# INDEPENDENT INVENTOR ACTIVITY 3: IDEATING A SOLUTION

**Base Time:** 30 minutes

## Today I Will …

Inventors have to think creatively about solutions. Once they have a problem, they seek innovative ways to solve it. This is when they "ideate" or brainstorm. Today, you will ideate and generate ideas through creative and critical thinking to explore possible solutions to the problems you have identified. You will practice how to ideate and to imagine new ideas so that you can come up with original solutions to your problems.

## I Will Need…

**Materials I Need:**

- YIP Inventor's Journals
- Worksheet: Problems All Around
- Worksheet: Brainstorming Problems
- Worksheet: Will My Idea Work?
- Paperclips
- Pens/pencils

## Good Things to Know Before I Begin…

Your YIP Inventor's Journal will include all of the worksheets for the YIP activities so you do not have to print out the worksheets individually. Use these worksheets as you complete the activities to help record your invention process.

Today you will "ideate" which means you will think about all sorts of ideas as you try to find real solutions to your problems. Ideating is fun and is a time to let your imagination run wild. It's about thinking quickly and offering as many things that come to mind as you can, not matter how crazy or silly they might seem. There is time later to refine your list of ideas and narrow down your choices to choose the ones that are most practical. But for now, no idea is too silly, and no idea is wrong. Everything you think of is worth considering so push yourself to think outside of the box.

## Inventor Activity

"Ideating" is more commonly known as "brainstorming". Ideating requires quick thinking and creativity. Many ideas are produced, but value judgements are avoided in a brainstorming process- every idea is a good one and nothing is silly.

Ideating is an important step in the Invention Process- it is used both when exploring a problem and also when thinking about and designing a solution.

***Activity: Ideating Warm Up- The Paperclip Challenge***

Get a paperclip. Brainstorm new ways to use the paperclip other than holding paper. You can manipulate the paperclip in any way. What else can you do with the paperclip when you transform it?

**CHALLENGE:** Give yourself 3 minutes to see how many different ideas you can come up with. Share them with someone at home.

Now that you have warmed up your brain, let's apply this same creative thinking technique to the problems you identified on your Problems All Around Worksheet in your YIP Inventor's Journal.

***Activity: Brainstorming Problems***

Choose your favorite 2-4 problems on your Problems All Around Worksheet. Then, if you have not already, write or draw solutions for these problems on the Brainstorming Problems Worksheet in your journal. Use the boxes on the worksheet for each of your solution ideas. When you have solutions ideas, go on.

The next step is to select one problem and its solution to become your original invention. If you can't decide what to do, think about the following points to see if this helps you narrow it down:

- What problem is most critical?
- What problem might affect the most people?
- What solution idea is most realistic and could exist in real life?
- What solution is most reasonable for you to build as an invention project at home?
- What solution can be made from available materials (recycled materials and school/craft supplies)?
- Is the solution something that already exists (can you already buy it in stores)? If the solution does exist, is there a way you might improve it to make it unique and your own invention?
- What problem means the most to you? What do you care about? What idea most excites you when you think about creating an invention?

***Activity: Will My Idea Work?***

Now it's time to complete the Will My Idea Work? Worksheet. Choose 2 ideas from your Brainstorming Problems Worksheet. For each idea, go through the list of questions on the worksheet to determine which invention will become your project. Share your ideas with someone at home and ask for feedback (their opinion) about which idea is most realistic and practical.

Finally, circle your final choice for your invention idea and the problem it solves.