# Lesson plan*

LESSON #CREATING ORGANIZATIONAL SYSTEMS FOR REAL-WORLD PROBLEMS

**Grade: 4th Grade (Ages 9-10)** **Date:**

**Teacher:** ***Book: Bella Brown's Messier Than Messy Room by J.W. Zarek***

Lesson objectives:

1. ***Analyze Bella's organization process and its effectiveness in solving her problem.***
2. ***Identify a real-world organization problem in their school or community through empathy and data collection.***
3. ***Apply a simplified design thinking methodology to brainstorm, prototype, and test an organizational system (physical or digital).***
4. ***Evaluate the effectiveness of their organizational system using basic efficiency calculations (e.g., time saved).***
5. ***Write a short procedural description of their system for implementation.***
6. ***Reflect on their design process and suggest iterations for improvement.***
7. ***Connect organization systems to community needs and academic subjects (math, social studies, language arts).***

Materials:

1. ***Bella Brown's Messier Than Messy Room book***
2. ***Chart paper and markers (for brainstorming and class discussion)***
3. ***Student handouts: Design Thinking Template (sections for empathize, define, brainstorm, prototype, test)***
4. ***Clipboards and simple survey sheets (e.g., "What's hard to find in our classroom?" with tally marks)***
5. ***Pencils, crayons, or markers for drawing prototypes***
6. ***Timer or stopwatch (for efficiency calculations)***
7. ***Digital devices (optional, for exploring digital organization ideas like file folders or apps)***
8. ***Sticky notes for feedback during testing***

vocab

1. ***System***
2. ***Efficiency***
3. ***Prototype***
4. ***Iterate***
5. ***Empathy***
6. ***Data***
7. ***Solution***
8. ***Digital***

Lesson Procedure

***Introduction (5 minutes)***

**Gather students in a circle and show the cover of Bella Brown's Messier Than Messy Room. Ask, Have you ever noticed something messy or hard to find in our school, like the library or art supplies? How does that make you feel?**

**Explain that today, they'll read how Bella solves her messy room problem and use her story to create their own organizational systems for real-world problems in their school or community, thinking critically about what works best and testing their ideas to make them even better.**

## *Read-Aloud & Discussion (10 minutes)*

*Read the section of the book where Bella organizes her room with Grandma Yetta's guidance (e.g., picking up toys, stacking books, folding clothes) to visit the butterfly garden.*
*Pause to ask,*

1. *What steps did Bella take to organize her room?*
2. *How did her system help her succeed? and*
3. *What made her system effective—or not—for her goal?*

*Guide students to analyze Bella's system critically, noting that she used categories (toys, books, clothes) and a sequence (one area at a time), which saved time and reduced stress.*

*Introduce the idea of evaluating systems: Today, we'll create our own systems and test if they really work, just like Bella did.*

## *Empathize & Define: Identifying a Real-World Problem (10 minutes)*

*Introduce the design thinking process: empathize (understand the problem), Define (state the problem clearly), brainstorm (generate ideas), prototype (create a solution), and test (try it out and improve).*
*For the empathize step, have students conduct a quick survey in the classroom: What's hard to find or organize here? (e.g., art supplies, books, math tools).*
*Provide clipboards with survey sheets where they can tally responses from classmates.*
*Then, for the define step, discuss the results as a class and choose one shared problem (e.g., The art supplies are mixed up and take too long to find.).*

*Write the problem on chart paper: "We need a system to organize the art supplies so we can find them faster."*

## *Brainstorm & Prototype: Designing an Organizational System (15 minutes)*

Distribute the Design Thinking Template and guide students through brainstorming solutions for the defined problem.
Encourage them to think about both physical systems (e.g., sorting art supplies into labeled bins by type: crayons, markers, scissors) and digital systems (e.g., a class checklist app to track supplies).

Model brainstorming: We could use categorical organization—grouping similar items together—or a color-coded system.
Have students sketch their prototype on the template, drawing their system (e.g., labeled bins) and writing a short procedural description (e.g., Step 1: Put all crayons in the red bin. Step 2: Put markers in the blue bin.)

Encourage creativity while ensuring the system is practical for the problem.

## *Test & Iterate: Evaluating Effectiveness (10-12 minutes)*

*Pair students up to test their prototypes.*
*Each student explains their system to their partner, who "tests" it by pretending to use it (e.g., I'm looking for a marker—oh, it's in the blue bin!) and timing how long it takes (using a stopwatch). Partners calculate efficiency: It took 10 seconds to find a marker with your system, but it usually takes 30 seconds—that's 20 seconds saved!*
*They provide feedback on sticky notes (e.g., I liked how clear the labels were, but maybe add a bin for glue sticks.).*
*Students then iterate by revising their prototype based on feedback, adding one improvement (e.g., a glue stick bin) and noting it on their template.*

## *Reflection & Cross-Curricular Connections (8-10 minutes)*

*Gather the class and ask, How did your system solve the problem? What did you learn from testing and improving it?*

*Have students write a short reflection on their template; My system saved [X] seconds because... I would improve it by...*
*Connect to cross-curricular concepts*

- *Math- We used efficiency calculations—time saved—to measure if our system worked.*
- *Social Studies- Communities, like libraries, use systems like the Dewey Decimal System to organize books. How did our system help our classroom community?*
- *Language Arts- You wrote clear steps to explain your system, which is called procedural writing.*

*Celebrate their work with a butterfly sticker, saying, You're a real-world problem-solver, just like Bella!*

*Assessment*

- *Observe if students can analyze Bella's system critically during the read-aloud discussion.*
- *Check survey results to ensure students identify a real-world problem through data collection.*
- *Review Design Thinking Templates to assess if prototypes are practical, include a procedural description, and address the problem.*
- *Evaluate peer feedback for constructive suggestions and note if students iterate based on feedback.*
- *Read reflections to gauge understanding of system effectiveness and improvement.*

*Extension*

- *Implement the best system (voted on by the class) in the classroom and track its effectiveness over a week, calculating total time saved.*
- *Have students research a community organization system (e.g., a grocery store layout) and compare it to their system.*
- *Create a digital version of their system (e.g., a Google Doc checklist for art supplies) and share it with the class.*

## *Differentiation Strategies*

- ***For Visual Learners***

***Use colorful chart paper for brainstorming and provide a visual example of a completed Design Thinking Template. Display the design thinking steps prominently.***

- ***For Auditory Learners***

***Discuss the problem and solutions verbally during the empathize and brainstorm steps. Allow them to explain their system orally during testing.***

- ***For Kinesthetic Learners***

***Let students physically sort a few items (e.g., art supplies) while brainstorming their system. Incorporate a movement break, like stretching, between steps.***

- ***For English Language Learners (ELLs)***

***Provide a word bank with key terms (e.g., efficiency, system) and visuals. Pair them with a supportive peer during the testing phase.***

- ***For Students with Special Needs***

***Simplify the survey to a yes/no question (e.g., Is it hard to find art supplies? Yes/No). Offer a pre-drawn template with fewer steps to complete.***

- ***For Advanced Learners***

***Challenge them to calculate efficiency for multiple scenarios (e.g., How much time is saved in a week?) or design a system for a more complex problem (e.g., the school library).***