Welcome to Wendt Commons!

Expanding Your Horizons Laboratory Notebook

Design Thinking w/ STEM Librarians

This notebook property of:

Extra resources for today’s session are online at: bit.ly/eyh-library
Today’s Agenda

- Introduction to STEM librarians
- Problem solving example
- Design Thinking
- Problem solving activity
- Wrap-up

Did you know STEM stands for:
- Science
- Technology
- Engineering
- Mathematics

Every object is designed by someone...

That someone could be YOU!
Young Women Solving Problems

Kylie Simonds, 11 years old

Designed Pediatric IV Backpack

Video:
http://youtu.be/IBdB6h1__Q0

Image of Kylie, CC license, bitrebels.com
Design Thinking

- **Empathize**
  - Who?
  - What do they need?

- **Find Inspiration**
  - Research!
  - Possible solutions?
  - No “right” answer!

- **Brainstorm**
  - Multiple versions
  - Learn from process

- **Build**
  - What works?
  - Why or why not?
  - Improve

- **Test**
How could Kylie use Design Thinking?

**Step 1. Empathize: Kylie’s Challenge**

**What is the challenge?**

Kylie was a pediatric cancer patient
Wanted to help other kids not be as scared of chemotherapy or getting transfusions
IV poles were too heavy

**Who is being helped?**

Pediatric cancer patients or other children who need transfusions or chemotherapy

**What do they need?**

Something to make them feel more comfortable and not scared.
An alternative to heavy IV poles
Step 2. Find Inspiration: Kylie’s Challenge

Ask other kids:

Look at backpacks

shop the perfect backpack for every purpose.

backpacks for school
back to school
back to college

rolling backpacks

hydration backpacks

team bags & packs
NCAA
NFL
Step 3. Brainstorm: Kylie’s Challenge

Possible solutions:
• backpack, purse?
• fanny pack?
• shopping cart?
• wagon?

Considerations:
• attractive
• gender-specific
• allow kids to move around
• allow for multiple medicines/transfusions to be given
• light weight
Step 1. Empathize: Your Challenge

**Round 1:** Ask your partner to talk about a chore at home, school, or somewhere else that she is responsible for. *Take notes!*
Who is your partner?

What is the chore?

What does she like about this chore?

What does she dislike about it?
Step 1. Empathize: Your Challenge

Round 2: Ask your partner deeper follow-up questions about the chore.
How often does she have to do it?

What steps does she take to do it?

What tools does she need to do it?

Think of other questions that could lead to a better tool or workflow for doing this chore and record your partner’s answers.
Step 2. Find Inspiration: Your Challenge

Go to: bit.ly/eyh-library, and click on “Find Inspiration”

Which boxes did you look at?

What ideas did you get from them?
Step 3. Brainstorm: Your Challenge

Possible solutions?

Considerations? (Is it safe? Who can use it? Is it fun? What does it look like?)
Step 3. Brainstorm: Your Challenge

Draw your idea. (It can be as wacky or as realistic as you want!)
Step 4. Build: Kylie’s Challenge

What materials do you need to build or create your design?

Step 4. Build: Your Challenge

What steps would you follow to make your design?
Step 5. Test: Kylie’s Challenge
Build prototypes and test with real kids!

Step 5. Test: Your Challenge
How could you test your design?

How would you know if it’s a good design?

Check out “Inventor Resources” at: bit.ly/eyh-library for more info!