Student Teacher: Connor Boman	**Grade Level:** 9-12
Lesson Date:	**Name of Lesson:** Raspberry Pi Alexa

Common Core State Standard(s)

Student Learning Objective(s)

What is the intended learning outcome of this lesson? Be sure it is observable and includes clear criteria.

Consider if there are students who will require an accommodation or modification to meet this lesson's objective.

students will develop trouble shooting skills by setting up their raspberry pi microcomputer, and using command line to load the Amazon Alexa voice assistant. They will demonstrate their learning by producing a working product, and keeping a detailed work log / reflection

Rationale for Objective: How does this lesson support previous and subsequent learning?

the rationale of this lesson is for students to build upon common technical problems such as setting up a new computer and integrate futuristic technologies, like voice assistants, into their learning. They also will learn about the underpinnings of coding through the use of command line in setting up the Alexa program.

Assessment

State the specific strategy (ies) and tool(s) used to collect the data for each SLO (i.e., essays, projects, quizzes, exit slip, worksheet, etc.). Are there students who will require an accommodation or modification to this lesson's assessment?

Students will be expected to keep a detailed work log that focuses on how they overcome and troubleshoot the challenges of this project. They will be graded on the functionality of their project, as well as the work log. Finally, they will reflect on the project and propose an extension/additional feature to add that will improve/complement the functionality of their project.

Classroom Learning Environment Focus

(i.e., standards of behavior, routines, procedures, group work, transitions, instructional arrangement, etc.). Explain specific needs.

Students will troubleshoot in small groups with aid from the instructor. The bulk of the work will be done by having students follow the Online instruction manual, with the instructor providing step-by-step instruction from the front of the classroom.

Instructional Model/Strategy

(i.e., concept formation, concept development, direct instruction, cooperative learning, inquiry, discussion model). Explain how you will best facilitate student learning through a specific model of instruction. Be sure to include a rationale for the chosen model(s). You may use more than one:

This project will blend direct instruction from the instructor with cooperative learning between students. The goal of this is for the bulk of instruction to come from the front, but for the students to cooperatively work as a team to develop their troubleshooting/team work skills

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Materials/Resources needed for this lesson

Raspberry Pi microcomputer. Amazon developer account. Monitor, mouse, and keyboard.

Daily Formative Assessment

How will you check for understanding and student achievement during the lesson?

Students will keep a progress log that includes their achievements, their failures, and their trouble shooting steps. This log will also include a reflection with any questions, or observations they have.

Differentiating Instruction

How will you differentiate to meet the needs of your learners (i.e., what you teach, how you teach, or how you will assess). Explain:

For students that struggle with written instruction there will also be follow along instruction and the option to work in small groups.

Initiation

Cite how you will engage and motivate learners, activate prior learning and present the lesson's objective.

Explain: A) What they will be doing and learning in the lesson;   B) How they will demonstrate learning;

C) Why it is important to their everyday lives.

today I will teach the basics of setting up a Raspberry Pi computer, and programming it with Amazon Alexa voice integration using command line. We will also review the 4 aspects of computational thinking, and discus how to apply each aspect to the Alexa project.

Lesson Development

Cite how you will provide opportunities for the students to construct meaning. List the steps/process you will follow. Be sure to identify how you will check for understanding and collect formative data. Differentiate for students who will require an accommodation or modification in order to be active participants in this lesson and state these strategies in the differentiation section above.

During the reflection portion of the assignment students will be asked to relate the project to their daily relationship with technology. Additionally they will be asked to investigate the privacy issues/concerns people have expressed with regards to voice assistants, and

take a position on the issue. (backing their argument with examples from the coding) Additionally, students will reflect on what aspects of computational thinking they used during their project.

Closure

How will you question students in order to evaluate if the objective(s) was met? How will you question students to connect this lesson to previous and subsequent lessons as well as connect to their own lives? How will you question students to see the relevancy of the lesson by understanding the purpose/importance of the learning?

See above

Reflection on Practice

Student Achievement – Evaluate student learning based on collected data for each SLO for each group of learners. Identify how each group met the stated criteria in the SLO, including specific data for each SLO. Based on your analysis what would you continue or change about your teaching for the next lesson?

Common Core of Teaching Connection – Choose an attribute from an indicator from Domains 1-4. Choose an attribute that was effective in your lesson. What specific evidence from the lesson supports this?
Choose an attribute that you would like to focus on. What specific evidence from the lesson supports the need to focus on the specific attribute? Suggest a strategy that you will try for the next lesson to address this need.

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