

### Coding with Cornell: Loops

**Grade Level: First**

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### Common Core State Standards Alignment

- **RL.1.1:** Ask and answer questions about key details in a text.
  - **RL.1.3** – Describe characters, settings, and major events in a story, using key details
  - **RI.1.7:** Use illustrations and details in a text to describe its key ideas.
  - **SL.1.5** – Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
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### Lesson Objectives & Relevance

Understanding loops helps students develop pattern recognition, sequencing, and repetition skills. Recognizing repeated structures in text supports reading fluency, while discussing illustrations deepens comprehension. These skills help prepare students for both literacy development and computational thinking. 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 repeated patterns in the text.
  - Recognize and describe how loops allow for repeated actions in both stories and coding.
  - Use illustrations to describe and explain key concepts in the story.
  - Write or dictate an explanatory sentence about loops.
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### Resources and Materials

- *Coding with Cornell: Loops* book
- Chart paper and markers
- Flashcards with real-life loop scenarios
- Worksheets for identifying repeating patterns
- Pencils, crayons, and paper

### Lesson Introduction

- Have students gather on the carpet or at their desks.
  - Write the word **loop** on the board and ask, “What do you think a loop is?” Guide students to share ideas and experiences that involve repeating something.
  - Explain that **loops help us repeat actions**—in real life and in coding. Use everyday examples to activate prior knowledge:
    - Brushing teeth every morning and night
    - Clapping hands while counting
    - Coming to school every Monday through Friday
  - Ask, “Can you think of something you do again and again? Why do we repeat some actions?”
  - Help students understand that loops are used in both **daily routines** and in **coding** to save time and make instructions easier to follow.
  - Let students know that in today’s book, *Coding with Cornell: Loops*, they’ll learn how coders use loops to help computers repeat tasks—just like we do when we follow routines.
  - Encourage students to listen for examples of loops and look closely at the illustrations as you read.
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### Lesson Activities/Tasks

#### Activity 1: Read-Aloud and Discussion

- Read *Coding with Cornell: Loops* aloud to the class, pausing at key pages that introduce or reinforce the concept of loops.
- As you read, guide students to pay close attention to actions or words that repeat in the story. Emphasize the idea that loops help characters do something more than once without starting over.
- Throughout the read-aloud, ask discussion questions to support comprehension and encourage observation:
  - “What actions are repeated in the book?”  
(Examples: *spinning on a merry-go-round, dancing steps*)
- Using the illustration alongside the text:

**We see so many loops around us everyday  
Like when Mom plays the same song five times,  
Or Monday through Friday,  
When Dad wears the same basketball shoes to play**

# English/Language Arts Lesson Plan: 1<sup>st</sup> Grade

## Coding with Cornell: Loops

Ask, “How many times does Mom play the same song?”

Ask, “When does Dad wear the same basketball shoes?”

- Explain that because Mom and Dad are *repeating* these actions, they can be considered a “loop.”

### Activity 2: Looping Movements

- **Educator Preparation:** Clear a space in the classroom or use an open area where students can safely move. Prepare a list of simple movement instructions with specified repetitions (e.g., "Stomp 4 times," "Spin 2 times," "Pat your head 3 times").
- Gather students in the open space and explain that you’ll be doing a loop activity—repeating actions just like loops in coding.
- Call out a movement and demonstrate it with the group. For example, say: “Clap your hands 3 times!” Have students perform the movement together.
- Continue with 5–6 different motion loops using varying numbers and actions. Encourage students to listen carefully and follow the repetition exactly.
- For added engagement, allow students to suggest movement loops for the class to try. For example: “Hop 4 times,” “Wave 2 times,” “March in place 5 times.”
- After several movements, gather students and ask, “Did we do any of these movements just once?” and “What does it mean to loop something in real life or in coding?”
- **Guidance:** This activity helps students build a kinesthetic understanding of how loops work—by repeating a set of instructions multiple times. It also reinforces listening and sequencing skills in a fun, movement-based way.

### Activity 3: Game Loops - Drawing and Dictation

- Ask students to think about a game they like to play on a tablet, computer, or console (e.g., Mario, Minecraft, Roblox, or a simple puzzle game).
- Explain that many games use **loops** to repeat actions, like collecting coins, jumping over obstacles, or going to the next level.
- Have students draw a picture of a game action that happens over and over again. Examples might include:
  - “My character jumps over lava every time!”
  - “I always tap the screen to make the bird fly!”
  - “In the game, I collect stars again and again!”
- Beneath their drawing, students write (or dictate) a sentence such as:
  - “In my game, I collect coins in a loop.”
  - “My character jumps in a loop.”
  - “I play the same level again and again. That’s a loop!”

# English/Language Arts Lesson Plan: 1<sup>st</sup> Grade

## Coding with Cornell: Loops

- **Guidance:** This activity helps students make real-world connections between loops in coding and the games they play. It supports understanding through both art and language and gives them a chance to express how repetition shows up in everyday digital experiences.
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### Activity 4: Workbook Integration

- Have students complete several worksheets in the Coding with Cornell Activity Workbook as classroom and homework activities, including:
    - The Loops Book Cover coloring sheet
    - *Python Loops* coloring sheet
    - Loops – Ballet Shoes
    - Loops – Computers
    - Loops – Gardening
    - Loops – Color Every Second Circle
    - Loops – Color Every Third Circle
    - Loops – Color Every Fourth Circle
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### Lesson Conclusion & Assessment

#### Wrap-Up Discussion:

- "Who can tell me one loop we learned about today?"
- "Why do loops help us repeat things?"
- "How did the pictures help us understand the story?"

#### Exit Ticket:

Give students a simple question to answer before they leave:

- *"What is a loop?"*
- *"Can you give an example of something that repeats like a loop?"*