PROGRAMMING Kit

Dream It. Design It. Do It.

This program encourages participants to think about and engage with themes and stories of U.S. innovation and entrepreneurship by highlighting well-known American entrepreneurs and their innovative ideas. The program includes a hands-on innovation activity that allows participants to work through the process of invention to better understand how innovation and entrepreneurship can be used to solve everyday problems.

POSSIBLE PROGRAMMING SCHEDULES:

PART I: Examining Innovation and Invention (50-60 minutes)			
Duration (minutes)	Item	Description	Handouts/Materials
15	**INTRODUCTION**	**Facilitator gives introduction** - Use suggested introduction questions - Introduce questions that will be discussed after watching Alexis Lewis video - Hand out copies of the vocabulary sheet, and ask participants to guess the definitions throughout the course of the program series (one side of the handout can have definitions and the other side with just words and no definitions)	- Discussion questions for Alexis Lewis video - Vocabulary sheet
5-10	**SHOW VIDEO**	**Show Alexis Lewis video** (4 min 38 seconds; video can be streamed or downloaded) (link below): https://americanspaces.smithsonian.com/videos/category/entrepreneurship/alexis-lewiss-innovation-mission/ Tip: Consider showing the video two or three times to aid with English learning and help participants process the various invention and innovation concepts being introduced.	
30	**FACILITATED DISCUSSION AND WRAP UP**	Discussion Questions from Content Module (Handout) For more conversation questions, please visit: https://americanspaces.smithsonian.com/videos/category/entrepreneurship/alexis-lewiss-innovation-mission/	

PART II: Examining Entrepreneurship (50-60 minutes)			
Duration (minutes)	Item	Description	Handouts/Materials
10	**INTRODUCTION**	**Facilitator gives introduction** - Discussion about entrepreneurship - Ask participants if they can name famous American, local, or international entrepreneurs, and discuss the related ideas and products	
10	**SMALL GROUP WORK**	**Distribute 2-3 images of famous entrepreneurs for small group discussions (2-4 participants per group)** - Small group work to discuss what makes these individuals entrepreneurs or innovators Tip: Consider including additional American, local, or international entrepreneurs and innovators to add to the discussion	- 2-4 images of famous entrepreneurs (3 provided in content module)
5	**FACILITATOR-LED DISCUSSION AND SHARE OUT**	**Ask small groups to share what makes the individuals on the handouts entrepreneurs or innovators**	
10	**QUICK INTRODUCTION AND SHOW "GAME CHANGERS" VIDEOS**	**Introduce videos and hand out "Game Changers: Discussion Questions"** **Show 4 videos** (videos are streamed, link below): http://americanhistory.si.edu/american-enterprise-exhibition/videos/game-changers - While participants watch videos, write down Spark!Lab's process of invention steps on a whiteboard or writable surface Tip: Consider showing the videos more than once to aid with English learning and comprehension	- Game Changers: Discussion Questions
10	**SMALL GROUP WORK**	**Small groups engage in discussion using the questions on the handout**	
10-15	**FACILITATOR-LED DISUCSSION, SHARE OUT, AND WRAP UP**	**Discuss "Game Changers" questions with entire group**	

PART III: Combining Innovation, Invention, and Entrepreneurship (50-60 minutes)			
Duration (minutes)	Item	Description	Handouts/Materials
5-7	**INTRODUCTION**	**Facilitator gives introduction** - Quick summary of previous sessions on innovation, invention, and entrepreneurship - Review Spark!Lab's process of invention - Explain the Grab Bag Inventing Activity (Steps 3.2 and 3.3 in content module)	
20	**SMALL GROUP WORK**	**Divide participants into groups of 2-4 participants** - Distribute Challenge Cards and a bag of materials to each group - Put the questions in Step 3.5 on the whiteboard or writable surface, so participants understand what they need to present - Facilitators should walk around to individual groups during this time to answer questions and ask questions (see 'Tips for Facilitators' on page 10)	- Challenge Cards - Bags of Materials
15-20	**SHARE OUT**	**Ask small groups to share their inventions and discuss potential market opportunities for their inventions**	
5-10	**WRAP UP**	**Wrap up the lesson** - Discuss needs in your community, and what areas can benefit from innovation, invention, and/or entrepreneurship **Share additional resources provided in content module with interested participants**	

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Dream It. Design It. Do It.

THEMES: Innovation, Invention, Entrepreneurship, Civil Society

SUMMARY: This program encourages participants to think about and engage with themes and stories of U.S. innovation and entrepreneurship by highlighting well-known American entrepreneurs and their innovative ideas. The program includes a hands-on innovation activity that allows participants to work through the process of invention to better understand how innovation and entrepreneurship can be used to solve everyday problems.

LESSON SNAPSHOT:

TIME NEEDED	SKILLS	TECHNOLOGY	MATERIALS	PROJECT
Three 1-hour sessions	Innovative design, problem-solving, creativity, brainstorming, collaboration, entrepreneurial spirit	At least one computer or digital monitor with audio capability to display videos. Videos in this lesson can be downloaded and played or streamed. If streamed, your device will need an internet connection.	***Provided in this packet***: Discussion questions worksheets, pictures, descriptions of famous American entrepreneurs, and challenge cards. ***Additional materials needed***: Writing surface (whiteboard, writable wall, chalkboard, or flipchart), scissors, tape, markers, pencils, paper, rubber bands, paper cups, paper clips, string, cardboard, egg cartons, and other materials for the Grab Bag Inventing Activity.	Participants will learn about entrepreneurship and innovation through a series of videos and discussions. They will then be given a challenge card asking them to create a product that solves a problem and must use randomly selected objects from a grab bag to engage in the process of invention.

LESSON OUTCOMES	Participants will: • *Understand* the positive social and economic benefits that innovation and entrepreneurship have brought to the U.S. through both historical examples and key societal and legal factors that have created a culture conducive to innovation in the United States. • *Create and Prototype* their own invention to solve a real-world challenge.

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FACILITATOR PREPARATION	Facilitators should prepare to lead this program by gathering the required project materials listed above and familiarizing themselves with the "Game Changers" videos (see links in Section 2 of the Detailed Lesson Plan), Challenge Cards, and Vocabulary. Facilitators may also want to prepare a short list of local entrepreneurs and inventors to aid discussion during the introduction. Facilitators should also print copies of the Discussion Questions for the Alexis Lewis video and the Game Changers video. The Alexis Lewis video may be downloaded ahead of the program, but is not required. Additionally, facilitators should identify a space to display participants' innovation projects after completion in order to foster meaningful discussion or consider taking photos of each invention to display in a slideshow. Before the program begins, facilitators should divide the materials (suggested on page 1 of this packet) into bags. There should be one bag for each group of participants and each bag should contain an assortment of materials for teams to use to create their inventions. For more information on the activity, see PART III on page 8 of this packet. Facilitators may also wish to print out the vocabulary list to provide each participant with the list of definitions at the start of the program. Alternatively, facilitators could remove the provided definitions and ask participants to complete the vocabulary list during the program with their own definitions.

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VOCABULARY	**Copyright**: the exclusive legal right to reproduce, publish, sell, or distribute the matter and form of something (such as a literary, musical, or artistic work) **Drive:** energy, intensity, persistence, initiative, determination to achieve a purpose or goal **Entrepreneur**: one who undertakes an enterprise or owns and manages a business **Game Changer**: a person or thing that radically changes an industry or a company **Innovation**: a new idea, method, or device **Intellectual Property**: primarily law property (such as patents, trademarks, and copyright material) which is the product of invention or creativity, and does not exist in a tangible, physical form **Invent:** to produce (something, such as a useful device or process) for the first time through the use of the imagination or of ingenious thinking and experimentation **Invention:** something that is produced or created for the first time **Patent**: a document conferring some privilege, right, office, title, or property **Prototype:** the first example of something, such as a machine or other industrial product, from which all later forms are developed **Tinker**: to repair, adjust, or work with something in an unskilled or experimental manner **Trademark:** a sign capable of distinguishing the goods or services of one enterprise from those of other enterprises. Trademarks are protected by intellectual property rights **Trial and Error:** a way of achieving something or solving a problem by trying different methods and learning from your mistakes **Visionary**: *(noun)* – a person with foresight and imagination *(adjective)* – *having* or marked by foresight and imagination *Definitions provided by: Merriam Webster and Oxford English Dictionary*

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DETAILED LESSON PLAN:

PART I: EXAMINING INNOVATION AND INVENTION	
Introduction to Innovation (50 minutes)	**INNOVATION** 1) Begin by posing questions to the group to get them thinking about invention and innovation. Suggested questions include: • What is an invention? Can you think of an invention? • Why do people invent? • What are some characteristics of inventors? (Answers could include creativity, necessity, passion, drive, imagination) • Who can be an inventor? • Can you think of an inventor? Note: *It's important to make sure participants understand that inventions help us do things more easily, more effectively, more beautifully, or they solve a problem. Invention is a process. Inventing combines creativity, good communication skills, and the ability to work in a team with a range of disciplines, such as math, science, history, and technology. Everyone is inventive.* 2) After participants have answered these questions and have begun thinking about innovation and invention, provide each participant with the handout of discussion questions for *Alexis Lewis's Innovative Mission* video (4 minutes, 38 seconds) and allow them a few minutes to individually review each question before showing the video. The facilitator may also choose to review these questions as a group. The Discussion Questions handout is found on page 12 of this packet. Show the video, using the link below, on the digital monitor or computer. This video is also available for download. *Video Summary for Facilitator*: Alexis Lewis is a 15-year-old entrepreneur and inventor who has made it her mission to inspire others to become inventors. She has one patent to her name and likely more on the way. *Link to video**: https://americanspaces.smithsonian.com/videos/category/entrepreneurship/alexis-lewiss-innovation-mission/ 3) Lead a discussion with the group highlighting Alexis' process of invention and the development of creative solutions to everyday challenges. Conversation questions may include: • Alexis talks about a type of sled historically used by Native American Plain Indians that is called a "travois." Her first invention was to design a new version of this sled that would work with materials available in Africa, where she hoped the sled would be used. **If this sled is based off an existing idea,**

	how is it an invention? What are some other inventions that are also inspired by earlier iterations (examples) of the same thing? • Alexis describes her second invention as a "process of trial and error." **What do you think she means? Why would having firefighters test prototypes in the field be important?** • **Does Alexis strike you as a likely "inventor?" What qualities do you think are important for an inventor to have? Can anyone be an inventor?** **TIPS FOR FACILITATORS:** • * *Alexis Lewis's Innovative Mission* can be downloaded or streamed and displayed with or without English Language closed captions. • The facilitator may choose to introduce Spark!Lab's Process of Inventing, found in PART III, page 8 of this packet to help connect Alexis's process with the process of inventing participants will be using for a later activity. • Additional conversation club questions can be found below the video of Alexis Lewis on the Video Portal. If you think your audience would enjoy and benefit from a longer Q&A session, you can download questions on the website in PDF or Word to allow for easy editing for your participants and/or printing for handouts.
PART II: EXAMINING ENTREPRENEURSHIP	
Introduction to Entrepreneurship (60 minutes)	**ENTREPRENEURSHIP** 1) Make sure participants understand the word entrepreneurship. Ask participants to explain what they think it means. After participants have had a chance to share their ideas, provide them with a definition of the word entrepreneurship. • Explain to participants that everyone can be an entrepreneur. Discuss the ways in which participants may have used entrepreneurial leadership or spirit as part of their everyday lives, perhaps when working on a project, or with a group. • The facilitator can explain that entrepreneurship may require overcoming fears and taking risks. 2) Ask participants if they can name any famous American, local, or international entrepreneurs. Ask the group what idea or product made these entrepreneurs well-known. Examples of famous American entrepreneurs include: • **Bill Gates:** co-founder of Microsoft • **Mark Zuckerberg:** co-founder of Facebook • **Marie Curie:** chemist and physicist; conducted research on

	radioactivity 3) Display or hand out the three images of famous entrepreneurs included on pages 14 and 15 of this packet. Ask participants to identify these three individuals and encourage the group to discuss what makes them entrepreneurs. Brief background information: • **Steve Jobs:** Computer Pioneer – brilliant, visionary, and driven—Jobs experienced both great successes and spectacular failures. His greatest accomplishment was envisioning easy-to-use technology such as the Macintosh computer and iPhone, designed not for geeks and nerds, but for "the rest of us." • **Oprah Winfrey:** Innovator in media—radio, television, film, and publishing—Winfrey began a globally-recognized career as host of a talk show in 1986 that ran for 25 years. On her show, Winfrey explored issues of national concern including women's empowerment and paved the way for other women entrepreneurs through her philanthropy and mentorship. Her $1+ billion business empire earned her a spot in Forbes magazine's "World's Richest People" list in 2003 – the first African American woman to be included on this list. • **Elon Musk:** Boundless innovator – Musk is the founder, CEO, and lead designer of SpaceX, and co-founder, CEO, and product architect of Tesla, Inc. As an inventor, innovator, and engineer, Musk invests in projects that can change our world and extend far beyond it. Musk has continued to pursue his ambitions in the face of criticism, and continues to work on projects to develop space tourism, a low-emissions sports car, and enhanced solar panels. Musk is not afraid to take big risks and learn through trial and error. **TIPS FOR FACILITATORS:** • The facilitator may wish to explain to participants that innovators often take something that has already been created and figure out ways to modify or improve an object, a device, a way of thinking, etc. • Remind participants that innovators don't work in isolation. Often, they have built upon previous creators' ideas and worked with teams of skilled laborers and creative thinkers. Invention and innovation is a team effort. • Use photos and short summaries of local inventors or innovators to aid in and localize this discussion.
Game Changers	4) Provide each participant with the half-page handout of questions for the Game Changers videos found on page 13 of this packet. As you distribute

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Videos (8 minutes for 4 videos & 15-20 minutes for discussion)	these handouts, explain that the group will watch four short videos and answer the questions provided on this sheet. Review the questions as a group, or ask participants to review the questions before watching each video. 5) Introduce the videos by explaining that each of these individuals helped change traditional business practices through **breaking social barriers**, **exploring new territories**, or **inventing new technologies**. 6) Watch each **Game Changers** video and allow participants to answer each question after the conclusion of each video. • All of the videos can be streamed from the *American Enterprise* exhibition website from the Smithsonian's National Museum of American History. English language closed captions are available. ○ http://americanhistory.si.edu/american-enterprise-exhibition/videos/game-changers • The four featured game changers are: ○ **Mary Barra:** Chief Executive Officer of General Motors - First female CEO of a major global automaker - She has pushed the company to explore automated driverless cars ○ **Jeff Bezos:** Founder and Chief Executive Officer of Amazon.com and owner of The Washington Post - Technology entrepreneur, investor, and philanthropist - Amazon has revolutionized the world of e-commerce ○ **Rosalind Brewer:** (Former) Chief Executive Officer of Sam's Club (a division of Wal-Mart) - First woman and first African American CEO of a division of Wal-Mart - Promotes workplace diversity and empowering women to pursue careers and assume leadership roles ○ **Janet Yellen:** (Former) Chair of the U.S. Federal Reserve - First woman to chair the U.S. Federal Reserve - Aims to create better, more productive, more successful lives through economic conditions that let people thrive 7) After watching the videos, ask participants to share their answers to each of the four questions with the group. If the group is large, call on select participants to share one or two answers to the questions about their video. **TIPS FOR FACILITATORS:** • Facilitators should familiarize themselves with the videos before leading this program.

	• It may be helpful to play the videos more than once to encourage English language learning and participation. • To shorten this part of the program, choose only two of the videos listed above for discussion. • The discussion questions in the handout on page 13 can be adapted for your audience.
PART III: COMBINING INNOVATION, INVENTION, AND ENTREPRENEURSHIP	

Grab Bag Inventing Activity
(40-45 minutes)
	Before the lesson begins:
	• **Write down Spark!Lab's process of invention steps** on a whiteboard or other writable surface. The facilitator will be referring back to this with the group to introduce the activity described below. The process of invention steps, in this order, are:
	  • Think It
	  • Explore It
	  • Sketch It
	  • Create It
	  • Try It
	  • Tweak It
	  • Sell It
	• On another area of the writable surface, **write down these questions to reference during the activity**:
	  • What is it?
	  • How will it work?
	  • What problem will it solve?
	  • What was the biggest challenge during the invention process?
	• **Gather common materials to lead an activity** that emphasize the importance of innovation before the program begins. Almost any type of craft, office, or household supply can be used with Grab Bag Inventing. Recyclable materials and simple (and safe) hardware (washers, nuts, bolts, etc.) can also be incorporated.
	  • Suggested materials include: paper clips, egg cartons, pipe cleaners, balloons, string/yarn, craft sticks, rubber bands, paper cups, etc. Place these materials in a paper bag and make sure there are enough bags for each group to receive one. The bags do not have to contain the same number or types of materials for each group, but it's important that you provide a variety of materials in each of the bags.
	Each group should also receive a roll of tape, a pair of scissors,

markers/pencils, and paper.

Grab Bag Inventing Activity

1) Introduce the activity by holding up a familiar object (e.g., egg carton) and brainstorm possible alternate uses. You could instead use an object that might be less familiar to the group and ask if participants can figure out the object's purpose.
2) Remind participants that inventions help us do things more easily or solve a problem and that innovative and creative thinking can help lead us through the process of invention.
3) Divide participants into groups of 2-4 people, give each group a challenge card found on pages 17 and 18 of this packet (more than one group can have the same challenge card), and a bag of materials. As you hand out the cards and the bags, tell participants that they will have an opportunity to try inventing with the materials in their bag. They can use everything in the bag, but they do not have to.
    - Over the course of the activity, participants should work together to review the challenge card, brainstorm and sketch out ideas for their invention, and finally, make a model of this invention.
    - Review the process of invention written on the whiteboard or other writable surface and explain that participants will be working through this process as they create their invention. The facilitator may wish to explain each of these using the language below. If time permits, ask the participants what they think each of these steps means to them.
        - **Think It**: Have a great idea for an invention
        - **Explore It**: Investigate inventions and ideas of the past
        - **Sketch It:** Draw pictures and diagrams to figure out how your invention might work
        - **Create It:** Build a prototype or model of your idea
        - **Try It:** Test your invention
        - **Tweak It:** Keep improving your idea
        - **Sell It:** Talk about your invention
    - Review the questions on the whiteboard or writable surface. Explain to participants that they will be asked to share their inventions with the group by answering these questions during their presentation. Depending on available time and the number of groups, let participants know that they will

	have between 3 and 5 minutes to present their invention.
	• Allow at least 30 minutes for participants to make models of their inventions.
	
	TIPS FOR FACILITATORS:
	• Give groups a 5-minute warning before concluding the invention activity. It's okay if an invention isn't complete at the end of this activity. Participants can still discuss their ideas and the process for solving the challenge.
	• Encourage each group member to contribute to the invention.
	• The activity may require multiple facilitators to assist with passing out the materials and asking questions as groups are working on their inventions.
	• Ask questions as the groups are working, such as:
	  ○ What challenge are you trying to solve?
	  ○ What materials have you chosen to build your prototype?
	  ○ Who will use your invention?
	  ○ Have you run into any challenges in creating your invention? How did you overcome them?
	• Some participants will begin to create with no specific end goal. This is okay; they are learning how the tools and materials function and what their strengths and limitations are, all while being creative.
	• **If a participant is frustrated with his/her invention or feels he/she is doing it "wrong," offer assurance that there is no right or wrong way to create**. Ask what is being attempted and offer an idea or two to get the participant back on track. (e.g., "what happens if you try this?" or "what if you added something here?")
	• **For additional tips on facilitating this activity**, please visit the Spark!Lab Facilitator Manual, developed for American Spaces.

Share Out (15-20 minutes)	4) Ask groups to share their invention with the rest of the participants. To get them started, refer participants to the questions on the board or writable surface. Encourage the rest of the participants to ask the inventors questions about their inventions. 5) Congratulate the participants (now inventors!) and encourage them to keep their inventions and continue to refine their ideas or use them to inspire future inventions. **OPTIONAL LESSON EXTENSION** • Ask participants for ways in which other groups' inventions can help solve problems, other than the one outlined in the activity.

	Encourage participants to think creatively about other applications for these inventions. • Ask participants to take what they've learned and observe needs unique to their home, neighborhood, or community. Invite participants back to discuss their observations and ideas for overcoming these needs or challenges. Conversations could also ask participants what other inventions could address issues or solve problems or challenges in their own communities.
Additional Resources	**Innovation and Invention:** • Spark!Lab Facilitator Manual, developed for American Spaces: https://americanspaces.state.gov/home/wp-content/uploads/2017/01/spark-lab-facilitator-october-2015.pdf • Stories and Blogs of featured inventors from the Smithsonian's National Museum of American History's Lemelson Center for the Study of Invention an Innovation: http://invention.si.edu/search/inventors%20stories • *From Innovation to Market* Video provides step-by-step instructions on the process of invention: http://amhistory.si.edu/american-enterprise/innovation-to-market/ • Ready, Set, Design! Activity from the Smithsonian's Cooper-Hewitt National Design Museum: https://www.cooperhewitt.org/2011/09/09/ready-set-design/ • Cooper-Hewitt National Design Museum's *Access+Ability* Online Exhibition highlights 70+ innovative designs developed in the last decade that assist people with a wide range of physical, cognitive, and sensory abilities: https://collection.cooperhewitt.org/exhibitions/1141959921/ **U.S. Patents:** • Pick one (or more) "Famous Intellectual Property Dispute" to share with participants: http://www.smithsonianmag.com/history/ten-famous-intellectual-property-disputes-18521880/ • *The U.S. Patent and Trademark Office* Video and *Conversation Club* Questions: https://americanspaces.smithsonian.com/videos/category/entrepreneurship/united-states-patent-office/ • "Counting Women Inventors" Article explores the Patent Office's first official list of patentees in 1888: http://invention.si.edu/counting-women-inventors http://amhistory.si.edu/american-enterprise/innovation-to-market/

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ALEXIS LEWIS'S INNOVATIVE MISSION: DISCUSSION QUESTIONS

1. Alexis talks about a type of sled historically used by Native American Plain Indians that is called a "travois." Her first invention was to design a new version of this sled that would work with materials available in Africa, where she hoped the sled would be used. **If this sled is based off of an existing idea, how is it an invention? What are some other inventions that are also inspired by earlier iterations (examples) of the same thing?**

2. Alexis describes her second invention as a "process of trial and error." **What do you think she means? Can you describe a time you used "trial and error" to solve a problem? Why would having firefighters test prototypes in the field be important?**

3. **Does Alexis strike you as a likely "inventor?" What qualities do you think are important for an inventor to have? Can anyone be an inventor?**

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3. **Does Alexis strike you as a likely "inventor?" What qualities do you think are important for an inventor to have? Can anyone be an inventor?**

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GAME CHANGERS VIDEOS: DISCUSSION QUESTIONS

1. What does Mary Barra, General Motors CEO, say are the three most important things to achieve success?

   _____

2. What is Jeff Bezos, Amazon CEO's advice for others? Do you agree with Jeff Bezos on what it takes to be an entrepreneur? Why or why not?

   _____

3. What does Rosalind Brewer, Sam's Club CEO say having a woman of color in a role of leadership does for young girls?

   _____

4. Why was Janet Yellen's leadership at the U.S. Federal Reserve significant?

   _____

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   _____

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   _____

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   _____

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Steve Jobs, 1955–2011
Pioneering Visionary

Computer pioneer—brilliant, visionary, and driven— Jobs experienced both great successes and spectacular failures. His greatest accomplishment was envisioning easy-to-use technology such as the Macintosh computer and iPhone, designed not for geeks and nerds, but for "the rest of us."

Courtesy of National Portrait Gallery, Smithsonian Institution; gift of Diana Walker

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Oprah Winfrey, 1954–
Media Mogul

Innovator in media—radio, television, film, and publishing—Winfrey began a globally-recognized career as host of a talk show in 1986 that ran for 25 years. On her show, Winfrey explored issues of national concern including women's empowerment and paved the way for other women entrepreneurs through her philanthropy and mentorship. Her $1+ billion business empire earned her a spot in Forbes magazine's "World's Richest People" list in 2003 – the first African American woman to be included on this list.

Courtesy of National Portrait Gallery, Smithsonian Institution

Elon Musk, 1971–
Revolutionary Explorer

Boundless innovator – Musk is the founder, CEO, and lead designer of SpaceX, and co-founder, CEO, and product architect of Tesla, Inc. As an inventor, innovator, and engineer, Musk invests in projects that can change our world and extend far beyond it. Musk has continued to pursue his ambitions in the face of criticism, and continues to work on projects to develop space tourism, a low-emissions sports car, and enhanced solar panels. Musk is not afraid to take big risks and learn through trial and error.

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GRAB BAG INVENTING CHALLENGE CARDS

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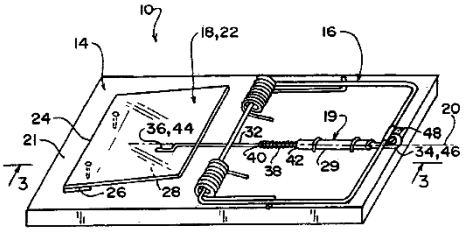
CHALLENGE CARD 1

The U.S. Patent Office has issued thousands of patents for mousetraps, more than any other machine. How would you build a better mousetrap? Try your hand at creating your own mousetrap prototype.

(Content Adapted from the Smithsonian National Museum of American History)



Official Mouse Trap Patent from USPTO

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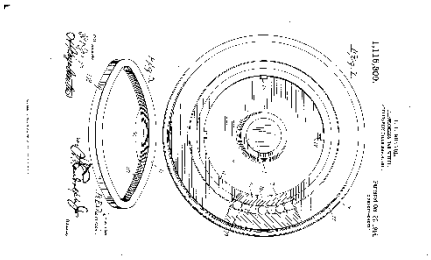
CHALLENGE CARD 2

What will the car of the future look like? How will it run? Use the materials provided to build a prototype of the vehicle of tomorrow!

(Content Adapted from the Smithsonian National Museum of American History)



Official Frictionless Car Wheel Patent from USPTO

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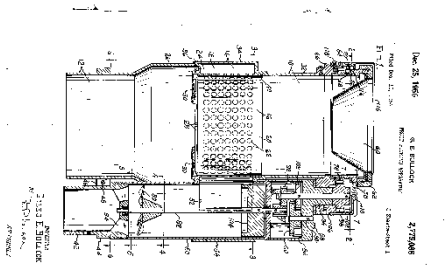
CHALLENGE CARD 3

You are working on a strawberry farm in the heat of the sun. It is hot and your back is sore from bending over to pick from the small plants. Invent a device that will ease your work.

(Content Adapted from the Smithsonian National Museum of American History)



Official Fruit Picking Apparatus Patent from USPTO

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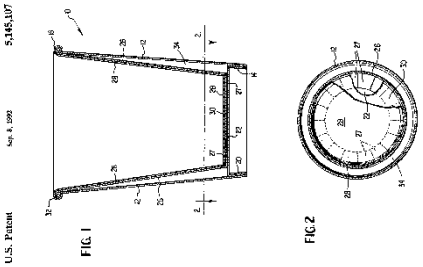
CHALLENGE CARD 4

All inventions solve problems or address a need, but not every invention offers a completely new solution. Many inventions are improvements on previous ones. Can you find ways to improve a paper cup? Think of things that you don't like about the paper cup or think could be better. Use scissors, tape, and other materials provided to create a better cup.

(Content Adapted from the Smithsonian National Museum of American History)



Official Insulated Paper Cup from USPTO