ignite
learning center

INGENUITY DESIGN PROCESS

All kids can develop ingenuity and innovative thinking.

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IGNITE'S STEAM LEARNING DEVELOPS FLEXIBLE THINKING AND CREATIVE PROBLEM SOLVING.

Ingenious people are creative problem solvers and leaders in their communities. They communicate clearly and collaborate with others to develop new innovations and solutions to real life problems. Experts estimate that 65% of the jobs current elementary students will hold as young adults do not exist yet. To best prepare kids to navigate their unknown future, education must provide learning opportunities that develop flexible thinking and creative problem solving.

Ignite is designed to provide child driven experiential learning through ingenuity challenges and makerspace access. When given time and resources to wonder and explore, design, collaborate, and create without fear of failure, all kids learn to be active participants in their own education, setting them up for bright futures. Atypical and neurodivergent thinkers thrive in a STEAM design environment. Their strengths lie in creativity and thinking outside the box. Skills and understandings that are not evident in a language assessment based classroom shine in an informal learner directed STEAM center.

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Ignite guides kids through three design stages as they tackle ingenuity challenges.

STAGE 1: WONDER & PLAN

Ask creative questions - not just "what do I have to do" or "how can I do it" but also creative questions such as "I wonder if anybody has ever tried to….." or "I wonder how I could solve this problem with….". Good creative wondering questions do not have easy right or wrong answers. They cause you to think about ideas and form plans on how you can test or create your ideas.

Plan out the solution to your challenge - sketch pictures and diagrams of your innovative gadgets and solutions in an Ingenuity Journal. Label the parts and list the materials you will need to build and test your plans or experiment with your ideas. Remember these plans will probably change as you build. Inventors and engineers know their first ideas will not always work the way they thought, and they will change their plans to make their ideas even better.

STAGE 2: BUILD & TEST

Following your plan, build your solution or experiment with your ideas. Test your creation and ideas as you go. Most of your ideas will fail and not work. Don't get upset! Failure is AWESOME and the most important part of the Ingenuity Design Process! Failure teaches you more about the problem and helps you make better predictions. Ask yourself "I wonder why not?". Go back to your original plan, make changes in your Ingenuity Journal, and try again! Learning from plans that don't work is what will make you an Ingenious engineer or scientist!

STAGE 3: SHARE

Share your ingenious ideas and innovations! Other people can learn from your inventions and ideas. Scientists and Engineers publish their findings in journals and share them at conferences. You should share your ideas with your classmates, teachers, and family. Your inventions can make the world a better place!

Ignite would love to share your ingenuity with our community of engineers. Tag us on Facebook and Instagram in photos of your finished creations or send us videos of you explaining your design process. We love to see how ideas go from diagrams to reality!

www.igniteingenuity.org