. (5) One person operates the iron, hands away from the plate, cord behind and never across a walkway. (6) Your free hand stays behind the needle, never in front of it; if you get stuck, you stop, tell me, wash it, and I write it up. Then the consequence, said once, plainly: breaking a rule at a station costs that station its work time for the day and it zeroes the week's participation and safety score. Same standard as the kitchen.		
3. Learning activity: the count-out and count-in routine, practiced for real	Teach the six steps, then run them. (1) The Station Manager opens the kit and counts out loud: needles, then pins, touching each one. (2) The Station Manager writes both numbers in today's row on the station count sheet. (3) The station works. Any needle not in a hand is in the cushion. (4) At the five-minute warning, everything stops and every needle and pin goes	Take the roles, run the full routine twice, hold and return a needle and pins, and complete the day's row on the count sheet.	9 min

	back in the cushion. (5) The Station Manager counts again, out loud, and writes the second number. (6) The numbers match and I initial the row, or the numbers do not match and nobody leaves that station until it is found. If it is not found, the Station Manager hands me the sheet, the station stands back, and I sweep with the magnet. Then practice it: assign a Station Manager at each station, run the count out, hand every student one needle and two pins to hold for sixty seconds (no thread, no fabric, just holding), run the five-minute warning, run the count in, and initial the rows. Do it twice if there is time, with a different Station Manager.		
4. Debrief: three unsafe stations	Three scenario cards on the slide and on the handout. (a) A student finishes early, sticks the needle in the arm of the chair, and goes to the bathroom. (b) Two	Answer the three scenarios in Part 4, then one reporter per station reads one answer.	4 min

	students are cutting, and one hands the shears across the table blades first because the other one asked fast. (c) A station's count comes up 9 needles instead of 10, and one student says "it is fine, I will find it tomorrow." For each: what rule was broken, what could happen, what the station should do instead. Take one answer per card and correct anything soft. Close with the thing they will hear every day for the next thirteen days with a needle out, nine more in this topic and four on the build days: "Count out, count in."		
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Day total: 5 (the do now) plus 11 plus 7 plus 9 plus 4 plus 4 (the closure) = 40 minutes.

Questions to ask

Monitor understanding:

- Where does a needle live when it is not in your hand? Name all three legal places.
- Which is a bigger needle, a 5 or a 9?
- How do you hand somebody the snips?
- What are the two numbers the Station Manager writes down?
- What happens if the count does not match?

Deepen learning:

- Why do we count pins and not thread?
- A dull pair of shears is a safety problem, not just an annoying one. Explain why.

- The kitchen has a station check before dismissal and this room has a count. What do those two routines have in common?
- If you were the boss of a shop with twenty workers and sharp tools, what would you add to our six rules?
- Why does the seam ripper make people braver about trying a stitch?

Check for understanding

Two checks, both concrete. During Step 1 and 2, walk with the clipboard and ask three students at each station to name a tool and its home; any wrong “home” answer gets corrected at the table. During Step 3, the count sheet itself is the check: a station whose two numbers match, written in the Station Manager’s own hand, with my initials, has demonstrated Objective 2. A station that cannot get the count to match in a practice run with no fabric on the table is the station that needs the Station Manager job assigned to a different student tomorrow.

Closure (Time: 4 min)

Exit card, three lines: (1) the six needle rules, as many as you can write in ninety seconds, (2) the one rule you think people in this room will break first, (3) one tool you want to use most. Three students read line 1 aloud, and the class fills in whatever is missing. Sort into “got it” and “needs more.” Any card with fewer than four rules gets the student a 60-second repeat at the front of Lesson 5.6 before the needles come out. Post the six rules at every station tonight.

Differentiation and supports

- ELL: the kit photo taped in the lid is the tool vocabulary, and Part 2 of the handout is a picture-to-name match, not writing. The six rules are written in short imperative sentences with an icon each (a cushion, two numbers, a pair of snips pointing down, a fabric square, an iron, a hand). Word bank with Turkish, Portuguese, and Spanish for needle, pin, thread, scissors, cushion, iron, count, safe (see Vocabulary 05.md). The count is spoken in numbers, which every student in the room can already do.
- IEP and 504 (general): the Station Manager role can be shared by two students, one counting and one writing; a student who cannot write the numbers fast enough uses the pre-printed count sheet where the starting numbers are already filled in and only the return numbers get circled; a student with an attention plan gets the five-minute warning as a tap at the shoulder as well as a call; the scenario cards can be answered orally; extended time from the Lesson 5.4 quiz is absorbed into the do now.
- Grade 6 support: the tool list to name is eight tools instead of twelve (needle, pin, cushion, thread, shears, snips, seam ripper, measuring tape), and the six rules are given as a fill-in-the-blank instead of a copy.
- Grade 8 stretch: write the count-out and count-in routine as a posted procedure for a real workplace, in numbered steps, with a line at the bottom for what a supervisor does when a count fails. That is the accident-report thinking from HSW 4. h) applied to a shop, and the best version gets printed and posted at the stations.

- UDL checkpoint used: multiple means of representation (every tool arrives as an object, as a photo in the lid, and as a name on the handout) and multiple means of action and expression (the count is demonstrated physically, which lets a student prove Objective 2 without writing anything).
- No-kitchen or no-machine alternative: no machines are used today or in this topic's baseline. If the room has no sewing stations, the three kits travel in three boxes to any classroom with tables; the iron stays behind and pressing is done with a hand-flattened fold, which is slower and fine. If the room has no pin cushions, a bar of soap wrapped in a scrap or a folded felt square sewn shut works and can be made in Lesson 5.11's no-machine path. Reduced-dexterity alternative starts today: the station also holds two large plastic needles and a ball of yarn plus two squares of plastic canvas, so a student with fine motor difficulty handles the same routine with tools they can actually hold, and they count those two plastic needles in and out the same way.

Assessment

Objective	Standards met	Learning task	Assessment (formative or summative; tool)
1. Identify ten tools and where each lives	ATPD 2. a); National FCS 16.4.1	Handout Part 2, Step 1	Formative; oral check at each station during Steps 1 and 2; the tool names reappear on the Stitch Sampler Check's tool safety row
2. State the six rules and the six count steps and run a matching count	ATPD 2. b); HSW 4. c), 4. e); Std 2 PI C; National FCS 1.2.7	The practice count, Step 3; the signed station agreement	Formative today; scored on every sewing day after this on the count sheet, and summatively on the tool safety and count-out row of Assessment 05.2 - Stitch Sampler Performance Check.md
3. Evaluate three unsafe station scenarios	HSW 4. c); CDOS 3a Personal Qualities	The three scenarios, Part 4 and Step 4	Formative; scenario answers read for rule, consequence, and correct action; exit card line 2

Homework

None. Optional: find out whether there is a sewing kit in your house, and if there is, ask whoever owns it what one thing in it they use most. Do not bring the kit to school.

Connections

Technology and shop: if the building has a technology or makerspace teacher, their tool rules and their count routine are the same idea, and the two rooms should use the same words so a student hears one standard. Trade: they get a class that already counts, and FACS gets a look at how they store sharps. Health office: the nurse should know the week the needles come out and what the protocol is for a needle stick from a clean, never-used needle; ask before, not after. Community: a tailor, a dry cleaner's seamstress, or a costume shop volunteer is the best guest in this whole unit and they are usually happy to come; they get an hour of respect, and the class gets somebody who has done ten thousand of these stitches. *[Sal: ask the local tailor or the high school drama costumer.]*

Sources

- NYS Middle Level CTE FACS Content Module 03, Apparel and Textile Production and Design (nyctecenter.org, June 2018), lines 2. a) and 2. b). Copy in 02 Standards/NYS Module PDFs/.
- NYS Middle Level CTE Theme Module 04, Health, Safety, and Wellness, lines 4. c) and 4. e). Text per 02 Standards/NYS ML CTE FACS Modules - verbatim extract of all twelve.md.
- NYS Learning Standards for Health, Physical Education, and Family and Consumer Sciences (1996), Standard 2, Intermediate, Key Idea and PI C. Wording per the crosswalk, Part A.6.
- National Standards for Family and Consumer Sciences Education 3.0 (LEAD FCS Education, 2018), competencies 16.4.1 and 1.2.7, per 02 Standards/STANDARDS SOURCES - web research.md.
- The safety and dismissal structure mirrors Lesson 01.04 - The Kitchen Safety Contract and Exam.md and the station check in the six-step sanitation routine, so students meet one standard in two rooms.
- Sal's own materials: the SEYS 552 fieldwork analysis of a colleague's sewing lesson at Brentwood South. The observation informed the decision to front-load tool discipline; none of the colleague's materials are reproduced here, and the lesson is written new.

Teacher notes

- Nothing gets sewn today. Resist it. A class that sews on tool day never learns the count, and the count is the only thing standing between this unit and an incident report.
- Build the kits identically and photograph the layout. The photo in the lid does more supervising than you can.
- Common mistake, and it will happen: a student parks a needle in their sleeve or in the hem of their shirt "just for a second." Name it in Step 2 before it happens, and name it again the first time you see it.

- Common mistake: pins on the floor at the end of a cutting day. Sweep with the magnet at the end of every station day whether the count matched or not. It takes forty seconds and it is the cheapest insurance in the room.
- If a count does not match and the needle is not found after a sweep, write it in your own log with the date, station, and what you did. If the building has an incident form, use it. You want a paper trail that says you followed a procedure.
- Assign the Station Manager to a different student every sewing day. By Lesson 5.11 every student in the room has run the count at least once, which is the real HSW 4. i) evidence.
- Keep two threaded needles in the cushion at the start of every sewing day from here on, already knotted. They are for the student who cannot thread today, and handing one over without comment saves a student's period.
- *[Sal: your room. Decide now whether the iron is in this unit at all. It is optional everywhere except pressing a fold in Lesson 5.10, and a fold can be pressed by hand. If you leave it out, say so on the slide and drop rule 5 to a line about heat tools in general.]*