

What **dyscalculia** feels like: Lesson plan with interactive simulation



Description

This lesson plan is part of [Through My Eyes](#), an interactive experience created by Understood.org. This free set of resources features three simulations that are based on the real-life experiences of students with ADHD, dyslexia, and dyscalculia.

Goals

- Build empathy and understanding of dyscalculia (a learning disability in math).
- Promote self-awareness, empowerment, and understanding of neurodivergence.

Time

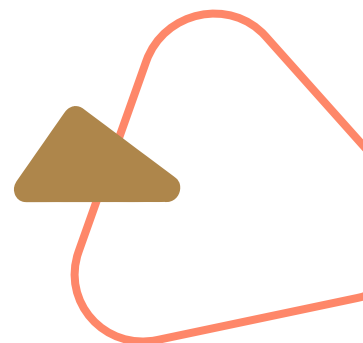
- 30–45 minutes of teacher prep
- 30-minute lesson
- Optional extensions/at-home activities

Target audience

Grades 5–8

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Teacher preparation (before the lesson)

1. Review resources

Familiarize yourself with these lesson materials:

- [Through My Eyes](#)
 - Francesca's dyscalculia simulation
 - Francesca's day-in-the-life video
 - Dyscalculia fact sheet
 - Kid resources (available as interactive activities on the main landing page or as handouts in the Educators section)
 - How to be an ally
 - Strengths and challenges
 - Self-advocacy sentences
- [Math misconceptions poll](#)
- [Discussion questions](#)

2. Use the readiness checklist

To be sure you and your class are ready for this lesson, review the readiness checklist in the Educators section of [Through My Eyes](#). Make sure you've considered all necessary accommodations and supports for your students, including norms, mindsets, and examples.

3. Check technology

- Test the simulation for audio, video, and keyboard functionality on available devices.
- Supply headphones for the simulation, if possible. If headphones are limited, consider how best to run the simulation.
- If using technology for the warm-up or reflection, set up and test those platforms.

4. Prep materials

Print necessary handouts. Gather manipulatives for the optional extension activity: number cubes, number lines, calculators, etc.

5. Set up the classroom

Arrange the classroom for whole class viewing, small group discussions (if applicable), and whole class sharing.

Lesson procedure

1. At-home pre-lesson activity (or post-lesson extension)

Before the lesson, assign the class to watch Francesca's day-in-the-life video in [Through My Eyes](#). Have students answer the following questions and be ready to discuss them in class:

- What surprised you?
- What is one challenge faced by someone with dyscalculia?
- What is one strength someone with dyscalculia might have?
- What is one question you would like to ask Francesca?

2. Lesson warm-up: Tech hook and math misconceptions poll (3 minutes)

Teacher script: "We're going to start with a quick, anonymous poll about math. I want you to answer honestly, even if you're not sure of the answer. This isn't for a grade. It's to get us thinking about some common ideas about math and learning."

- Distribute/display "Math misconceptions" poll. Consider using a platform like Kahoot!, Blooket, or Google Forms. Or have students write answers on a printed copy or whiteboard.
- Display results anonymously. Discuss common misconceptions revealed. Address them directly. For example, if many students answered "agree" to "You're either good at math or you're not," address this misconception directly. Key points to highlight:
 - There are a lot of different ideas about math, and some of them aren't accurate.
 - One thing we often forget is that everyone's brain works a little differently. That includes how we process numbers and math concepts.
 - Today, we're going to explore what it's like to experience math with a learning difference called dyscalculia.

3. Framing the experience (2 minutes)

Teacher script: "Before we dive into learning about dyscalculia, it's important to understand why we're doing this.

We're learning about how different brains work and how we can create a classroom where everyone feels supported and valued. We want to create a space where everyone feels empowered to learn and grow, no matter how they learn.

Teacher script (continued):

This is a chance for our class to learn about and build empathy for the diverse learners in our community. Empathy means understanding how someone else feels, by putting yourself ‘in their shoes’ and seeing things from their point of view.”

4. Introduction to dyscalculia (5 minutes)

Display or pass out the [dyscalculia fact sheet](#). Talk about the following points:

- Dyscalculia is a learning difference that affects how the brain understands and processes numbers and math concepts.
- It's not about being “bad at math” or not being smart.
- It's simply a different way of learning. Imagine if the letters in a book sometimes appeared jumbled or moved around. That might make reading very difficult, right?
- For someone with dyscalculia, numbers and math symbols can sometimes feel just as confusing. Some students might have trouble recognizing number patterns, estimating quantities, or remembering basic math facts.
- It's important to remember that, just like with reading differences, people with dyscalculia are smart and capable. Dyscalculia means their brains process math differently. And just like with any difference, people with dyscalculia have strengths too.

5. Simulation experience (10 minutes)

Teacher script: “Now, we’re going to step into the shoes of a real student named Francesca, who has dyscalculia. We’re going to watch a short simulation that will give you a glimpse into what it might be like to experience math through her eyes.”

- Provide clear instructions on how students will access and view the simulation (projector, small groups, or individual computers). Suggest that students use headphones, if available.
- Distribute any worksheets or discussion guides.
- Play the simulation for the whole class, in small groups, or individually, depending on computer availability.

6. Discussion and reflection (5 minutes)

- Take time to review classroom norms. Set up the discussion to support students and reduce stigma. (For more details, see the readiness checklist in the Educators section of [Through My Eyes](#).)

- Use printed [discussion questions](#) to guide the conversation. You can also integrate these questions into a tech-based platform like Google Forms.
- Write key points on the board, including what the bonuses and obstacles were, and how they affected the simulation.
- Emphasize empathy for Francesca, understanding of dyscalculia, actionable support, and connections to at-home activity insights.

7. Wrap-up and empowerment (5 minutes)

- Students can complete the interactive experiences in [Through My Eyes](#) to wrap up their learning, if time is available.
- When ready, wrap up the conversations with takeaways such as:
 - We all have different strengths and challenges when it comes to learning.
 - Just like Francesca, we can all learn strategies to help us succeed.
 - It's important to remember that asking for help is a sign of strength, not weakness.
 - We're all in this together, and we can support each other to succeed in school.
- Additional resources for empowerment: Choose one or more of the following activities in [Through My Eyes](#) for students to explore and discuss. Each activity is available as an interactive activity in the Kids section and as a handout in the Educators section.
 - Strengths and challenges
 - Self-advocacy sentences
 - How to be an ally



Optional extension activities: In class or at home

- Assistive technology exploration: Explore different assistive technology tools that can support students with dyscalculia, such as number cubes and other [hands-on math tools](#), calculators with large buttons and displays, number line tools, and graph paper. A special education teacher or a school psychologist can help brainstorm and facilitate with you.
- Guest speaker: Invite a colleague with dyscalculia or a math specialist to speak to the class about their experiences and strategies.

Notes about the lesson

Lesson format

Teacher-led with whole class viewing of the simulation and discussion. Small group viewing/discussion is optional based on your classroom and preferences.

Engagement recommendations

- Provide sentence starters for discussions. Examples might include:
 - I felt _____ during the simulation because my body _____.
 - The bonuses helped Francesca by _____.
 - Sometimes, I feel frustrated when I _____.
- Offer alternate ways for students to express their reflections (such as drawing, journaling, or recording video or audio responses).
- Offer various options for completing the “Strengths and challenges” and “Self-advocacy sentences” activities (such as typing, writing by hand, or recording audio).

Assessment recommendations

- Observe student participation in discussions.
- Review student reflections on the “Strengths and challenges” activity.
- Consider collecting and reviewing student responses to the “Self-advocacy sentences” activity.

Watch-outs

- Don't skip the step of reviewing classroom norms before the group or whole class discussions.
- Even with classroom norms to guide your conversation, students may still engage in negative discussion points.
- To reframe negative comments, keep in mind the lesson goal, which is to build empathy and awareness. You can reference something from the simulation and have students reflect it back in their own life.
- For example, if a student says, “Kids with dyscalculia are just dumb,” reflect back and ask them how they felt during the simulation and how they navigated the challenges. Remind students that negative language doesn't empower us and others around us.

Resources for the lesson

Math misconceptions poll (example questions – adapt as needed)

1. Agree or disagree: You're either good at math or you're not.
2. Agree or disagree: If you have to work hard at math, it means you're not good at it.
3. Agree or disagree: Everyone learns math the same way.
4. Agree or disagree: Math is only about getting the right answer.
5. Agree or disagree: Being good at math is the most important thing in the world.
6. Agree or disagree: If you can't do math quickly in your head, you're not good at math.
7. Agree or disagree: There's only one right way to solve a math problem.
8. Agree or disagree: Math is only important for certain careers.
9. Agree or disagree: It's embarrassing to ask for help with math.
10. Agree or disagree: People with learning differences can't be successful in math.

Discussion questions (to complete after reviewing the bonuses and obstacles as a whole group)

- Think about how you felt doing the simulation. (Did you feel calm or anxious?) Based on how you felt, how do you think Francesca felt during the math activities?
- What were some of the challenges Francesca faced in math class and at the market?
- How did the bonuses in the simulation help Francesca?
- Have you ever felt similar feelings of frustration or confusion when learning something new? Or have you ever had a hard time remembering something that you've spent a lot of time trying to learn?
- What are some ways we can support classmates who learn differently to make sure they feel included and valued?
- Have you ever felt like people didn't understand you or assumed something about you? What did that feel like?

Acknowledgments

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