Curriculum Binder Lesson Summaries

LESSON TITLE	GRADES	DESCRIPTION
#AccessibilityProbs	3-5	Your students will learn about designing solutions to problems using the example problem of the lack of widespread accessibility for individuals who use wheelchairs.
Applying for a Patent	3-8	In order to learn the various scenarios and challenges of applying for U.S. patents, your students will create skits to present in front of the class describing the given scenarios.
Brainstorming 101	K-8	The class will brainstorm new uses for existing gadgets using brainstorming techniques such as SCAMPER.
Designing a Logo	3-8	During this activity, your students will join into groups and create a group logo based on the shared characteristics of the group.
Discover Inventing	6-8	Your students will define what an invention is, research the cotton gin and debate about who should be credited with the inventio of the cotton gin.
The Engineering Cycle	K-2	For grades K-2, use this lesson at the end of the inventing process to review each part of the process students went through to create their inventions.
The Engineering Cycle	3-8	For grades 3-8, use this lesson after the introduction of inventions to teach students the process through which people invent and make improvements. Students will rotate through stations that take them through the Engineering Cycle.
Enter the Shark Tank	3-8	Your students will create the elements of a business plan and pitch these ideas and a prototype to a panel of peers or teachers to practice their presentation skills.
Improving Access	3-8	Using the materials provided, your students will create and modify devices with the intent of making wheelchair access more widespread in schools.
Intent to Invent	K-8	This lesson serves as an introduction to the Intent to Invent form that should be filled out early on in the invention process. It also introduces the idea of time management when working on long-term projects.
Intent to Present: Display Board	K-8	Your students will identify important visual and informational components that make up a display board. They will also create a scale model of a display board and make choices of font, color, and placement for their information.

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Introducing…Inventing!	K-8	Another option to introduce your students to inventing. K-2 students will consider different occupations that could use new inventions. Grades 3-8 will read science fiction books and identify one invention in the books that is not currently invented.
Invention Improvement	3-8	Using ketchup packets, your students will learn how to incorporate the aspects of product purpose, cost, logistics, and efficiency in designing and modifying solutions to problems.
Invention log Introduction	K-8	This lesson serves a basic introduction to the Invention Logs that your students will have to complete to participate in local, state and national Invention Conventions.
Inventions in Your World	K-2	To introduce your students to inventing, read about inventions and have students label how the inventions work.
Inventor's Spotlight	3-8	Your students will research famous inventors and develop a presentation and essay about their shared characteristics with a chosen inventor.
Junk Mail Aerodynamics	K-8	Take some magazine card inserts or any other kind of paper and make paper airplanes! Students will test the flight of their paper airplanes and make design adjustments.
Look like an Inventor	K-2	Your students will read age-appropriate nonfiction books about famous inventors and dress up as the inventor during a school day while answering any questions about the information they learned.
Losing Your Crayons	K-2	Your students will learn about designing solutions to problems using the example problem of writing utensils rolling off desks.
Louvre Heist	6-8	The Mona Lisa has been stone form the Louvre and it is your students' job to put it back without anyone noticing! They will use mathematic conversions and the materials available to them to design an invention that will help smuggle the Mona Lisa into the Louvre.
Make it Easier	K-8	Your students will consider problems that people with disabilities face every day. They will brainstorm and design prototypes of inventions that could help make it easier.

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Make Your Mark	3-8	This lesson introduces the differences among patents, copyrights, and trademarks and allows your students to create trademark components (e.g. names and slogans) for fictional companies and scenarios.
Market and Profit	6-8	Students will use equations and graphs to market the product they designed and figure out how much of a profit they can make.
Music to My Ears	K-8	Students will experiment with different objects and materials to figure out how sound is made. They will then design their own instrument from ordinary household materials and playa short song.
Pegboard Pinball	k-8	Your students will build and modify structures that lengthen the time it takes a ball to fall down an incline, while learning how to apply scientific inquiry and the engineering design process.
Popsicle Stick Bridge	3-8	Using only popsicle or craft sticks, students will try to make a bridge that spans across two wooden blocks. The goal is to make the longest freestanding bridge and no adhesive materials are allowed.
Reach for the Sky	K-2	Using the materials provided, your students will create and modify buildings with the intent of making the tallest freestanding structure.
Read, Aim, Laser!	3-8	Students will design and build a system of mirrors to direct a laser pointer to hit a target or series of targets.
Rube Goldberg Machines	K-8	Students will learn about Rube Goldberg machines and make their own complicated machine that solves a simple problem.
Science Fiction Inventions	3-8	Students will choose a science fiction book (or movie) and read the book to find one invention that is not currently invented. They will decide whether the invention should be invented in the future or if it is possible for it to be invented now.
Scientific Induction	K-2	Students will solve a puzzle and keep track of when they get frustrated. They will come up with strategies for overcoming frustration.
Scientific Induction	3-8	Students will work together to solve a math puzzle, write down each step of the problem-solving process and record strategies for overcoming frustration.

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Shifting Gears	K-5	Your students will learn about gars and how they move together by manipulating physical shapes.
Stop, Drop, and Purify	6-8	Your students will learn about designing solutions to problems using the example problem of the lack of clean water in certain parts of the world.
Studious Solutions	K-8	Students will come up with solutions for the problems they identified.
Take Apart Workshop	K-8	This activity will introduce your students to the inside workings of a mechanical toy and how they create movement and help them apply these findings to their person inventions.
The Name Game	6-8	Your students will apply their knowledge of trademarks to complete a series of challenges involving developing trademarked elements for a product or service.
Top Ten Inventions	3-8	Students will research and compile a list of the top ten inventions that influenced their world.
Totally Tubular	K-2	Your students will market a generic paper towel tuve using different advertising elements and present this marketing to the class.
Walk it Out	3-8	Your students will market a newly designed sneaker using different advertising elements and present this marketing to the class.
What is an Invention?	3-5	Students will learn what an invention is and walk around as a class, listing inventions.
What's the Problem?	K-5	Students will brainstorm as problem they believe they could create an invention to solve.
Writing a Patent	3-8	After learning about the components of a patent application, your students will complete a simulated patent application for their own inventions.