



TEACHER DIRECTED LESSON PLAN

LESSON 8: Presenting Your Invention

LESSON OVERVIEW

In this multi-day lesson, students will begin to consider how to present their invention to others in a visual and oral presentation. This lesson guides students through the process of naming their invention and designing a creative and informative display that effectively communicates the purpose of the invention and the process followed to create it. Basic marketing and communication elements will introduce students to develop an effective “pitch” to share their invention ideas.

OBJECTIVE

Students will be able to identify the features of their invention that make it original and then create a name and a display to highlight the uniqueness of their idea. Students will understand aspects of marketing in order to best present their invention. Students will be able to evaluate optimal color combinations, fonts, and sizes for displaying information. They will also learn to summarize information and decide what information is most important to share. Students will be able to understand what elements are required to make a compelling and persuasive presentation to an audience. Students will be able to develop an effective and purposeful speech within a given time limit and will be able to strategize to eliminate anxiety associated with public speaking.

MATERIALS

Resources For the Teacher:

- Slide Deck: Presenting Your Invention (*optional*)
- Script: Presenting Your Invention (*accompanies slide deck, optional*)
- Slide Deck: Font Samples (*optional*)
- Video: Inventor Commercials (*optional*)
<https://www.youtube.com/watch?v=REfhL8P9d98> (12:35)
- Worksheet: Invention Name Word Ideas (*copy included in YIP Inventor's Journal*)
- Worksheet: Invention Display Template (*copy included in YIP Inventor's Journal*)
- Worksheet: Commercial Storyboard
- Cereal Box (or other product advertisement)
- Advertisements cut out from magazines, newspapers or other sources
- Colored paper
- Markers or colored pencils
- Video camera (*optional for recording student commercials*)
- Rubric: YIP Invention Presentation
- Rubric: YIP Display Board
- Proving Behavior Activity (materials needed will be determined by activity selected)
 - 💡 Think-Pair-Share- pens or pencils, notebook paper, Invention Name Word Ideas worksheet
 - 💡 Invention Name Word Ideas- pens or pencils, notebook paper, Invention Name Word Ideas worksheet
 - 💡 Snowball- pens or pencils, notebook paper

Materials For Students:

- Pens/pencils
- Notebook or other paper for writing and drawing
- Colored paper
- Markers or colored pencils
- Notebook or other paper for writing and drawing
- YIP Inventor's Journal (or other logbook)
- Invention Name Word Ideas worksheet (*copy included in YIP Inventor's Journal*)
- Invention Display Template worksheet (*copy included in YIP Inventor's Journal*)
- Commercial Storyboard worksheet

INSTRUCTION & ACTIVITIES

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

Note: This is a multi-day lesson that requires teacher guidance as well as independent work time. Students will develop their presentation- making a display board and presenting the invention to others. Much of the work can be done at home. Teacher should give clear and specific instructions to assign students independent work to be done at home. If there is to be any evaluation or assessment for assignments, teacher is encouraged to share any requirements and rubrics (provided) with students. Teacher may ask students to submit a record of their progress during this time.

Teacher Instruction:

1. *Teacher may use slides and script to explain the process of Presenting Your Invention to students or lead instruction and discussion on their own.*

Teacher will share Slide Deck: Presenting Your Invention with the class and use script as needed.

Teacher will explain that students will finally be able to showcase their inventions with others (peers, family members, friends, judges, etc.) To create an effective presentation, students must highlight its most important features and explain the purpose for developing the idea and how it works. Using clear descriptions and making a visually appealing display will strengthen a project.

2. Teacher will begin with a discussion about the importance of a product having a name. Just like a product we see in the store, an invention needs a strong, descriptive name. Teacher will ask students to think about the names of products they like. Why do they like these names or why do they stand out? Remind students that invention names should be easy to pronounce and easy to remember. Names should also describe the invention in some way.

Note: Before introducing Student Proving Behavior activity, teacher may want to guide the class through another activity to help get their creative juices flowing. The following activity is optional.

Activity: Name that Product

This activity is optional but may be helpful to help get students thinking creatively about naming their inventions.

Students will need: Pen or pencil, Paper for taking notes.

1. Teacher will ask students to imagine that they work in a company that has a new product on the market. They must think of a name for the product. Assign each group one of the following products:
 - A new dog or cat food
 - A new carnival ride
 - A new toothpaste
 - A new kid's magazine
2. Teacher will give students 5 minutes to brainstorm and select a name. Then teacher will bring groups together to share their product names with the class.
3. Following the Name that Product Activity (if using), teacher will ask students to develop a name for their own invention.
4. Teacher will ask the students to use the Invention Name Word Ideas worksheet (included in their YIP Inventor's Journal) to guide students in their brainstorm, especially if they are struggling to come up with a name. Ask students to select one word/prefix/phrase from Group A and one word/suffix/phrase from Group B that seem to "fit" their invention. Encourage students to put these words together, then to try saying them quickly, then in reverse order. Add other descriptive words and try different combinations to see if they can find something catchy. Students should record all name ideas in their YIP Inventor's Journal and then use this list to select their final choice for an invention name.
5. Teachers should ask students to submit the name they have chosen for their invention in the desired format.

Student Proving Behaviors:

Recommendations for In-Class Learning (select one of the following)

1. Think-Pair-Share- With a partner or small group, ask students to brainstorm ideas for names for their inventions. Using each other for feedback, students may come up with creative and catchy names. Finally, students can list their strongest ideas in their YIP Inventor's Journal.
2. Invention Name Worksheet- Distribute the Invention Name Word Ideas worksheet to students or have them complete the worksheet in their YIP Inventor's Journal. Ask them to pick one word/prefix/phrase from Group A and one word/suffix/phrase from Group B that seem to really "fit" your invention. Now put them together. They can then arrange these words around key words used to describe their invention. Students can string all of the words together and say them quickly or reverse the order. Students may also add words and try several combinations of words to see if something strikes them. Students may then share their ideas with classmates. Finally, students can list their strongest ideas in their YIP Inventor's Journal.

Ideas for Virtual Instruction:

1. *Teachers may divide students into small groups to complete the activity using Zoom Breakout room, Google Classroom or other format.*
2. *Teachers may ask students to complete the activity independently and then create a space for the students to share their product names. Students may draw a picture of the product*

with the name clearly visible which can be shared with the class, or students may record a video of themselves sharing, or they may write their responses and submit them.

3. *Teacher may ask students to find an example of a product at home that has a strong name, or a name they like and a product that has a poor name or one they don't like and then explain why they chose these products. Students may take a photo or a video to submit their responses.*

Next, teacher will discuss the display board component of the project.

Teacher Instruction: The Display Board

1. Teacher will explain that students will design and make a display board for their invention. This display will be shared with others in the Inventor Showcase and/or School Invention Fair. Teacher may choose to assign students to create a traditional tri-fold display board, or to use a digital display board.
2. Teacher will explain what makes a good display- it must be visually appealing: neat, easy to read, and may illustrate a theme related to the invention or problem it solves.
3. Teacher will show students a cereal box (or other example of a product advertisement). Teacher will ask students how companies make information look interesting to convince them that they need to buy a product.

Note: Before introducing Student Proving Behavior activity, teacher may want to guide the class through another activity to help get their creative juices flowing. The following short activities to highlight the different features of a display are optional.

Activity: What Colors Looks Best

This activity is optional but may be helpful to help get students thinking about visual displays and effective color combinations.

Students will need: Colored paper, Markers, Crayons or Colored Pencils.

1. Teacher will continue to use Slide Deck: Presenting Your Invention. Teacher will explain how the colors, lettering and overall layout of the display contribute to its effectiveness at communicating information.
2. Teacher will show examples of different color writing on different color backgrounds (such as blue ink on purple or black paper, yellow ink on white paper, blue ink on white paper). Ask for student reactions to these examples.
3. Teacher will ask students to try different color combinations on their own using colored paper and markers or colored pencils. Which combinations do they like best? Which are easiest to read? Allow time for students to share with each other for feedback.

Ideas for Virtual Instruction:

1. *Ask students to try the color combinations at home and then poll family members or friends to see which combination is preferred. Then have students submit their best color combination.*
2. *Create a class gallery or use a class blog to allow students to take a photo of their color combinations so that their peers can view and make comments.*

Activity: What Lettering Looks Best?

This activity is optional but may be helpful to help get students thinking about visual displays and effective lettering.

1. Teacher will share Slide Deck: Font Samples (*Note: this is a separate slide deck provided.*) Teacher will explain that fonts (for typed and virtual displays) and lettering (for handwritten displays) affect how well people can read their information. Ask students what could be good and bad about using a typed or handwritten display.
2. Teacher will share font examples with the class (using examples on paper, projected onto a white board or other format) and ask students to decide which fonts work for titles (big words) and for descriptions and summaries (sentences and/or paragraphs).
3. Teacher may lead a class discussion or break class into small groups so that students can discuss what works and what doesn't as they look at the fonts. What makes a font easier or harder to read?

Ideas for Virtual Instruction:

1. *Ask students to find examples of different fonts used in product packaging or advertisements and to explain what works and what doesn't. They may take photos and write or record their responses and submit them.*
2. *Ask students to submit a "Sampler" to demonstrate one good and one bad font. In a "Sampler" students will write the alphabet or use the sentence "A brown quick fox jumps over the lazy dog" in two different font types. Note: this particular sentence uses every letter in the alphabet!*

Activity: What Display Looks Best?

1. Teacher will return to Slide Deck: Presenting Your Invention. Teacher will show students examples of both good and fair display boards.
2. Teacher will lead class discussion to have students decide which boards they like best and why. Discuss which features on the boards worked and which did not work.

Ideas for Virtual Instruction:

1. *Ask students to look at examples of good and fair display board independently at home and then ask them to write or video record a response that tells which board is their favorite and why.*

Student Proving Behaviors:

Recommendations for In-Class Learning (select one or all of the following)

1. Advertisement Analysis- Ask students to select a product advertisement from a magazine, newspaper or other resource. Then, in pairs or small groups, ask students to explain how the company makes the product look desirable and what special features they use to get a consumer to buy it. For deeper exploration, ask students to re-design the advertisement to

be more captivating and ask students to explain their choices for the improvements and why they made them.

2. Display Drafts- Using the Invention Display Ask students to sketch a draft of their display board for their invention and label the required components.
3. Think-Pair-Share- In pairs, ask students to talk about what they plan to include on their display board to present their invention. Partners may give feedback and suggestions to support peers in developing the display.

Ideas for Virtual Instruction:

1. Ask students to find an advertisement at home (such as a product box or packaging, or ad from a magazine or newspaper) and explain how the company makes the product look desirable and what special features they use to get someone to use it.

Assignment: The Display Board

This activity may be completed in class or at home as a take home assignment.

Students will need: Tri-fold display board or digital display template of choice, YIP Inventor's Journal, Markers, Paper, Photos of invention process and prototype, Research and or testing data, Tape, Glue, Other materials to create display.

1. Following the Display Board instruction and optional activities, the teacher will tell students that they will be making their own display boards to present their inventions. Teacher will explain the expectations and requirements for the displays and distribute the YIP Display Board rubric if desired. Teacher may choose to assign students to make a traditional tri-fold display board or to use a digital display board.
2. Teacher will review the requirements for a display board.

Note: Teacher may change requirements as needed for the class. However, the following are required components for competition at the Norther New England Invention Convention and the Invention Convention US Nationals.

Display Board Requirements:

The maximum size of the tri-fold boards, with the wings folded in, the Display Board can only take 24" of table space. Display boards must have the following information in one consolidated place on the poster:

- Student(s) Name(s)
- Name of Invention
- Student(s) Grade(s)
- Student(s) School
- School City, State
- Statement of the problem
- Explanation of the invention as a solution to the problem
- Details of model construction
- Diagrams of design

3. Teacher may ask students to use the Display Board Template worksheet or similar display template (included in the YIP Inventor's Journal) as a draft to help them plan the layout of their display.

Ideas for Virtual Instruction:

1. Ask students to take a photo or upload their completed display board template to track progress and provide feedback before students begin their final display.
2. Ask students to work in pairs using Google Classroom, Zoom or school's preferred platform to discuss the features of their display boards and their layout plans.
3. Host an "office hours" for students to share display board plans, ask questions and receive feedback before they begin their final display.
4. Encourage students to show their display board plans and their displays to family members or others as they work to get feedback along the way.

Next, teachers will discuss the oral presentation component of the project.

Teacher Instruction: The Invention Presentation

1. Teacher will share video. (Link: <https://www.youtube.com/watch?v=REfhL8P9d98>)
Note: This You Tube video is about 12 minutes long, you may want to preview the video and pre-select only a few commercials to share with the class.
2. Teacher will facilitate a short discussion with the class:
 - a. Which commercials/inventions were most memorable? Why?
 - b. Which invention do you want to buy after seeing the commercial? Why?
 - c. What qualities made for a strong "pitch"?
 - d. Why is it important for an inventor to be able to advertise or talk about their invention to others?

Activity: Commercial Storyboard

Students will need: Pen or pencil, Notebook paper for writing script, Props (optional).

1. Teacher will ask students to create a **one-minute** commercial for their invention and present it to the class. Students should be given 15-25 minutes to develop and practice the commercial before they present it for the class. Teacher may choose to video the presentations so that students can later watch themselves. (*Note, the videos are fun to watch, but are also valuable teaching tools as students can see themselves presenting and may be able to identify areas for improvement for the future.*)
2. Teacher may ask the students to use the Commercial Storyboard worksheet to help them plan and develop their commercial.

Student Proving Behaviors:

Recommendations for In-Class Learning (select one or all of the following)

1. Commercial Presentations: Students will present a one-minute commercial about their invention to the class. Teacher may choose to video the presentations so that students can later watch themselves. (*Note, the videos are fun to watch, but are also valuable teaching tools as students can see themselves presenting and may be able to identify areas for improvement for the future.*)
2. Commercial Script: Students will write a script for a short commercial about their invention. Scripts may include speaking text as well as descriptions of what is taking place in the background around the speaker or voice of the commercial.

Ideas for Virtual Instruction:

1. Assign students to complete the activity at home, specifying 15-20 minutes to be spent developing the commercial and 10-15 minutes to be spent practicing. After students have had time to prepare their commercials at home, have a class meeting or set up smaller group meetings to allow students to present their commercials “live” in front of peers.
2. Ask students to record a video of their one-minute commercials to teacher or to share through a class blog or other virtual sharing platform used by the school.
3. Teacher is encouraged to create some system to provide feedback to student on their oral presentation to help them as they think about and prepare their final invention presentation.
4. Encourage students to practice their commercials in front of someone at home to get more comfortable speaking aloud and to get feedback.

Assignment: The Invention Presentation

This activity may be completed in class or at home as a take home assignment.

Students will need: Pen or pencil, Notebook paper for taking notes and drafting script, YIP Inventor’s Journal, Research or testing data, Display Board, Other resources to help develop the oral presentation.

1. Following the Invention Presentation Activity, the teacher will tell students that they will be making their own oral presentation about their invention. Teacher will explain the expectations and requirements and distribute the YIP Invention Presentation rubric if desired.
2. Teacher will share Slide Deck- Presenting Your Invention and explain the elements of a strong oral presentation.
3. Teacher should provide guidelines on how much time students should be using to prepare their invention presentations and request check-in during the independent working period to help students manage their time and the project’s final preparations.
4. Teachers should emphasize what each student will be required to include in their presentation.

Note: Teacher may change requirements as needed for the class. However, the following are required components for competition at the Norther New England Invention Convention and the Invention Convention US Nationals.

Presentation Requirements:

- State their name and age
- State the name of their invention
- Give a short description of what their invention does
- Highlight the originality of their invention and why someone should buy it
- State the cost of the invention and where someone can buy it
- Use words and visuals that will make their invention sound or look interesting and appealing

Ideas for Virtual Instruction:

1. Ask students to provide a written script or outline of a script to show their plans for their invention presentations.

2. *Ask students to work in pairs using Google Classroom, Zoom or school's preferred platform to discuss and practice their invention presentations.*
3. *Host an "office hours" for students to share their presentation plans, ask questions and receive feedback as they prepare.*
4. *Encourage students to practice their presentations in front family members or others as they work to get feedback along the way.*

CHECK FOR UNDERSTANDING

Teacher may wish to do one of the following to check for understanding:

1. In the format of the teacher's choice, ask students to write one thing they learned about presenting and displaying their invention.
2. In the format of the teacher's choice, ask students to write down the one thing they are most concerned or nervous about when they think about their display and presentation and one thing they are most excited to share about their invention.
3. In the format of the teacher's choice, ask students to explain why communication is important in the invention process.