

Connecticut Invention Convention

Invention Log

The Story of your Invention

What is an invention?

An invention is something new that enables us to solve a problem or do something better or easier.

The purpose of This Invention Log

All stories have an ending and in this case, the ending of what you are doing is your invention, itself. But all stories also have a beginning and middle. The purpose of this Invention Log is to tell the entire story of your invention and in it, you will record what you did, why you did it and how you did it, during every step it making your invention. This Invention Log is an important part of the invention process and is a step in making your invention. This Invention Log is an important part of the invention process and is a **complete and accurate record** of the ideas, plans, and process by which the invention was created.

How to Use This Invention Log

The Invention Log is not a book report that is created after you are done, but rather a diary, that is **continuing being filled in as you work** on your invention. Follow the steps in the Invention Process and fill out the various pages as you work on them. When you are done with any page, **print your name and the date** at the bottom. If you need extra space for any section, make copies of the Blank Page and use that for any purpose. Once you are done, put the pages in order in which you did them and staple them to make a complete Invention Log. This log will also be used as part of the final presentation. Because of this, except for things like a list of materials, all **sections should be filled in using complete sentences** and not single words or short phrases.

The Name of This Invention: Size up

The Problem that It Solves: The problem this solves is hospitals needing to buy all different size socks that still might not fit their patients and for people with things like edema.

Statement of Originality

I promise that the ideas in this Invention Log are my own.

Inventor's Name 

Signed:

Date: 12/14/16

Grade: 7

School: Torrington Middle School

Town: Torrington

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Explaining the Problem and Identifying a Solution

1. What problem are you trying to solve? How did you come up with the problem?

The more specific you are in describing the problem, the better your solution will be.

Date:12/19

The problem I am trying to solve is that hospitals have around 3 sizes and if you are too big or too small you are going to have to deal with that even if it isn't comfy. This sock solves that because it fits all sizes and saves the hospitals money. I came up with idea by thinking of if socks could fit everyone and then I thought that this would be great for hospitals. That is how I came up with my idea. Also the socks help people with problems like edema where the feet swell up.

2. What is the result you are trying to achieve? How can you measure the result you want?

The more specific you are in describing the result you want, the better your solution will be.

Date:12/19

I will measure success by how stretchy I can get the socks because if I can make them super stretchy and comfy then that competes the purpose I was trying to achieve. I will measure how stretchy they are by how many sizes fit into to one sock like if I could fit all sizes that would be super stretchy.

3. What is a possible solution? Describe how your invention solves the problem. How did you come up with the solution?

The more specific you are in describing the solution you will create, the better your invention will be.

Date:12/19

This invention solves the problem of hospitals having socks that don't fit their patients. It also would be a lot cheaper to get one pair of socks instead of many and the money could go towards other things hospitals need like medical equipment. I came up with this idea by brainstorming ideas that might work and then picked out the one that sounded like they would work the best.

4. Has this solution been done before? (Use your originality check-list the stores below)

What research did you do to see if this invention has been done before? Who did you talk to? Where did you look? What internet site did you search?. **Date:12/14/16**

- 1.medical supply depot.com
- 2.discount medical supplies.com
- 3.walgreens.com

- 4.compressions.com
- 5.silvert's.com
- 6.healthyfeetsstore.com
- 7.walmart.com
- 8.amazon.com
- 9.old navy.com
- 10.dry max.com

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Create and Improving the Design

5. *Make a drawing of the invention you are thinking about building. Label all the important parts and features. Explain how the invention will work. If you need more space, use another blank page. (To add a drawing click Insert and then Drawing.) You can also submit drawings on separate sheets of paper.*

Date:12/21/16

6. *What problem or issues might you encounter with this design? Who did you talk to about this design? (another student, parent, teacher, etc.) What were their comments about your design?*

Date:12/15/16

I talked to my parents, older brother, and teachers about my design and they said either it was a good idea or if it had some flaws. They came up with a couple flaws I might have with it and that helped come up with ideas how to build it.

How can you fix those problems or address those issues?

Date:12/15/26

I will fix this issue by having someone help me sew or by practice sewing and have my parents help me get the fabric.

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Building the Invention

9. *What parts and materials will you need to make the invention and how much will they cost? (You must include prices for materials that you did not buy as well.)*

Date:12/14/16

I will need construction paper, fabric, sewing machine, stitching, and small sock for tracing. The fabrics I will test are Techno Scuba Knit Black for \$3.11, Kaufman Laguna Stretch Jersey Knit Onyx for \$6.19, and Denim Knit Dark Indigo for \$5.24.

10. Where will you get those parts and materials? Date:12/20/16

I will get the construction paper from walmart, get the sewing machine and stitching from home, and get the fabrics from from stores that specialize in that area like Jo-Ann Fabrics and Crafts

11. What additional skills or abilities will you need to make the invention? Date:12/14/16
Addition skills I will need is sewing because I am not a very good sewer so I would need to get better at it or have help from someone

12. Who can help you build the invention? Date:12/14/16
My mother can help me with this invention because she could help me sew and cut the fabric

13. Prototype #1: Get the parts, materials. List them. Date:1/19
Fabric, sewing machine, and string.

14. Prototype #1: Build the invention with help as needed. Explain what you did during the building process. Be sure to include measurements and amounts of materials used. Date(s):1/19
I cut and shaped the fabric to the right sized and made sure the sides were equal. Then my mom sewed the 2 sides together.

15. Prototype #1: Sketch and label the prototype include measurements (To add a drawing click Insert and then Drawing.) You can also submit drawings on separate sheets of paper. Date:1/19

16. Prototype #1 Test and evaluate prototype #1. What did you do to test the invention? How did you measure how good the result was? What were your test results. Date:1/19
I tested the sock by putting it on different people and seeing how it fit. I measured success by how many different sizes could fit in one sock and it fits a 1 in kids girl and a 11 in mens.

17. Prototype #1: Identify the problems with the invention. What will you change to make it better? Date:1/19

The problem I had was the sting was a little uncountable but everything else worked fine. Also the bottom of the socks are very slippery so you can slip or at the hospital your feet can slip off the bed.

18. Prototype #2: Get the parts, materials. List them Date:1/23
Fabric, sewing machine, and string.

19. Prototype #2: Build the invention with help as needed. Explain what you did during the building process. Be sure to include measurements and amounts of materials used. Date(s):1/23

I cut and shaped the fabric to the right sized and made sure the sides were equal. Then my mom sewed the 2 sides together but with a different fabric then my first prototype.

20. Prototype #2: Sketch and label the prototype include measurements (To add a drawing click Insert and then Drawing.) You can also submit drawings on separate sheets of paper. Date:1/23

21. Prototype #2: Test and evaluate prototype #2. What did you do to test the invention? How did you measure how good the result was? What were your test results. Date:1/23

I tested my prototype by seeing how much it could stretch and I measured success by how many different feet sizes it could fit. It fit the kids girls 1 but didn't fit the mens 11 so this prototype wasn't as successful as the first.

22. Prototype #2: Identify the problems with the invention. What will you change to make it better? Date:1/23

The problem with this prototype was that it wasn't very comfortable on the inside of the sock because a the feeling of the fabric.

23. Prototype #3: Get the parts, materials. Date:1/26
Fabric, sewing machine, and string.

24. Prototype #3: Build the invention with help as needed. Explain what you did during the building process. Be sure to include measurements and amounts of materials used. Date(s):1/26

I cut and shaped the fabric to the right sized and made sure the sides were equal. Then my mom sewed the 2 sides together but with a different fabric than my first prototype and second prototype.

25. *Prototype #3: Sketch and label the prototype include measurements (To add a drawing click Insert and then Drawing.) You can also submit drawings on separate sheets of paper. Date:1/26*

26. *Prototype #3 Test and evaluate prototype #3. What did you do to test the invention? How did you measure how good the result was? What were your test results. Date:1/26*

I tested it by trying it on different shoe sizes. I tested how successful my prototype is by how many different size feet it could fit. My sock fit a size 1 in girls kids but didn't reach the size 12 in men's. It did stretch farther than my second prototype.

27. *Prototype #3: Identify the problems with the invention. What will you change to make it better? Date:1/26*

When you are walking with no shoes it is very easy to slip and fall but everything else is fine.

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28. Naming the Invention

What words describe your invention?

Think in terms of words that will help you name your invention.

What is the function of your invention?

Think in terms of marketing it. How will it solve the problem? How will it help others? How is your invention different from others that may already be on the market?

Who is your target audience? Who would use your invention?

Some creative, attention-getting techniques you can use, are:

Alliteration (using the same first letters or sounds): "Kit Kat"

Rhyming: "Light Bright"

Alternative Spelling: "Sno Bal"

Using numbers in the name: "Super Clean 2000"

Describing the function of the invention: "Hydro-Blast"

Based on this analysis, what are some good names for your invention?

Which name do you like best?

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29. Plant and create the Invention Display Board

This is an example of what a Display Board might look like, but you can make it look anyway you want.

This is YOUR invention and YOUR display so use your creativity to tell the story of your invention the way you want.

However, be sure to use

Fonts that are readable (style, size, color)

Colors that look good together

Shapes that are the right sizes

Correct grammar

Proper punctuation

*Check the
spelling of all
words*

*Your Display
Board **MUST**
contain the
following*

*The name of your
invention*

*The purpose of
the invention or
the problem it
solves.*

A description of how the invention works

Your name, grade, school, and town.

You might also want to add this information:

How the invention was made

How the invention is used

Biography of the inventor

Supporting and explaining picture/photographs/drawings/ charts

What scientific principles were used in your invention? (Examples: buoyancy, heat transfer, etc.)

Testimonials from users

Any other information about the invention that will help explain it, what it does or why it's good.

Maximum Size: With the wings folded in, the Display Board can only take 24" of the table space. However, you are allowed to open up the wings during your Judging Circle presentation

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30. Practice what you will say about your invention

Here are some questions that you might be asked in the Judging Circle by the judges or fellow students. To help you prepare, you might want to write down some of the important parts of your answers so that you have them when you practice giving your presentation.

How did you come up with the idea for this invention?

What types of people does this problem affect?

How did you think up your solution to the problem?

Where did you get the materials for the invention?

Who helped you build the invention and what did they help you do?

Are there other materials that you could use that are better?

Who has used your invention and what did they think about it?

What changes might you want to make to your invention?

31. Be proud of what you have done!

You will use the problem-solving and communication skills you have gained here throughout your life and career. Congratulations on what you've done!

WORKSHEET #1

Your Cost

1. Cost For Materials

List all materials needed to make your product below, along with the cost of each material:

Material	Material Cost
Fabric	\$ 1.90
thread	\$ 0.18
gripers	\$ 0.17

Total Cost of Materials:

\$ 1.25

2. Labor Cost

Determine your labor costs below:

Number of hours of labor needed to make 1 product

10 minutes

Your labor charge for 1 hour of work

\$ 10.10

Total labor cost (labor hours x labor charge per hour)

\$ 1.1

3. Total Cost of making your product
(total cost of materials + total labor cost)

\$ 2.26

Name _____

Date _____

Worksheet #3
Percent of Profit

Sample

You have decided to try to sell your product. Including labor, your cost to make your product is \$25.00. You have decided to sell it for \$40.00. Following is how you find your percent of profit.

$$\$40 - \$25 = \$15$$

$$\$15 \div \$25 = 0.6$$

$$0.6 = 60\%$$

You will make a 60% profit on your product.

Assume you will be selling your invention. Determine the percent of profit you will make selling your product by answering the questions below.

1. What is the cost of making your product, including labor? (Your Cost)

2.26

2. How much will you sell your product for? (Sale Price)

3.50

3. To find the percent of profit, use the following steps:

- a. Subtract Your Cost from the Sale Price

\$1.24

- b. Divide this number by Your Cost

.548

- c. Write your number as a percent. Round to the nearest whole number percent.

55%

4. Is this percent of profit reasonable for your product? Explain why or why not. This is reasonable because you aren't just

going to sell one pair of socks
so there might be four in a set and
you would make a lot of money

Invention Verification Sheet

Name of Student _____

Date 2/6

Name of Math Teacher _____

My child has completed building a working invention that is ready for judging.

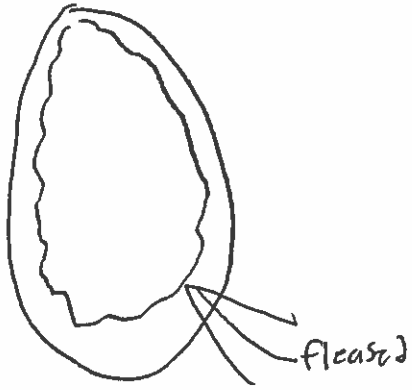


Parent/Guardian signature

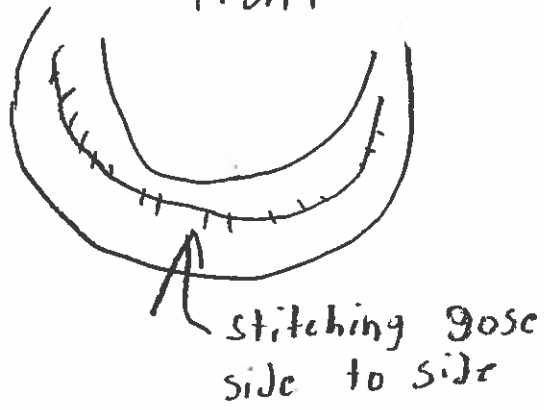
Final Materials List

Material	Quantity	Cost
fabric	half yard	\$3.11
Thread	spool	\$3.99
sewing machine	1	119.99
3111005	1 package	7.99

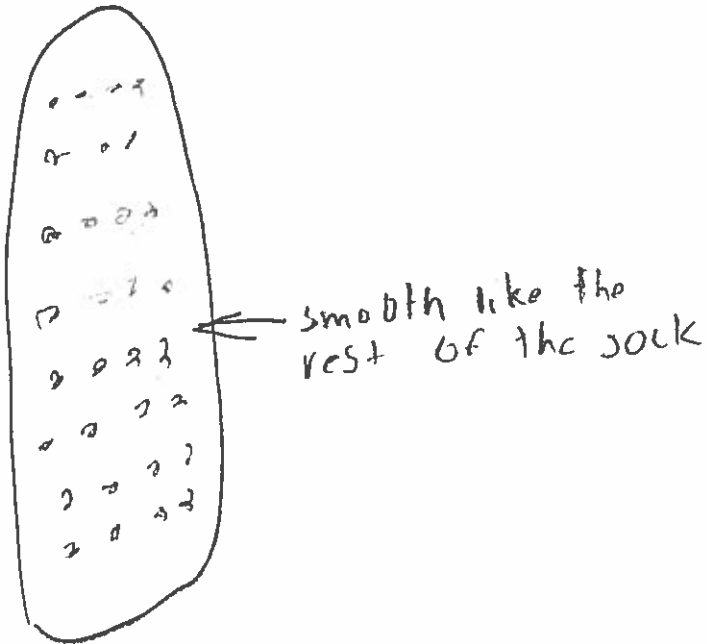
Inside



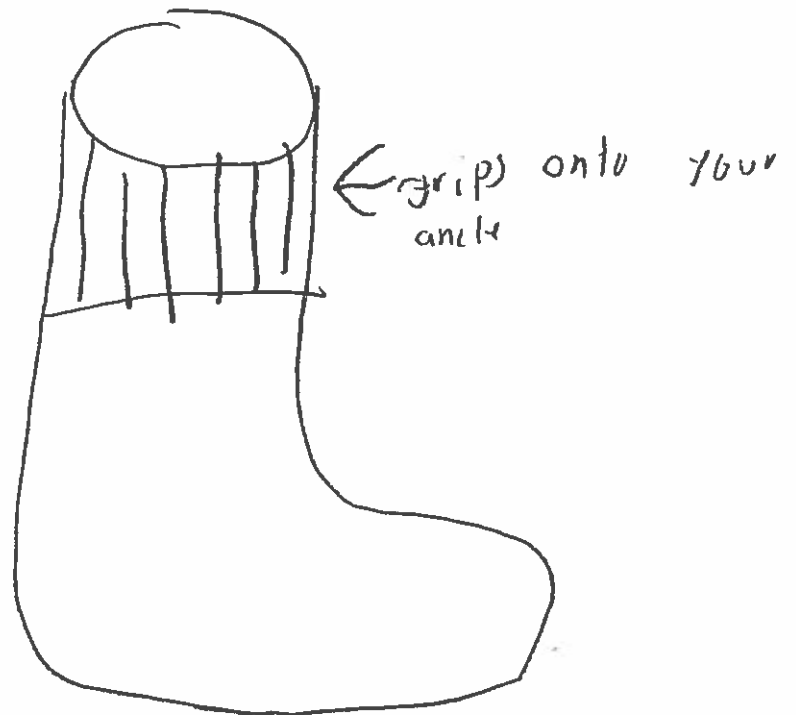
front



Bottom

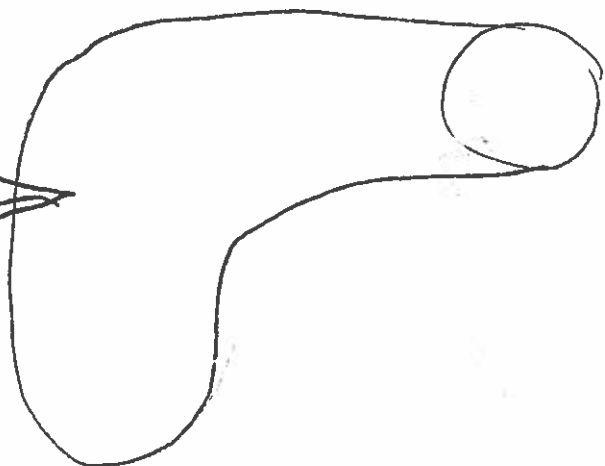


Side

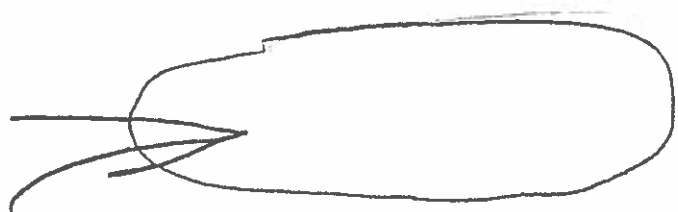


Final product

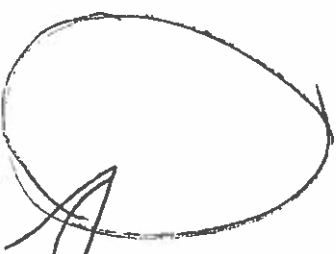
question #2



Flat normal fabric

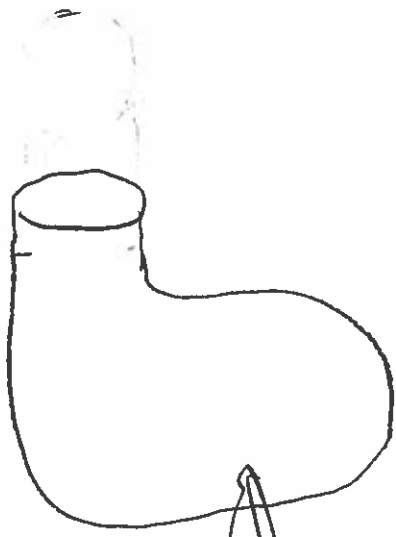


Flat just
like the
v-sh of the
soil



same as the outside

question #20



Normal fabric

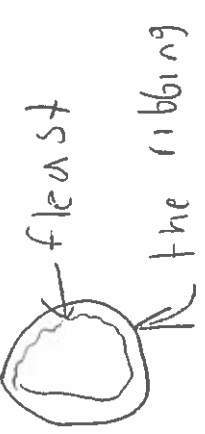


Just like the outside



Flat

Above view



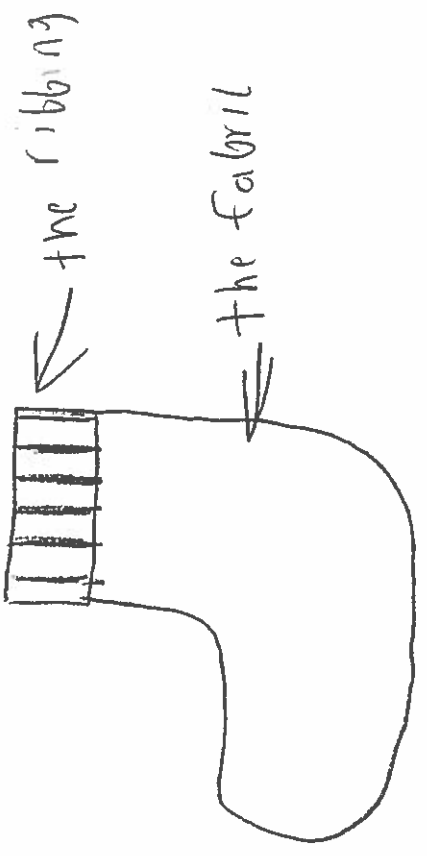
fleat

the ribbing

bottom view



Just like the side of the sock



the ribbing

the fabric

Question 5

Joshua Coleman



CONNECTICUT INVENTION CONVENTION

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Student's Name [Redacted]

Student Address [Redacted] Torrington 06790
Street City ZIP

School Name Torrington Middle School

Parent/Guardian/Adult Name (printed) [Redacted]

Relation to Student father

Parent/Guardian/Adult Signature [Signature]

Date 3/2/17

Parent/Guardian/Adult Phone [Redacted]

Parent/Guardian/Adult Email [Redacted]