

Logbook

Invention Name: _____

Invention Category: _____

Date: _____

Class Info

Teacher: _____

Class/Grade(s): _____

School: _____

State/Province: _____



Introduction

Math and science are really fun when you get to do cool things with them. Engineers are people who use math and science to solve problems and make useful things. In this project, you will learn about engineering and inventing as you create your own invention.

About the Logbook

The Logbook will help you create your invention. It will show you the steps to take and keep a record of what you do. It will help you organize your ideas and your drawings so when you finish, people can see what you did.

At the end of the project, you will tell about your invention. The Logbook will help you prepare for this so you know what to talk about.

Important Words

Learn the following words and what they mean for this project.

Invention – A new solution or device

Inventor – A person who makes inventions

Engineer – A person who uses math and science
to solve problems and make things

Process – The steps to do something

Design – A plan for how something will work and what it will look like

Prototype – A model of the design to show that it works

Material – The stuff something is made of

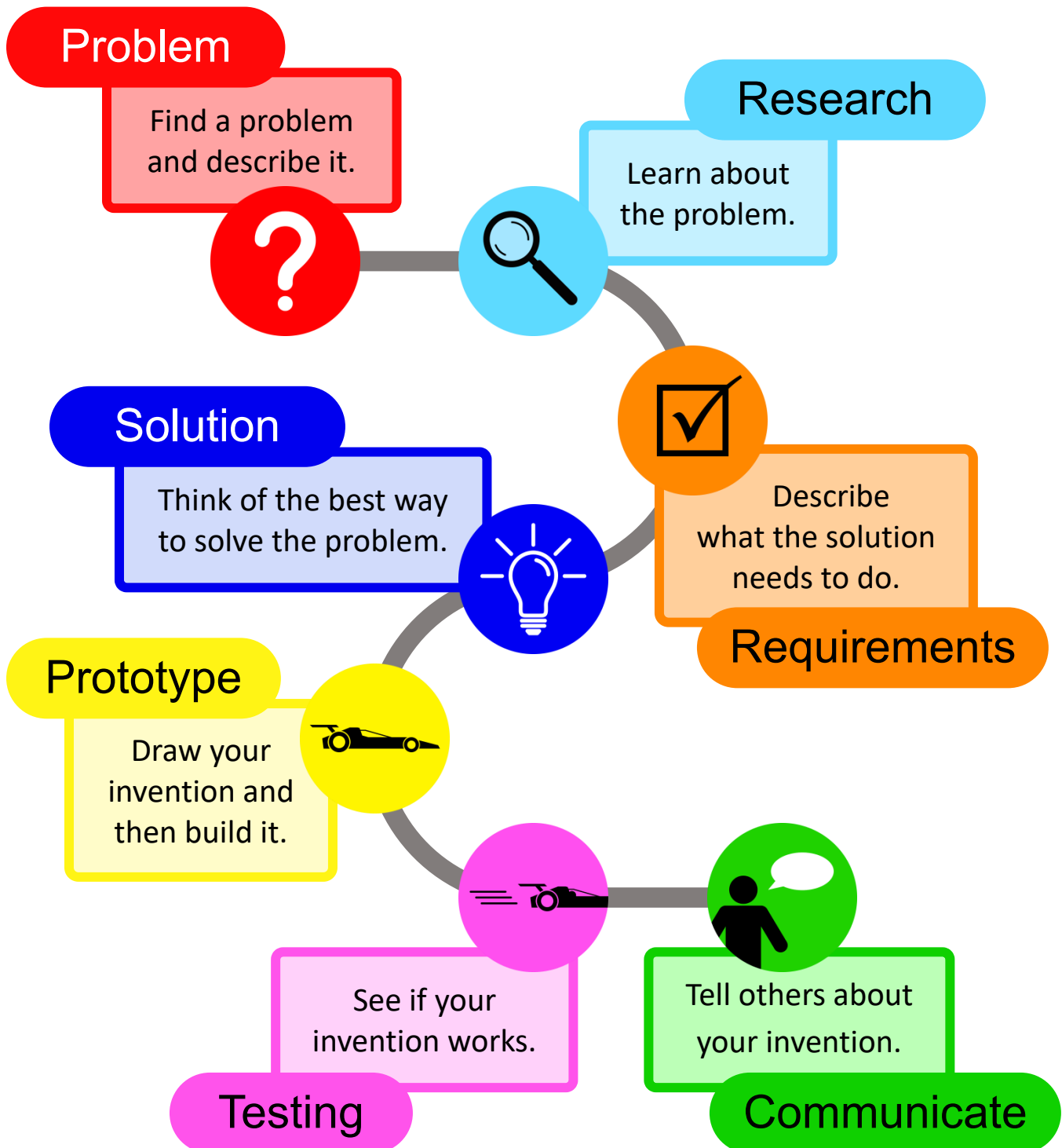
Improve – Change something to make it better

Testing – Checking to see how well something works

Teamwork – Working with other people

Engineering Design Process

This is how engineers solve problems.



Problem

1. Find a problem you can solve with an invention.
2. Describe the problem.

Think about problems in your school, your home, your city...



The problem we chose is ...



Research

Answer the questions about your problem.

Talk to your parents, grandparents, neighbors, or friends,
or look for the answers in books, magazines, or on the internet.

1. Who or what has this problem?

2. What inventions or products already solve this problem?

3. How could the problem be solved better or differently?

4. What else do you know about this problem?





Requirements

Requirements help you know what your invention needs to do.

Answer the questions about the invention you will make.

1. How big or small does the invention need to be?

2. How heavy or light does the invention need to be?

3. How strong does the invention need to be?

4. What other requirements will your invention have?





Solution

Draw a picture of your solution and describe it below.





Prototype

Draw your invention design and describe how it will work.

Design Version #	Date:





Prototype

Design Version #	Date:
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1. How will your invention work?

2. What materials will you use to build it?

3. Will you need special tools to build it?

YES

NO

4. Will you need lots of room to build it?

YES

NO

5. Are there any other details you should include?





Testing

Test the prototype to see how well it works.

Design Version #	Date:
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1. How did you test it?

2. How well does the invention work?

3. Does it solve the problem? YES NO

4. Do you need to make it better? YES NO

Don't worry if it didn't work. Engineers don't get it right at first either!
They keep fixing and improving things until it works.





Communicate

1. What was the problem?

2. What was your solution?

3. How did you make your invention?

4. How does it work?

5. Did it solve the problem?

YES

NO

6. What Bible lesson did you learn from this? (stories, people, or lessons)

