



The STEM Design Lab

Presentation to School Committee featuring
Mr. Jeremy Mularella and students from Oak Middle School

Where do we
find
ourselves?



HERE

Our vision

SHREWSBURY PUBLIC SCHOOLS PORTRAIT OF A GRADUATE



Where do we
find
ourselves?



AND
HERE



DESIGN THINKING

A FRAMEWORK FOR INNOVATION

EMPATHIZE

Innovation should be human-centered.

IDEATE

Innovation is born from a clash of ideas.

CONTEXT

FORM

DEFINE

Innovation should solve a problem.

TEST

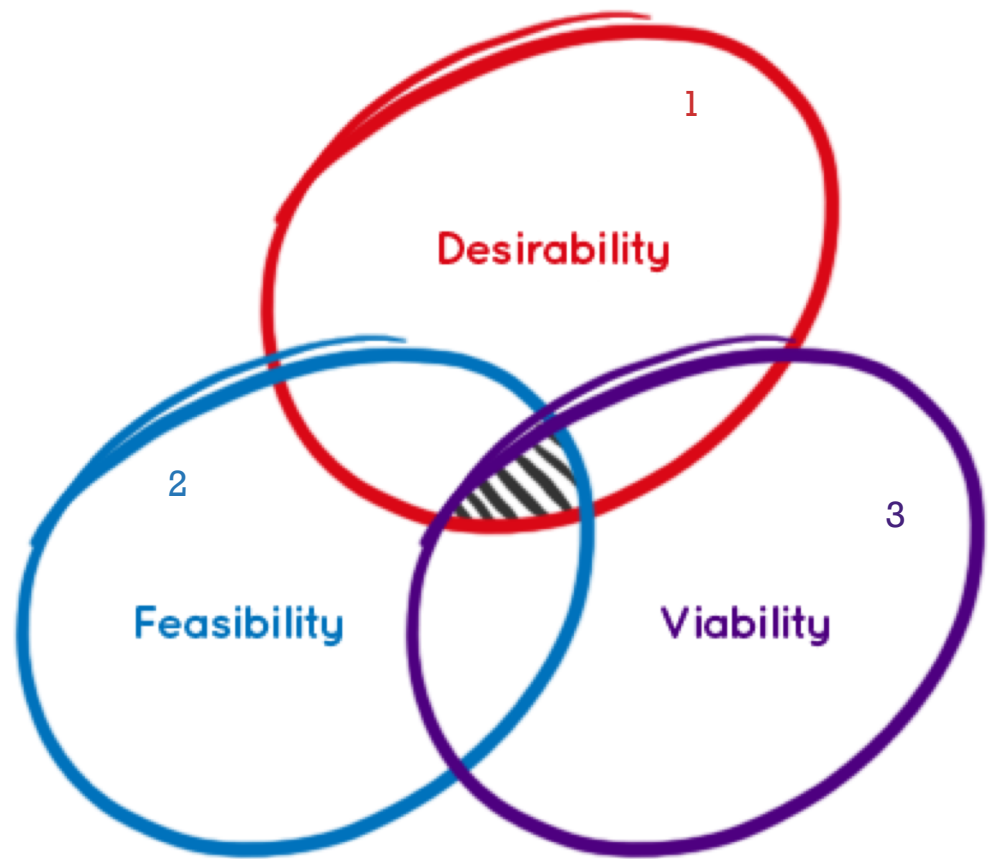
Innovation should be refined.

PROTOTYPE

Innovation should be brought to life.



3 Lenses of Design Lab





Desirability

*What are the
wants and needs
of our school
community?*

Create a learning experience that engages our middle school students in authentic STEM experiences while also developing 21st century skills.

Transform our classroom into a makerspace that benefits the entire school community.

The background of the slide features several sets of curved, concentric lines in a light gray color, creating a sense of motion or a stylized globe. These lines are more prominent on the left side and fade towards the right.

Grading Standards

1. Demonstrates understanding of Design Thinking process
2. Demonstrates creative problem solving techniques
3. Demonstrates collaboration and communication skills
4. Follows safety rules and uses tools/materials appropriately (*Habit of Mind*)



Design Challenges



Relaxing Mobiles



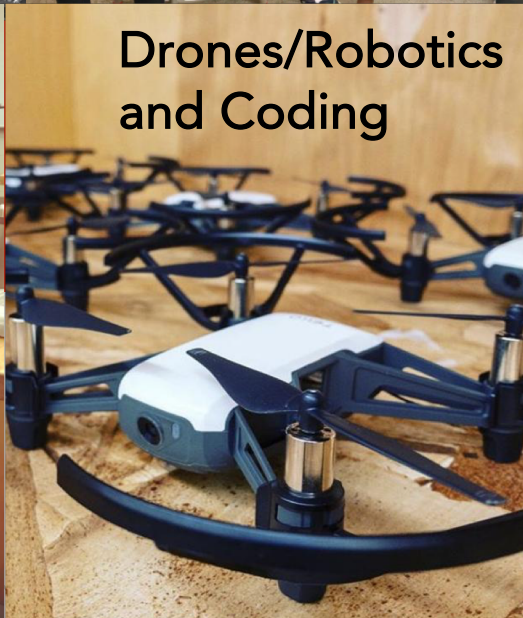
Upcycling



Pallet Wood Creations



Cardboard Challenge



Drones/Robotics and Coding



3D Design + 3D Printing



2D Vector Design + Vinyl Decals

Desirability

*What is our vision
for the future?*



Drone technology, design, and engineering

Electricity, circuits, coding, and inventing
2D and 3D fabrication

Upcycling/Entrepreneurship

Interdisciplinary project support

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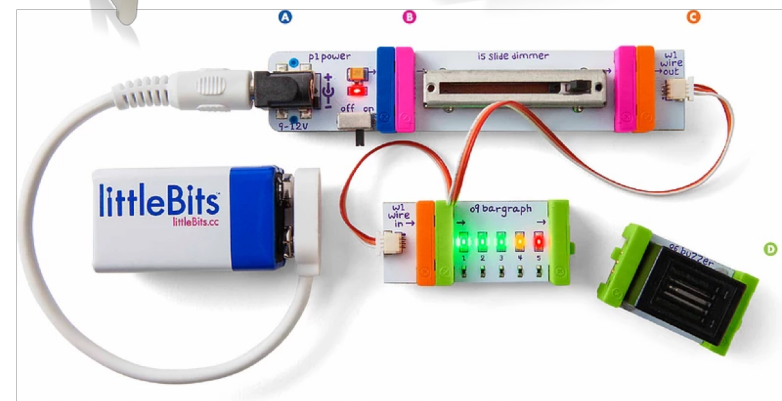
Feasibility

*What tools and
systems do we
need?*

What do we need to do in order to make our vision happen?

What kind of technology, tools, and materials do we need?

What kind of experience and support do we need?





Viability

*How can we
sustain this
program?*

How can we fund the tools, equipment, and materials that we need?

How can we make this program self sustaining?

What's in for the school and the community in the long run?

Questions?

