

Lesson 7.7: Big Idea Factory

Unit: Unit 7, Launch: Career Readiness and FACS Shark Tank (capstone; draws on Individual Growth and Life Readiness) **Topic:** 7.2 FACS Shark Tank **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 **Room:** Classroom with wall space for six posted signs

Standards

- NYS module line: NYS IGLR 5. Career Pathways b) Examine the skills needed to become an entrepreneur
- NYS module line: NYS IGLR 3. Employability b) Show understanding of interpersonal dynamics
- CTE theme line: CTE PSI 2. Design Process (Proactive) a) d. Brainstorming and examining possible solutions
- CTE theme line: CTE PSI 2. Design Process (Proactive) a) a. Defining the problem being addressed
- CTE theme line: CTE PSI 1. Problem Solving d) Define innovation as new applications for existing technologies and systems
- NYS FACS Learning Standard 3 (Intermediate), Key Idea: Students will understand and be able to manage personal resources of talent, time, energy, and money and make effective decisions in order to balance their obligations to work, family, and self.; Performance Indicator: Students understand the resources available to them, make informed decisions about the use of those resources, and know some ways to expand resources.
- CDOS Standard 3a Universal Foundation Skills: Thinking Skills. Students evaluate facts, solve advanced problems, and make decisions by applying logic and reasoning skills.
- National FCS 3.0: 3.1.2 Examine openings for jobs and for starting a business.
- National FCS 3.0: 1.2.4 Work productively on teams at school, at work, and in the community, including with people different from yourself.

Enduring understanding and essential question

Big idea: Ideas do not arrive. They get hunted. You find them by looking for what annoys people, writing down far more than you need, and then throwing most of it away on purpose. **Essential question:** Which of our ideas is real enough to build in five days, and how do we know before we start?

Objectives

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

1. (Low) Given the six FACS areas, list at least eight real problems they have personally seen, naming who has each one.

2. (Mid) Apply the three-question filter (is the problem real, can a middle schooler actually build or do this in five days, would anyone pay) to their team's list and rank the surviving ideas.
3. (High) In a team of three, select one idea, name the FACS module it connects to and why, assign the three C-suite roles, and defend the choice against the filter in writing.

Vocabulary

Tier 2 (general academic): generate, filter, criteria, rank, constraint Tier 3 (FACS): problem, customer, product, service, entrepreneur, prototype (named today, built in Lesson 7.10). See Vocabulary 07.md.

Materials and setup

- Six signs posted around the room, one per FACS area, in this wording: **FOOD. MONEY. FAMILY. HOME. CLOTHING. WORK.** Under each, in smaller print, the unit it came from: Food (Units 1 and 6), Money (Unit 2), Family (Unit 3), Home (Unit 4), Clothing (Unit 5), Work (Unit 7).
- Handout 07.07 - Problem Scan and Idea Filter and Role Cards.md, one per student, plus one extra copy of the role cards page per team of three, printed on card stock if available
- Sticky notes, a pad per team, or half sheets of scrap paper. Quantity over neatness.
- Yesterday's exit cards from Lesson 7.6, with the real problems students already named
- Project 07 - FACS Shark Tank.md, one per student, handed out in Step 4. This is the launch of the project.
- Slides: Slides 07.07 - Big Idea Factory
- Timer with a visible count
- Setup notes: post the six signs before the bell, spaced far enough apart that a team can stand under one. Pre-read yesterday's exit cards and pick eight to read out loud; choose ones from different students and different areas. Write the quantity target on the board: **20 problems per team, no talking about whether any of them are good.** Allergy check: none.

Pre-assessment

Yesterday's exit cards. Read eight of them aloud in the do now, unnamed. That tells you which of the six areas the class already sees problems in and which one is empty. If nobody named a clothing problem, stand under the CLOTHING sign in Step 1 and give two examples yourself.

Do now and hook (Time: 5 min)

On the board: "Something annoyed you in the last 24 hours. Write it down. Do not make it important. Small and annoying is fine."

Debrief: read eight of yesterday's exit-card problems aloud without names, then take four from today's do now. Write them all on the board in a list, no comment, no evaluation. Then

the hook: “There are about thirty problems on this board and every single one of them is a business somebody could build. Your team’s job for the next twenty minutes is to find twenty more. You are not allowed to say whether any of them are good. Not yet.”

Procedure

Step	Teacher will	Students will	Time
1. Problem scan across the six FACS areas	Point at the six signs. Give the rule: walk the room, stand under a sign, and write problems you have actually seen in that area. Not problems you imagine. Two minutes per area is too slow for six, so set it up as three stops of 100 seconds each, teams choosing their three areas but no team may skip WORK. Circulate and give one example per sign to a team that stalls.	In teams of three, visit three signs. At each, write every problem they have seen in that area on the problem scan sheet, with who has it.	6 min
2. Structured brainstorm with a quantity target and no criticism	Post the two rules on the slide and say them out loud: the target is 20 and nobody says “that’s dumb.” Start the timer for six minutes. Walk the room enforcing rule 2, not rule 1. If you hear a criticism, say one word: “Later.” Call the count at four minutes and at five.	Generate ideas on sticky notes, one per note, fast: for each problem, a product or a service that would solve it. Count out loud at the end. Teams under 20 keep going for 60 more seconds.	7 min
3. The filter	Now open the gate. Teach the three questions and write	Run all twenty-plus ideas through the three questions on	10 min

	them on the board: 1. Is the problem real? (Has somebody in this room actually had it?) 2. Could three middle schoolers actually build or do this in five days with what is in this room? 3. Would anyone pay for it, and roughly how much? Any idea that fails any one of the three gets crossed out, not argued about. Then rank what survives, top three. Circulate and ask one hard question per team, usually question 2: “Show me what you would physically hand a judge next Friday.”	the filter sheet. Cross out failures. Rank the survivors and write the top three.	
4. Teams form, roles assigned, project launched	Hand out Project 07. Read the scenario and the one non-negotiable rule aloud: the idea has to connect to at least one of the six FACS modules and the team has to say which one and why, in one sentence. Then hand out the role cards and read the three roles: CEO owns the idea, the pitch, and the clock; CFO owns every	Choose the idea. Name the FACS module and write the one-sentence reason. Assign CEO, CFO, and CMO by talking, not by rank, using the role decision lines on the card. Sign the sheet. Hand it in.	8 min

	number and the numbers page; CMO owns the customer, the deck, and the prototype's look. Say that every role does real work and no role is the boss of the other two. Have each team write the three names, the chosen idea, the module, and the one-sentence defense on the bottom of the filter sheet and hand it in before the bell. Nothing proceeds tomorrow without that sheet.		
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Do now 5 plus 6 plus 7 plus 10 plus 8 is 36; the closure below is 4 minutes. Total 40.

Questions to ask

Monitor understanding:

- Which of the six areas is your problem in? Which unit did we cover that in?
- How many ideas does your team have? Say the number.
- Which of the three filter questions killed the most ideas for your team?
- Who is the CFO, and what does the CFO own?

Deepen learning:

- You crossed out your favorite idea because of question 2. Was that the right call? Defend it.
- Two teams found the same problem. Does that mean one of you should switch? Why might two businesses solving the same problem both work?
- Your idea connects to Unit 5, clothing. What skill from Unit 5 will you actually use next week?
- Somebody said "nobody would pay for that." How could you find out for real instead of guessing? (Steer toward tomorrow: three customer interviews.)
- Which of these problems is not a business, and could still be worth solving anyway?

Check for understanding

Team count check at the end of Step 2: every team says its idea count out loud. Under 15 means the team was evaluating while generating, and the teacher sits with that team for 60 seconds in Step 3 and models crossing out loudly and cheerfully. Then the gate check at the end of Step 4: the teacher reads every team's filter sheet at the door and asks one question of each team, which is always question 2 in some form: "What are you physically handing a judge?" A team that cannot answer does not leave with a green light; they get a three-minute conference at the start of Lesson 7.8 and a narrower version of their own idea.

Closure (Time: 4 min)

Each team says two sentences to the room, standing at their table: the problem, and the idea. Nothing else, no selling, no explanation. Ten teams at twenty seconds is under four minutes. The teacher writes one word per team on the board so the whole class can see the field. Then one sentence: "Five days from now every one of these has numbers, a customer somebody actually asked, and something you can hold."

Differentiation and supports

- ELL: the six area signs are one word each with a picture description, so no reading is required to know where to stand. The problem scan sheet accepts drawings and single words, not sentences. The filter sheet's three questions and the role cards are printed in Turkish, Portuguese, and Spanish alongside English, from Vocabulary 07.md. Sentence frames in all four languages: "The problem is . has this problem." and "Our idea connects to ___ because ___." An ELL student who is stronger in drawing than writing should be steered to CMO, which owns the visual work, and the project sheet says so.
- IEP and 504 (general): sticky notes mean no student has to write more than one line at a time; a team of three means the load is shared by design; the filter sheet has checkboxes for the three questions rather than written answers; a student may dictate ideas to a teammate who writes, which is a real job and should be named as one; teams are assembled by the teacher and not by students choosing, so nobody is picked last; extended time on the one-sentence module defense, finished at the start of Lesson 7.8. For a student who needs predictability, hand them their role card before the bell rather than during Step 4.
- Grade 6 support: a target of 12 ideas instead of 20, and two area stops instead of three. Grade 6 teams may pick from a starter list of eight pre-vetted problems on the back of the filter sheet if their own scan comes up short. Grade 6 teams do the filter with question 1 and question 2 only; the teacher applies question 3 with them in a 60-second conference.
- Grade 8 stretch: a fourth filter question, taken from Sal's competition activity: **who is already solving this problem, and what would make somebody choose you instead?** Grade 8 teams write one sentence on the existing competitor. They also connect the idea to two FACS modules rather than one.
- UDL checkpoints used: multiple means of engagement (standing, moving between six physical stations, a quantity target that rewards volume rather than correctness, and

free choice of the idea) and multiple means of action and expression (ideas may be drawn, written in a home language, or dictated).

- No-presentation accommodation: the closure is two sentences from a team, and the CEO says them by default. Any team may choose a different member, and a student who does not want to speak may have the teacher read the team's two sentences. No student speaks alone today.

Assessment

Objective	Standards met	Learning task	Assessment (formative or summative; tool)
1. List at least eight real problems with who has each	PSI 2. a) a.; IGLR 5. b)	Step 1 problem scan	Formative; problem scan sheet counted and scored complete, partial, or missing for daily work
2. Apply the three-question filter and rank survivors	PSI 2. a) d.; CDOS 3a Thinking Skills; Std 3 PI B	Step 3 filter sheet	Formative; the teacher's door check with question 2 asked of every team
3. Select an idea, name the module, assign roles, defend the choice	IGLR 5. b); IGLR 3. b); PSI 1. d); National FCS 3.1.2, 1.2.4	Step 4 signed filter sheet with the module sentence	Formative today, and it is the first entry on the team's business brief, which is scored on Rubric 07 criterion 3 in Lesson 7.10

No formal check today. The signed filter sheet is a gate, not a grade: no team moves to Lesson 7.8 without one.

Homework

None required. Optional: ask two people at home whether they have the problem your team picked, and whether they would pay to fix it. Write down their exact words. Those two answers count toward tomorrow's three customer interviews if they are written down with the person's relationship to you (not their name).

Connections

Inside the building: the art teacher, for the CMO role, and the technology or engineering teacher if your school has one, for the prototype question. The design process lines this lesson uses (define the problem, brainstorm, examine possible solutions) are the same process a technology class runs, so the vocabulary should match on purpose. FACS gives them a problem that came from a household instead of a worksheet; they give FACS the

making skills for Lesson 7.10. Community: any local business owner willing to answer one question by email, “what problem does your business solve,” gives a real answer to read aloud in Step 1.

Sources

- NYS Middle Level CTE FACS Content Module 01, Individual Growth and Life Readiness, lines 5. b) and 3. b).
- NYS Middle Level CTE Theme Module 05, Problem Solving and Innovation, lines 2. a) a., 2. a) d., and 1. d).
- NYS Learning Standards for FACS (1996), Standard 3, Intermediate. NYS CDOS Standard 3a, Thinking Skills. Wording per 02 Standards/STANDARDS SOURCES - web research.md. *[Sal: confirm against the NYSED PDFs.]*
- National Standards for FCS Education 3.0 (LEAD FCS Education, 2018), competencies 3.1.2 and 1.2.4.
- Sal’s own materials: his Brentwood business packet “The Big Idea Factory,” which supplies the problem-spotting chart (problem, who else has it, my simple solution) and the target market and niche framing; “Competition Check,” which supplies the grade 8 fourth filter question; and his team formation and role decision sheets with the C-suite roles CEO, CFO, and CMO. The packets are rewritten here with the teacher side they lacked, with the six FACS areas as the scan structure, and with the five-day buildability constraint, which is the filter question that makes the project finishable.
- The Problem Solving and Innovation illustrative activity in the state’s Individual Growth and Life Readiness module has small groups “develop entrepreneurship plans and make prototype food, textile, or human services products” and pitch “to a panel representing potential investors,” with classmates and investors voting. That is the state’s own description of this topic, and Lessons 7.7 through 7.11 are built on it.

Teacher notes

- Rule 2 is the whole lesson: nobody says “that’s dumb” during Step 2. Enforce it with one word, “Later,” and mean it. A team that evaluates while generating will produce four ideas and then argue for six minutes.
- The quantity target feels artificial and it works anyway. Say the number out loud at four and five minutes. Teams sprint at the end and the last five ideas are usually the interesting ones.
- Filter question 2 is the one that saves the project. Ask every team, in the same words, “What are you physically handing a judge next Friday?” A team that cannot answer in one sentence has an idea, not a project. Narrow it with them: not an app, a paper mock-up of two screens; not a restaurant, one dish on a printed menu with a price.
- Watch the module connection rule. It is the thing that makes this a FACS capstone and not a generic business unit. If every team picks a snack business, push two of them toward clothing repair, room organization, or childcare, and name the unit skill they already have.

- Role assignment: do not let the loudest student always be CEO. The role decision lines on the card exist for this. The best CEO is often the student who kept the team on time during the Unit 6 cook day, and you have the records to know who that was.
- Teams of three, not four. Four means one student watches.
- *[Sal: your own role sheets used CEO, CFO, and CMO and students took them seriously because the titles are real. Keep the titles. Add the line about no role being the boss of the other two; that is the fight you will otherwise referee on Lesson 7.10.]*
- Collect the signed filter sheets at the door. They are the gate, and they are the first page of the business brief that gets scored on criterion 3.