English/Language Arts Lesson Plan: 2nd and 3rd Grade
Coding with Cornell: Loops

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Grade Level: Second, Third

Common Core Standards Alignment

- **RL.2.1 / RL.3.1**: Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- **RL.2.7 / RL.3.7** – Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
- **RI.2.7 / RI.3.7**: Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- **W.2.2 / W.3.2**: Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Lesson Objectives & Relevance

Understanding loops helps students recognize patterns and repetition in both coding and everyday life. Identifying how loops function supports logical thinking and problem-solving. Engaging with rhyming patterns and illustrations strengthens literacy skills. By the end of the lesson, students will:

- Listen to and engage with *Coding with Cornell: Loops* through discussion and guided activities.
- Identify key details and main ideas in the text.
- Recognize and explain the concept of loops and repetition in coding and daily routines.
- Use illustrations to describe and explain key concepts in the story.
- Write or dictate a short response explaining how loops work.

Resources and Materials

- *Coding with Cornell: Loops* book
- Chart paper and markers
- Flashcards with real-world repetitive actions
- Printable worksheets for identifying loops in everyday life
- Small whiteboards and dry erase markers
- Sticky notes for brainstorming loop examples
- Sentence starters for writing tasks

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Vocabulary Words

- **Loop** – A set of actions that happens again and again.
- **Repeat** – To do something again.
- **For Loop** – A loop that repeats a certain number of times.
- **Condition** – A rule that decides if something should happen.
- **While Loop** – A loop that keeps going until the condition is no longer true.

Lesson Introduction

- Have students gather at their desks or on the carpet.
- Write the word **loop** on the board and ask, "What do you think a loop means?" Record student responses.
- Explain that a **loop** is something that repeats, either in real life or on a computer. Share examples to activate prior knowledge:
    - Brushing your teeth every morning and night
    - Singing a chorus in a favorite song
    - Playing a game that repeats a level or action
- Ask:
    - "Can you think of something you do every day that repeats?"
    - "Why do we repeat some things again and again?"
- Let students know that in today's book, **Coding with Cornell: Loops**, they'll learn how computers use loops to repeat actions—just like we do in our daily routines.
- Encourage students to listen for examples of repeating patterns in the story and to look closely at the illustrations to better understand how loops work in both real life and computer programs.

Lesson Activities/Tasks

Activity 1: Read-Aloud and Discussion

- Read *Coding with Cornell: Loops* aloud to the class, pausing at key points to highlight rhyming words, repeated phrases, and examples of looping actions.
- Throughout the read-aloud, pause to ask guiding questions:
    - **"What kind of loop is happening on this page?"** (Encourage students to name the repeated action—e.g., spinning on a merry-go-round, repeating steps in a dance.)
    - **"Why do you think loops are helpful in real life?"** (Prompts may include: "They help us follow routines," "They save time," etc.)

  - **"Why do coders use loops in their programs?"** (Guide students to see that loops make instructions shorter and easier to repeat.)
  - **"How do the pictures help you understand what's repeating?"** (Encourage observations about repeated motions, items, or scenes.)
- After reading, return to the word **loop** on the board and ask:
  - **"What did we learn about loops from Cornell and Cori's story?"**
  - **"Can you think of another loop we didn't see in the book?"**
- Reinforce the takeaway that loops help us repeat actions without starting from scratch—and both people and computers use them to stay efficient and organized.

Activity 2: Repeating Actions – Kinesthetic Loop Game

- **Educator Preparation:** Create a list of simple physical actions students can repeat (e.g., clapping, hopping, patting their heads). Prepare index cards for each action, each with a number that shows how many times it should be repeated. Examples include:

  - Clap three times
  - Touch your toes one time
  - Spin in a circle two times
  - Tap your shoulders six times
  - Raise one hand
  - March in place eight steps
  - Say your name three times
  - Sit down one time
  - Snap your fingers four times
  - Turn around once
  - Jump up and down five times
  - Pat your knees five times
  - Take one step forward
  - Stand up one time

- Gather students in an open area with space to move.
- Show the first index card and read it aloud (e.g., "Clap 4 times").
  - Ask: "Is this something we do just once, or does it repeat?"
- Lead the class in performing the action the number of times listed. Emphasize that the action was repeated, making it a **loop**.
- Continue through the rest of the action cards. Occasionally mix in a one-time action (e.g., "Sit down") to reinforce the contrast with loops.

Activity 3: Loops in Games – Drawing and Dictation

- **Educator Preparation:** Provide students with a worksheet that includes three sections labeled:
  - "What happens again and again in my favorite game?"
  - "What do I do when I play?"
  - "Why is this a loop?"
- Ask students to think of a game they enjoy (video game, board game, or playground game).
- In the first section, have students draw an action that happens repeatedly in that game (e.g., collecting coins, jumping over obstacles, taking turns).
- In the second section, students write or dictate what that action is (e.g., "In Mario, I jump over the same pipe every level.").
- In the third section, students explain why that action is a loop (e.g., "It repeats every time I play the game.").
- Invite a few students to share their drawings and loop explanations with the class.

Activity 4: Workbook Integration

- Students at this grade level are able to complete all pages in the Loops section of the *Coding with Cornell Activity Workbook* as classroom and homework activities.

Lesson Conclusion & Assessment

Wrap-Up Discussion

- "What is a loop, and how does it work?"
- "Can you name a loop you do every day?"
- "How did Cornell and Cori show loops in the book?"
- "Why are loops helpful when we write code?"

Exit Ticket
Before leaving, have students respond to one of the following prompts on an index card or sticky note:

- "One thing I learned about loops today is…"
- "Loops help computers by…"

Tip: Use student responses to check for understanding and identify any concepts that may need review in future lessons. Consider posting strong examples on a class anchor chart titled "What We Know About Loops."