Eureka! Student Inventor

Course Name: ELA
Time Frame (in minutes): Approx. 120 min
Unit/Theme: Eureka! Student Inventor
Grade Level: 4

Amplify- CKLA- Unit 4 Lesson 3

CONTENT AND SKILLS
Learning Objectives: • Read informational texts about diverse inventors and inventions that influenced cultures over time. • Write an opinion piece about the importance of an invention, providing evidence to support an argument.
Essential Questions: • How can I summarize important information in a text to prove a claim?
Students I can statements . . . • I can read complex texts about major inventions and diverse inventors to discuss their development and impact. • I can write an opinion piece about the importance of the lightbulb, providing evidence to support my argument.
How will you meet the needs of SWD and ELL/MLL students? • Students requiring additional support will have access to a small group of students to discuss and clarify their thinking. • Each day, a “building manager” is assigned who can help support students and problem-solving in their groups. • Lastly, students requiring reading support will have access to the text as a read aloud on the Amplify Hub app. • The teacher is also available to pull students in a small group and to circulate groups to provide prompting and clarification as needed.
Content Standards List all standard indicators (do not need standard statement)
• 4R1: Locate and refer to relevant details and evidence when explaining what a text says • 4W1a: Introduce a precise claim, supported by well-organized facts and details, and organize the reasons and evidence logically.
NYS Computer Science and Digital Fluency Standards List all standards that authentically align
• 4-6.IC.1 Describe computing technologies that have changed the world, and

express how those technologies influence, and are influenced by, cultural practices.
- 4-6.IC.7 Identify a diverse range of role models in computer science.
- 4-6.CT.10 Describe the steps taken and choices made to design and develop a solution using an iterative design process.
- 4-6.NSD.1 Propose improvements to the design of a computing technology based on an analysis of user interactions with that technology.

NYS SEL BENCHMARKS
https://www.p12.nysed.gov/sss/documents/SELBenchmarks2022.pdf

- 2B.2a. Identify contributions of individuals and social and cultural groups across lines of difference.
- 2C.2b. Engage in strategies to work effectively and cooperatively across lines of difference.

INSTRUCTIONAL PLAN
List the steps of the lesson, including instructions for the students including how they will construct and practice content knowledge.

Add Standard Indicators next to activity that aligns and highlight them.

Overview

"Contestants" dive further into the *Eureka! Files* to research the light bulb. Contestants then apply their research skills to the great inventions after which their labs are named. The host also previews *pitching*, the skill they'll use to share their research in Episode 4. Students will learn about the elements of a successful oral presentation, and become "experts" on their invention.

Activity	Time	Materials
Episode 3 (120 min.)		
OPENING & ENGAGEMENT Welcome students and introduce the light bulb as a world-changing invention. Discuss how inventions are shaped by needs, problems, and	5 min	❑ Audio: Opening ❑ *Eureka! Files- digital reader* ❑ *Inventor's Notebook* ❑ Judges' Note 3A, 3B ❑ Video: Good Pitch, Bad Pitch

cultural context. Preview the design process used by inventors. **Research: The Lightbulb** Students read the Eureka! Files on Amplify and take notes. Emphasize: How did it change life? What improvements were made? How did culture influence its use? Student Reflection: What design improvements made the lightbulb more effective, and why? (4-6 CT.10, 4R1) **Write to Edison** Students write a persuasive letter arguing for the lightbulb's impact. Use feedback from peers to revise drafts. (4-6 IC.1, 4W1a) **Group Research** **Activity 1: Groups research their assigned invention.** Take notes on: - What problem it solved - Key design changes - Cultural influences Reflection: How did your invention impact society? (4-6.IC.1) **Activity 2: Role Model Research** Groups select one innovator to research and create a tech trading card or short slide presentation summarizing their contributions (4-6.IC.7) Reflection Prompt: Why is it important to learn about different people who have helped shape computing and	30 min. 45 min.	❑ Diverse Inventors' Research Cards- Diverse Inventors research cards ❑ Student worksheet: Worksheet

technology? Who inspired you today, and why? (2B.2a.) **Rethinking the Invention** In groups, students revisit their invention (e.g., microscope, radio, lightbulb). Discuss and answer: ○ How did people interact with this technology when it was first invented? ○ What problems or frustrations might users have had at the time? ○ Was it hard to use, expensive, dangerous, or limited in some way? ○ What design change could have made it easier, safer, or more effective? Propose one specific improvement and justify using real world experience examples. (4-6.NSD.1) Reflection: “What’s one improvement you would propose for your group’s invention? Why would it help users based on how they used the original design?” **Pitch Analysis** Watch 'Good Pitch, Bad Pitch' and discuss. What makes a strong pitch? Groups reflect and revise pitch plans (2C.2b.). **Audio Hook + Wrap-Up** Students draft their pitch openings. Reflect on how design and culture shaped invention. Exit ticket: What step of the design process did you complete today?	20 min 10 min 10 min.	

FUTURE READY COMPETENCIES

Check off each competency that students will interact with during this lesson.

- ✔ Collaboration
- ✔ Communication
- ✔ Critical Thinking/Problem Solving
- Creativity & Innovation

MATERIALS / RESOURCES

Add additional resources needed for this lesson such as instructional technology templates, images, videos, etc. ***Including Instructional Technology Tools***

- Amplify Hub on laptops
- Amplify reader *Eureka! Files*
- Amplify Eureka! Student Inventor Notebook
- Teacher created Student Worksheet- linked in material list above
- Amplify- Eureka lesson 3 teacher slides
- Diverse Inventors Research Cards- linked in material list above
- Amplify teacher guide for CKLA Unit 4