



LESSON 3: Brainstorming

LESSON OVERVIEW

This lesson will introduce students to the concept of brainstorming. Students will participate in a brainstorming session by using the SCAMPER method to provide structure to idea forming. They will be asked to consider ways than a common object might be used as a solution to a problem uncovered while reading the theme book.

OBJECTIVE

Students will be able to:

- Describe and apply the brainstorming process.
- Combine techniques of creative and critical thinking to approach problems and consider possible solutions.

MATERIALS

- Google Slides: YIPLit Lesson 3
- Book: *The Day the Crayons Quit*, by Drew Daywalt, Illustrated by Oliver Jeffers
ISBN: 0399548920, 978039954892
- Video: Maura's Bike Refresh, (included in Google Slides)
Link: <https://www.youtube.com/watch?v=NTmXw40wmjU>, (Create Something Amazing with Design Thinking, 3:22 minutes)
- Brainstorming! worksheet (included in YIPLit: Inventor's Journal)
- SCAMPER worksheet (included in YIPLit: Inventor's Journal)
- Drinking straws (one per student, plus extra)
- Pencils, pens, markers or crayons and paper for drawing
- Craft supplies (glue, scissors, tape, cardboard, construction paper, modeling clay, etc.)
- YIPLit: Inventor's Journals

NOTES FOR THE TEACHER

Teacher may use slides provided or lead instruction and discussion on their own.

You may wish to establish guidelines to create a safe space where all students feel comfortable sharing ideas. Suggested ground rules to create a positive environment include:

- All ideas are good ideas. Nothing is silly or irrelevant.
- Encourage students to combine or improve ideas that may already be on the list.
- Encourage crazy ideas. The most creative are often dismissed, but should be considered.
- Everyone Participates- all students should be involved in the brainstorming process.

INSTRUCTION & ACTIVITIES

Teacher may lead the following lesson plan with flexibility to adapt as needed to fit technology and class format:

Teacher Instruction:

Ask students what it means to “brainstorm”. Allow students to share ideas. Brainstorming requires quick thinking and creativity. Many ideas are produced, but value judgements are avoided in a brainstorming process. Think back to when you talked about the Invention Process. Remember the “Ideate” step? Ideate is just a fancy way of saying “Brainstorm” and this is an important step in the Invention Process.

Activity: Maura’s Bike Refresh (10 minutes)

Watch the video about Maura’s Bike Refresh (included in Google Slides). Then lead a discussion about the Ideate/Brainstorming step of the Invention Process. What was Maura’s problem? What were some ideas she had to solve it? How did she come up with these ideas? It’s important to talk about the value of different ideas and approaches before choosing the one you will select to be your final solution.

Teacher Instruction:

Introduce the SCAMPER approach to brainstorming. SCAMPER is one tool used to structure a brainstorming session. SCAMPER lists the kinds of thinking and doing cues that spark ideas. Discuss these strategies to guide the class through a brainstorm together. Present the vocabulary (see Google Slides) and help students by prompting them with the questions and suggestions for each letter of SCAMPER. Use a common utensil, the drinking straw, as the launch point for your SCAMPER.

Activity: SCAMPER (10 minutes)

Show students a drinking straw. Ask them the following questions:

- What is this?
- What is it used for?
- What else could we use it for?
- What else could it be made of?
- How can we change it to make it something to be used to do something else?

Ask students to SCAMPER the straw. The students should work in groups or pairs to find different uses for the straw, or ways to change the straw to make it better or to repurpose it. Students should complete the SCAMPER worksheet (included in the YIPLit: Inventor’s Journal) as they work together. Then bring the class together to share their brainstorming ideas.

Activity: Help Blue Crayon (15 minutes)

Now ask students to think specifically about the Blue Crayon in the theme book. What is Blue’s problem? Revisit the book and read (or watch video) about Blue Crayon if needed. Give each student their own drinking straw and have them change or repurpose it to help Blue Crayon. They should use one (or more) letters of SCAMPER to focus their brainstorming before coming up with an idea. Finally, they can use craft supplies and materials to create their new solutions.

Teacher Instruction:

Lead a short reflection. What was fun about SCAMPERing? What was challenging? What can you do when you feel “stuck” in the brainstorm- when you can’t think of anything? How did SCAMPER help you think differently?

Closure Activity: Reflection (10 minutes)

Ask students to select one character from the theme book. Then have them complete the Brainstorming! Worksheet (included in the YIPLit: Inventor’s Journal) to brainstorm as many ideas as they can to solve the character’s problem. Use a virtual platform to share.

IDEAS FOR VIRTUAL INSTRUCTION**Maura’s Bike Refresh**

Students may watch the video about Maura’s Bike Refresh. Ask them to discuss how the video relates to the Invention Process. Students can share their ideas in the chat, using a shared document or Zoom breakout rooms.

Help Blue Crayon

Ask students to think specifically about the Blue Crayon in the theme book. What is Blue’s problem? Revisit the book and read (or watch video) about Blue Crayon if needed. They should use one (or more) letters of SCAMPER to focus their brainstorming before coming up with an idea. Finally, if they have a drinking straw, they can use craft supplies and materials to create their new solutions. Students can share their creations in a virtual platform.

Choose one character for Brainstorming!

Ask students to select one character from the theme book. Then have them complete the Brainstorming! Worksheet (included in the YIPLit: Inventor’s Journal) to brainstorm as many ideas as they can to solve the character’s problem. Use a virtual platform to share.