

Design Thinking: Living Well

Creating An Active Healthy Community Space

Introduction

One hundred years ago, the average baby in America could expect to live about 35 years. Today, you can expect to live more than twice that long, at least 70 or 75 years. There are many reasons for this increase in life expectancy: better food, improved hygiene, and modern medicines. And our lives have not only become longer; our quality of life is better. If you take care of yourself, you can expect to stay active for many, many years.

Last year, something alarming happened. For the first time in over 20 years the life expectancy of a new baby actually went down. Many factors are thought to be at the root of this problem, but most researchers agree that we need to refocus on finding ways to live healthy and happy lives.

We can apply ideas from science, technology, engineering, and math (STEM) to find ways to stay active and healthy. Scientific studies help us understand more about how nutrition, stress, exercise, and other factors combine to affect our health. Engineers are inventing new ways to help us be healthy, from the design of buildings to new exercise technology. The power of social media is being used to help us stay motivated, and many new apps are helping us keep track of our diet and exercise.

Scientists and engineers are always working to design solutions to help us stay active and healthy. These are complex problems, and they require complex thinking. Design thinking is a powerful way to develop solutions to complex problems. It starts with defining the problem and understanding how that problem affects people. Then it requires brainstorming many, many ideas and designing and testing prototypes of those ideas. In this type of design, failure is just part of the process. There is room for improvement in every design.

There is much we can already do to stay active and healthy. But there is also much more we could do. And that is where you come in. By applying your understanding of STEM skills and knowledge and by using design thinking, you can come up with new and innovative solutions to help YOUR community stay active and healthy.

Your **Day of Design Challenge** is to design an active, healthy community space as a solution to help your community live well.

Teacher Tips and Resources

You can define YOUR community in many different ways. It could be your classroom, the school, or beyond.

PART 1. IMAGINE A SOLUTION

STEP 1. Imagine an “Ideal” Solution

Talk to your team. What do you think the “perfect” solution for an active, healthy community space?

Teacher Tips and Resources

During this initial “ideation” step give your students free rein. The “solutions” they come up with may be impracticable, even fantastical, but that’s OK. They’ll spend the next part of this activity learning about the constraints that they will have to address to develop a solution for the real-world.

If your students are having trouble starting you may want to have them think of active, healthy spaces in the following ways:

- *Encourage fitness. Your school/ community may already have a playground and green spaces, but there are many creative ways to improve them.*
- *Encourage better nutrition. Where does your community get its food? Could we provide better, healthier, tastier food?*
- *Virtual vs physical? Is it more important to provide a space to be healthy or to provide encouragement and education? Perhaps an app or an advertising campaign would have more impact. Have your students debate and decide!*

Sketch your idea here:

STEP 2. Dig into The Problem

Now do your research on the problem of an active, healthy community space. Go online. Talk to people who live in your community. If possible, interview someone who works to keep people active and healthy. These are your “users”.

Try to get answers to as many of these questions as you can, and ask other questions that you come up with!

What strategies are already being used to create active, healthy community spaces? Which of these work and which don’t work? Why?

Teacher Tips and Resources

Some starting points for research include:

- *Encourage fitness. There are many creative professional and DIY strategies to make the*

most out of a fitness spaces: e.g.

<https://www.pinterest.com/jessicaleegeorg/diy-outdoor-gym-inspiration/>

- *Encourage better nutrition. There are also many creative ways to provide healthier foods to a community. These 10 non-profits employ a wide-range of strategies. There is a lot here, so you may want your students to only research one organization or approach.*
<http://www.npo.io/nine-nonprofits-providing-better-nutrition-to-their-communities/>
- *Education. Former first-lady Michelle Obama’s “Let’s Move” initiative has developed a number of creative ways to get kids to be more healthy.*
<https://letsmove.obamawhitehouse.archives.gov/about>
- *Mobile Apps. The number of apps designed to help improve health is overwhelming. This link provides a summary of some of the more popular ones for kids - everything from toothbrushing for points to running away from a zombie!*
<https://www.common sense media.org/reviews/category/app/genre/health-fitness-65>

Doing interviews with “users” is always the most powerful and productive (and engaging) way to get insights into a design challenge. The questions listed here are suggestions. If you have time, have your students develop their own interview questions. Make sure they keep notes. If your students get confused with the amount of information, coach them to focus on the “most important” things. And suggest that they use sketches to summarize their findings. For “interviewees”, use your colleagues or adult volunteers to provide their perspective, or if possible reach out to civic institutions (e.g. Town Hall) or corporations (e.g. companies that design fitness equipment or apps, or that provide food) to recruit “experts”.

Capture what you learn here:

What is the most important thing your users want active, healthy community spaces to accomplish?

Capture what you learn here:

What does your users’ “ideal” solution for an active, healthy community space look like?

Sketch or describe it here:

What is stopping them from making or using their “ideal” solution? Is it money, rules, lack of technology or materials?

Capture what you learn here:

What were the key findings from your research?

Capture what you learn here:

What features of your “ideal” solution do you think will work and which won’t? Why?

Capture what you think here:

STEP 3. Create Alternatives to Test

Imagine at least 3 different ways to meet your “users” needs. Make sure that each is as different as possible from the next.

Sketch your 3 or more ideas here:

Ask your “users” or other teams in your classroom what they think of your ideas.

Capture what you learn here:

PART 2. PROTOTYPE YOUR SOLUTION

STEP 1. Reimagine Your “Ideal” Solution

Based on all the insights you have gained, what do you NOW think the “ideal” solution is to create an active, healthy community space?

Sketch your idea here:

STEP 2. Create a Prototype

Using the resources available to you, create a prototype of your solution. It might not match your ideas completely. But it should help bring your ideas to life for your users, and allow you to start testing them.

Teacher Tips and Resources

Depending on the type of solution your students are working on, they will have to develop different strategies to prototype it. In all cases they should be able to create the prototype with standard classroom materials.

If they have chosen to design a physical space, they could prototype by creating annotated, scale drawings of their solution as well as 3D models.

If they have chosen to design an education or technology solution, they could prototype by creating a “wire-frame” or outline of their product (e.g. mobile app), or even develop a short version of an informational video.

These links and documents provide more details on how your students might prototype their active, healthy community spaces:

- *Prototyping fitness trails*
 - <http://mathbydesign.thinkport.org/images/pdfs/FitnessTrailWorkbook.pdf>
 - www.dshs.texas.gov/wellness/resource/trail.pdf

Describe how you will create your prototype here:

STEP 3. Test Your Prototype

Using the resources available to you, test your prototype. If possible, ask your “users” what they think.

Teacher Tips and Resources

An important part of the design thinking process is to establish how you need to test your prototype to figure out if its going to successful for your “users”. This is often quite tricky.

Have your students define what the key “metrics of success” are for their prototype. For example, is the most important outcome when people engage with the active, healthy community space: that they improve fitness, don’t get sick so often, meet friends and have fun? Perhaps all three are important.

Then have them propose ways to test the prototype how it scores for these metrics. It may be difficult to test the design as a whole, so suggest that they focus on specific features and then pull these all together. For example, test the impact of adding a specific element to a playground on the number of kids that say they’d like to play there, or estimate how many more students would buy and eat fruit if you show everyone in school your nutrition video. It’s OK to estimate impacts in some cases, as long as they are justified by clear, logical thinking. For example, I think people will like our cafeteria stand because it options that over 50% of students say they like more than the options we currently have.

Describe how you will test your prototype here:

Capture what you learn here:

STEP 4. (OPTIONAL). Refine Your Prototype

If you have the time and the resources, use what you have learned by testing your prototype and improve your solution. You can do this once, twice, or as many times as possible.

PART 3. SHARE YOUR SOLUTION

Teacher Tips and Resources

There are many ways for your students to share their ideas. This is not only empowering for them, as they get to share their ideas and work with a broader audience; it is also a great learning experience, as they identify and focus on their critical findings and outcomes, gain deep mastery of their subject materials, and develop and deliver effective communication messages and assets (e.g. models, diagrams). Remember to emphasize to them not to shy away from describing their failures and what they learned from them. This is an inevitable and powerful part of the (iterative) design thinking process. Ideas and solutions get better through testing and failure.

Now it's time to tell your users and your community about your solution. Using the resources available to you, create a presentation (with pictures if possible) or a short (1-minute video) that describes your solution, how it works, and anything you have learned about it. Don't be afraid to share ideas or designs that didn't work. These are important because they tell you what the tough challenges are and help you make better solutions for the future.

Teacher Tips and Resources

Your students can gain national recognition for their work by participating in the year-long Day of Design initiative and claiming their Living Well Badge. Register on the Day of Design website (<http://dayofdesign.com/getting-started/>) to receive detailed instructions on this opportunity.

Ask your teacher to upload your presentation / video to the **Day of Design** website so that you can get your **Living Well Design Thinking BADGE**.

Teacher Tips and Resources

The Living Well design thinking challenge is intend to help you and your students start on the path to build and practice new career-ready skills, such as design thinking, and explore critical STEM subjects, such as energy use and efficiency, and their relationships to your local and the global community. Do not feel constrained by the guidance and suggestions of this activity. There are many ways to make these important learning opportunities work for your students! Don't hesitate to share your successes and failures by submitting them as well to the Day of Design program.

How can you bring your prototype / solution to your community? What do you need to make this happen? Who could you work with? Are there other opportunities to help your community stay active and healthy? Be creative, get involved! Then make and share a video to tell the story of your adventure as a DESIGN THINKER!