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

Conditional Statements (Part Two: Exploring If-Else Statements)

Grade Level: Second, Third

Common Core State Standards Alignment

- **RL.2.1 / RL.3.1** – Ask and answer questions to demonstrate understanding of key details in a text.
- **RL.2.3 / RL.3.3** – Describe how characters respond to major events and challenges.
- **RI.2.7 / RI.3.7** – Use illustrations and details to explain key ideas in a text.
- **W.2.2 / W.3.2** – Write informative/explanatory texts that introduce a topic, use facts to develop points, and include a conclusion.

Lesson Objectives & Relevance

Understanding if-else statements helps students develop logical thinking and decision-making skills. Expanding on if-then logic, if-else introduces alternative outcomes when conditions are not met. Recognizing cause-and-effect relationships in text supports comprehension, while discussing illustrations deepens understanding.
By the end of the lesson, students will:

- Listen to and engage with *Coding with Cornell: Conditional Statements* through discussion and guided activities.
- Explain the purpose of if-else statements in both everyday life and coding.
- Compare if-then and if-else statements and understand how they provide different possible outcomes.
- Use illustrations and key details to describe how conditional statements impact decisions in the story.
- Apply if-else thinking to real-world decision-making scenarios.

Resources and Materials

- *Coding with Cornell: Conditional Statements* book
- Chart paper and markers
- Pre-written sentence strips with if-then and if-else conditions

- Printable worksheets with real-life and coding-based if-else scenarios
- Small whiteboards and dry erase markers
- Sentence starters for writing activity

Vocabulary

- **Condition** – A rule that helps decide what happens next.
- **If statement** – A rule that tells the code what to do *if* something is true.
- **If-Else** – A rule that tells the code what to do *if* something is true, and what to do *if it's not*.
- **Choice** – Picking between two or more options.
- **Consequence** – What happens *because of* a choice or action.
- **Code** – A set of instructions that tells a computer what to do.

Lesson Introduction

- Have students gather on the carpet or at their desks.
- Begin by reviewing the previous lesson on if-then statements. Write **if** and **then** on the board and ask students to recall how these words help us make decisions when something is true.
- Ask: "What do we do when something **doesn't** happen the way we expect?" Guide students to share real-life examples of needing a backup plan. For example:
  - *"If it rains, I use an umbrella. But what if it doesn't rain?"*
- Introduce today's new concept: **if-else**. Add **else** to the board, and explain that if-else statements give us a second instruction for when the condition is **not true**.
- Provide a simple, relatable example:
  - *If it rains, I'll take an umbrella. Else, I'll wear sunglasses.*
- Ask: "Can you think of a time when you needed a different plan because something didn't happen?" Discuss a few responses to activate prior knowledge and show relevance.
- Let students know they'll read *Coding with Cornell: Conditional Statements* again, but this time focusing on **if-else** statements—how coders make decisions when something is true **or not true**.
- Encourage students to listen for examples of if-else logic and use the illustrations to help them understand what happens when a condition is true or false.

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Coding with Cornell: Conditional Statements

Lesson Activities/Tasks

Activity 1: Read-Aloud and Discussion

- Read *Coding with Cornell: Conditional Statements* aloud to the class, focusing specifically on examples that highlight **if-else statements**. Be sure to show the illustrations clearly, pointing out how they support the text and demonstrate choices based on conditions.
- Before reading, remind students to listen for examples where **one thing happens if a condition is true**, and **a different thing happens if the condition is false**.
- As you read, pause at pages where these contrasts are especially clear. Ask:
    - **"What happens when the condition is true?"** (Guide them to name the action that follows.)
    - **"What happens when the condition is false?"** (Prompt them to find the "else" outcome.)
    - Using the illustration alongside the text:

      If we like sports,
      We should play basketball
      But if we don't like sports
      We should dance
      And I'll catch you before you fall

      Ask, "What do Cornell and Cori do if they like sports? What do they do if they don't like sports? Which part of the picture shows the 'else' action?"

- Reinforce the concept by helping students restate examples using the **if-else** format:
    - *If I like sports, then I play basketball. Else, I dance.*

- Wrap up the read-aloud by asking:
    - "Why are if-else statements helpful when coding or making decisions?"
    - "Can you think of a time in your life when you had to choose between two different things?"

Activity 2: If-Then vs. If-Else Sorting Challenge

- **Educator Preparation**: Prepare a set of sentence strips using familiar, relatable examples. Write simple **if-then** and **if-else** statements that reflect school, home, or playtime situations. Create two sorting headers on the board or on chart paper: **"If-Then"** and **"If-Else."**
- Shuffle the sentence strips and read each one aloud to the class.

- Ask students to help decide whether the sentence is an **if-then** statement (with only one outcome when the condition is true), or an **if-else** statement (with one outcome for true, and a different one for false).
- As students respond, tape or place the strip under the correct category on the board.

    - **If-Then (if statements)**:

        1. If it's my turn, I will roll the dice.
        2. If the bell rings, we go inside.
        3. If I have a question, I raise my hand.
        4. If it's cold outside, I wear my coat.
        5. If I finish my lunch, I can play.
        6. If it's raining, we stay in for recess.
        7. If I get 100 on my test, I get a sticker.
        8. If it's someone's birthday, we sing a song.
        9. If I see trash on the ground, I pick it up.
        10. If I'm tired, I take a nap.
        11. If I see the red light, I stop.
        12. If I drop something, I pick it up.
        13. If my pencil breaks, I sharpen it.
        14. If I finish my homework, I get a star.
        15. If I'm early, I help set up.

    - **If-Else (if-else statements)**:

        1. If it's my turn, I roll the dice. Else, I wait quietly.
        2. If the bell rings, we go inside. Else, we keep playing.
        3. If I have a question, I raise my hand. Else, I listen.
        4. If it's cold, I wear my coat. Else, I wear my sweater.
        5. If I finish lunch, I play. Else, I keep eating.
        6. If it rains, we stay inside. Else, we go to the playground.
        7. If I finish reading, I take a quiz. Else, I keep reading.
        8. If I'm tired, I rest. Else, I keep working.
        9. If I see trash, I pick it up. Else, I walk past.
        10. If I do my homework, I get free time. Else, I work during recess.
        11. If I get 100%, I get a sticker. Else, I try again.
        12. If I'm early, I help set up. Else, I find my seat.
        13. If the light is green, we walk. Else, we wait.
        14. If I raise my hand, I can speak. Else, I stay silent.
        15. If my pencil breaks, I sharpen it. Else, I keep writing.

- **Optional Variation**: Split students into small groups and give each group a few sentence strips to sort on their own. Afterward, have each group present one if-then and one if-else sentence to the class and explain why they sorted it that way.

Activity 3: If-Elif-Else Drawing and Dictation

- **Materials:** Lined writing paper or printed worksheet with sentence starters and space for drawing:

  If I like _____, then I _____.

  Else if I like _____, then I _____.

  Else, I _____.

- Begin this activity by reminding students how we used if-then and if-else to make decisions based on a condition.
- Using the illustration alongside the text:

  If we like sports,
  We should play basketball
  But if we don't like sports
  We should dance
  And I'll catch you before you fall

  Ask, "What do Cornell and Cori do if they don't like sports, the first choice, and they don't like dancing, the second choice?" Pause to give students time to think and then call on several students to share their responses.

- Explain that coders use something called **"else if"** (or **elif in Python**) to add more options before the final choice.
- Read a sample aloud:
  - **If** we like sports, we should play basketball
  - **Else if** we like video games, we should play our X-Box
  - **Else if** we like watching movies, we should watch Encanto
  - Otherwise (**else**), we should dance
- Invite students to write their own three-part sentence using the sentence starters. Encourage them to choose topics that interest them.
- After writing, have students draw a picture showing all three options.

Activity 4: Workbook Integration

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

Lesson Conclusion & Assessment

Wrap-Up Discussion

- What makes if-else statements different from if-then statements?
- Why is it helpful to use an else in coding and decision-making?
- Can you think of a choice you made today that used an if-else kind of decision?

Exit Ticket

- Have students answer one of the following questions on an index card or sticky note before leaving:
  - What happens when the condition in an if-then statement is false?
  - Why do coders include else in their instructions?
  - Write a real-life example of an if-else statement.

Tip: Use responses to check for understanding and determine if students can clearly distinguish between if-then and if-else logic.