

## The Story of Your Invention

# Invention Log

### 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. In this case, the ending of what you are doing is your invention. But all stories also have a beginning and middle. The purpose of this Invention Log is to tell the entire story of your invention. In it, during every step you take in making your invention, you will record what you did, why you did it, and how you did it. This Invention Log is an important part of the invention process and is a complete and accurate record of the ideas, plans, and processes by which the invention was created. Invention Logs can be used by students to prove they came up with the idea and invention. Oftentimes, they are used as part of the patenting process.

### How to use this Invention Log

The Invention Log is not a book report that is created after you are done. Rather, it is a diary that is continuously filled in as you work on your invention. Follow the steps of the invention process and fill out the various pages as you work on them. When you are done with a page, print your name and the date at the bottom. If you need extra space for any section, make copies of the Blank Page (Page 17) and use that for any purpose. Once you are done, put the pages in the 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 and needs to be filled in using complete sentences (except for things like a list of materials). Teams share one Invention Log and should attach signatures of all inventors.

**The name of the invention:** Reinnervate: It's science, not magic!

**The problem that it solves:** It provides temporary relief to people who are tired while doing something.



### **Statement of Originality**

I promise that the ideas in this Invention Log are my own. (If a team, all should complete.)

Inventor Name(s): Suhani Dalela

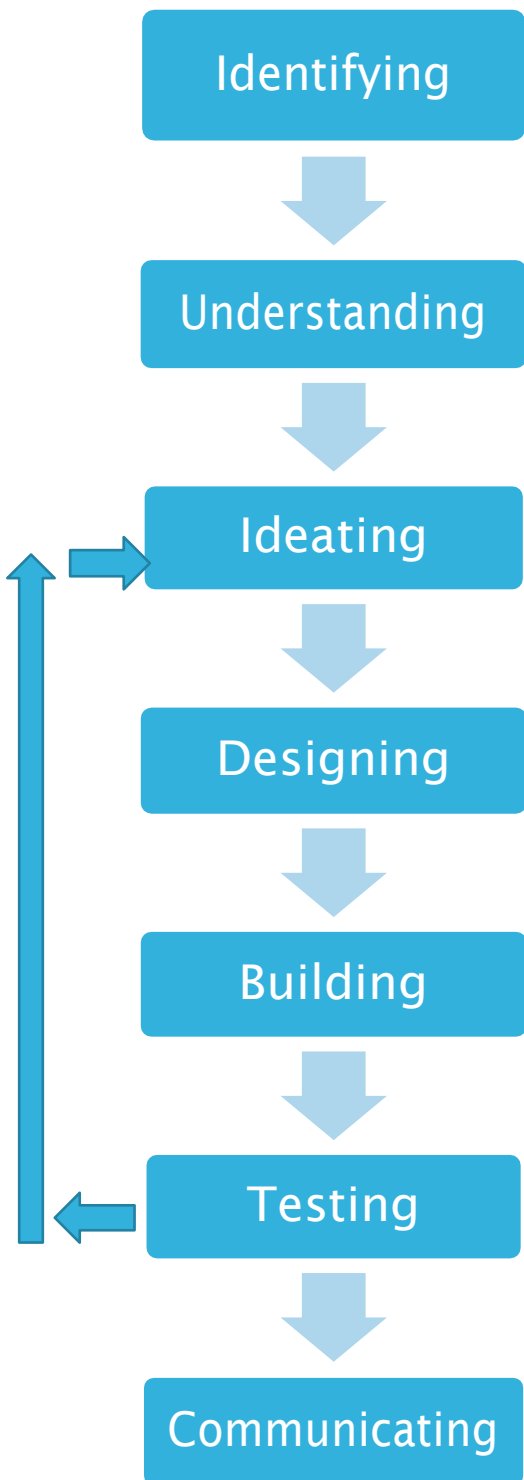
Signature(s): Suhani Dalela

Grade: 8<sup>th</sup> grade

School: Saline Middle School

Town: Ann Arbor

## Invention Process Overview



**Identifying** a problem means brainstorming and using research to discover problems and who might have these problems. You might uncover these problems at home, at your school, with your sports team, listening to the news, or somewhere else entirely.

**Understanding** the problem means you know what is causing the problem and exactly what you want to happen when the problem is solved. The better you understand the problem, the better your solution will be.

**Ideating** means thinking about the problem: brainstorming and researching different ideas and options to solve the problem.

**Designing** means deciding what your invention solution will be made of, what it will look like, and how it will work.

**Building** means assembling your invention based on your solution design using the materials and the process you have decided to use.

**Testing** your solution is how you find what works and what doesn't. You will modify or change your design, build in those changes, and test the changes. Testing also includes an analysis of the pros and cons of the invention, its impact on society and the environment, its marketability, and its social value. You keep repeating this process until your invention or prototype works and works well.

**Communicating** means explaining the problem and your research, how your invention solution solves the problem, who might use your invention, your process in creating this invention, and how you might make it even better.



## **Terms to Explore**

These are terms that have to do with inventing. Some of these terms are used in this Invention Log, and some may be terms that you will want to use to describe your process. Please read over these terms before you get started.

**advertise** – the act or practice of calling public attention to one's product, service, need, etc., especially by paid announcements in newspapers and magazines, over radio or television, in social media, on billboards, etc.

**brainstorm** – to produce an idea or way of solving a problem by holding a spontaneous group discussion or individual thinking session.

**data collection** – the process of gathering and measuring information of different variables, in a systematic way that helps one to answer research questions, test hypotheses, and evaluate outcomes.

**design** – to plan and make decisions about something that is being built or created. To create the plans, drawings, etc. that show how something will be made.

**durable** – able to withstand wear, pressure or damage.

**engineer** – people who invent, design, analyze, build, and test machines, systems, structures, and materials to fulfill objectives and requirements while considering the limitations imposed by practicality, regulation, safety, and cost.

**entrepreneur** – a person who organizes and operates a business or businesses, taking on greater than normal financial risks in order to do so.

**experiment** – a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a fact.

**hypothesis** – a proposed explanation using previous knowledge, but made on the basis of limited evidence; a starting point for further investigation.

**improvements** – the act or process of making something better; the quality of being better than before.

**interview** – a formal discussion to establish needs or requirements; a report or reproduction of information is obtained.

**inventor** – a person who invented a particular process or device or who invents things as an occupation.

**invest** – to put (money) to use, by purchase or expenditure, in something offering potential profitable returns.

**market** – to advertise and offer a product for sale; to present something in a particular way and make people want to buy the product.

**marketable** – able or fit to be sold or marketed; meets enough market needs to be able to be sold.

**original** – created directly and personally by a particular artist; not a copy or imitation.

**operational** – in or ready for use.

**patent** – a government authority or license conferring a right or title for a set period, especially the sole right to exclude others from making, using, or selling an invention.

**perseverance** – continued effort to do or achieve something despite difficulties, failure, or opposition.



**pitch** – promotion by means of an argument and demonstration; a short verbal dialogue that tells the story and benefits of a product.

**problem** – a matter regarded as unwelcome or harmful and needing to be dealt with and overcome.

**product** – something that is made or grown to be sold or used.

**profit** – money that is made in a business, through investing, etc., after all the costs and expenses are paid; a financial gain.

**profitable** – yielding advantageous returns or results; yielding a financial profit or gain.

**prototype** – an original or first model of something from which other forms are copied or developed; an early version of a product that helps the inventor consider different options for design before finalizing a go-to-market design.

**publication** – the act or process of producing or printing a book, magazine, newspaper, etc. and making it available to the public.

**research** – the study of materials and sources in order to establish facts and reach new conclusions.

**seek** – to search for something or someone; ask for help to achieve something.

**solution** – something that is done to deal with a problem; something that solves a problem.

**source** – the point or place which something starts; a place, person, or thing from which something originates.

**substantially** – to a great or significant extent.

**test** – a procedure intended to establish the quality, performance, or reliability of something, especially before it is taken into widespread use.

**testimonial** – a written or spoken statement in which you say that you used a product or service and liked it.



## **Requirements and Restrictions**

To participate in the STEMIENational Invention Convention and Entrepreneurship Expo (NICEE) in the Spring, there are certain restrictions and requirements.

- Your teacher must sign off on your solution/invention before you begin building your design.
- Remember that animals are not allowed at NICEE, so if your invention is for animals, you must demonstrate it in pictures or on a stuffed toy. Demonstrations/presentations may not include human beings or other living creatures.
- Your display board must be no wider than 24" with the 12" wings folded in.
- You must have a COMPLETED, SIGNED Invention Log with each page signed by you.
- Your prototype/invention should be no more than 2 feet high and 2 feet wide and be able to set on a table top.
- Your invention does not have to be a working model, but you need to be able to explain how it would work. If it can be operational, it should be.
- Wall outlet electricity (120 VAC) may NOT be used at NICEE. Battery powered devices are fine.
- Inventors may not use lighters, matches, candles or any other open flame or heat source nor any material or liquid considered combustible.
- Inventions may not contain biohazards or utilize any materials that are, or could become, dangerous.
- Other restrictions include: electric stun guns, martial arts weapons, guns, replica guns, ammunitions, fireworks, knives of any size, mace, pepper spray, razors, box cutters or balloons.
- If your invention cannot be actually demonstrated at NICEE due to issues with size, electricity, or hazardous materials, a video of the device in action can be shown.

## **Originality**

It is very important that your solution is original and does not already exist or is substantially different from any other invention. These are great places to research to find out if your idea already exists:

- Libraries (ask a librarian for advice on where to look!)
- The internet (e.g., [www.google.com](http://www.google.com), [www.bing.com](http://www.bing.com))
- Stores (e.g., [www.amazon.com](http://www.amazon.com), [www.bestbuy.com](http://www.bestbuy.com), [www.walmart.com](http://www.walmart.com), [www.target.com](http://www.target.com))
- Books about your topic(s) (look up at [www.bn.com](http://www.bn.com) or [www.amazon.com](http://www.amazon.com))
- Professionals in the industry (check out [www.linkedin.com](http://www.linkedin.com) for possible people to interview)
- Trade/industry-specific publications (each industry has topical magazines and websites)
- United States Patent and Trademark Office (visit [www.uspto.gov](http://www.uspto.gov) to search for patents and trademarks)
- Domain registrars (e.g., [www.GoDaddy.com](http://www.GoDaddy.com) to see if your product name .com is taken)

## **The Steps You Will Take**



As you work on your invention, follow these steps and check them off as you complete them. Don't write your ideas here – use the appropriate space in the following pages to complete each of the sections.

1. What problem are you trying to solve?
2. What is the result you are trying to achieve?
3. What are some possible solutions and which one did you choose to do?
4. Has this solution been done before?
5. Make a model (drawing) of the invention.
6. What problems might you encounter with this design?
7. How will you fix those problems?
8. Repeat steps 5 to 7 until you have a design that you think will work.
9. What parts and materials will you need to make the invention?
10. Where will you get those parts and materials?
11. What additional skills will you need to make the invention?
12. Who can help you do those activities?
13. Get the parts and materials and build the invention. Get any help you need to build it.
14. Test and evaluate the invention.
15. Identify any problems with the invention.
16. Repeat steps 5 to 15 until the invention works as planned.
17. Name the invention.
18. Plan and create the Invention Display Board.
19. Practice what you will say about your invention in the Judging Circle.
20. Be proud of what you have done!!!!

## Explaining the Problem and Identifying a Solution (Identifying and Understanding)

- 1. What problem are you trying to solve? The more specific you are in describing the problem, the better your solution will be. How did you come up with the problem?**

When people are tired their usual choices are: (1) to use something not so healthy (e.x. the caffeine and sugar in coffee or energy drinks) or (2) more natural options (e.x. cold shower or stretching), but that could take them away from whatever they were working on. Also, these things cannot be used by someone who is too young, or has health issues. We also want an option that doesn't disrupt what we are doing. I first recognized this issue while driving with my sister to New York at 4 in the morning. I then asked 40-50 people from ages 6-67 if they intermittently face fatigue. A 2018 report from National Security Council also shows that 68% workers feel fatigued at work. Academic fatigue is a concept that represents students also face fatigue.

- 2. What is the result you are trying to achieve? The more specific you are in describing the result you want, the better your solution will be.**

I am trying to find a solution that reduces fatigue instantly and is:

- Affordable
- Has no harmful side effects (short term OR long term)
- Don't need anything special to use it, and is carryable
- Does not disrupt what we are doing.

- 3. What are some possible solutions? Which one did you choose to pursue? How did you decide which solution to try? The more specific you are in describing the solution you will create, the better your invention will be. How did you come up with the solution?**

Criteria	Solution 1 A device that tracks heartrate and sends a vibration to a certain point when the heartrate slows down, reducing fatigue	Solution 2 A device that you can place around your neck on the two pressure points that are there, applying pressure automatically when instructed	Solution 3 A block that you can place on certain points and apply pressure, reducing fatigue
Affordable	✗	✓	✓
Reduces Fatigue Instantly	✓	✓	✓
No Harmful Side Effects	✓	✓	✓
Nothing special to use it and portable	✗	✗	✓
Does not disrupt activity	✓	✓	✓

<b>TOTAL Checkmarks</b>	3	4	5
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I will start with Solution 1 and try to make it fit all criteria, but if that does not work, I will move on to Solution 2 and try the same. If that fails, I will work on Solution 3.



4. Has this solution been done before? If it exists, how is your approach different and better? What research did you do to see if this invention had been done before? Who did you talk to? Where did you look? What website did you search? You should show 4 pieces of evidence of different types of research – talking with experts, searching the internet, interviewing friends and family as to how useful this would be, etc.

Though not ideal, there are some products that already exist, evaluated in the box at the bottom of the page.

A. **Internet Research:** Google Search Terms – Fatigue relief, Fatigue reducer, fatigue cure, sleepiness cure, natural energy booster

B. **Available Products:** Amazon, CVS, Meijer – Acupuncture Pen, AYO Light Therapy Glasses, TENS units.

C. **Interviewing Professionals:** Dr. Richard Harris (U of Michigan): Associate Professor, Chronic Pain and Fatigue Research Center, Anesthesiology. I also read his and other research papers on fatigue and acupressure (See attachment 1 for full list) – He suggested focusing on acupressure, not acupuncture, as it's a less complex but equally effective option. Acupuncture is considered to be acupressure without needles.

Dr. Rajesh Purohit: Dr. of Acupuncture in India. He relieves patients of pain through acupuncture therapy which uses micro small needles to cure pain.

D. **Patent and Trademark:** On USPTO website, I found only patented measures for fatigue, not devices to relieve fatigue.

Document any similar inventions you found, describing how yours will be different:

Criteria	Acupuncture Pen A device that sends a shock to acupuncture points it identifies.	AYO Light Therapy Glasses Glasses that mimic sunlight and fix your sleep routine (energy boost in 20 minutes)	My Product A small brick-like piece that you can place on an acupressure point and apply pressure, reducing fatigue.
Affordable	✓	✗	✓
Reduces Fatigue Instantly	✗	✗	✓
No Harmful Side Effects	Not known	✓	✓
Nothing special to use it, simple	✗	✓	✓
Does not Disrupt Activity	✗	✓	✓
<b>TOTAL Checkmarks</b>	1	3	5

### Teacher Signature - REQUIRED FOR ALL PARTICIPANTS

I approve of the solution/invention my student has chosen to pursue and agree that it not only meets the guidelines shown on the Restrictions and Requirements page, but that it is also safe.

Teacher's Name (Printed) Dr. Muhammad Ahmed

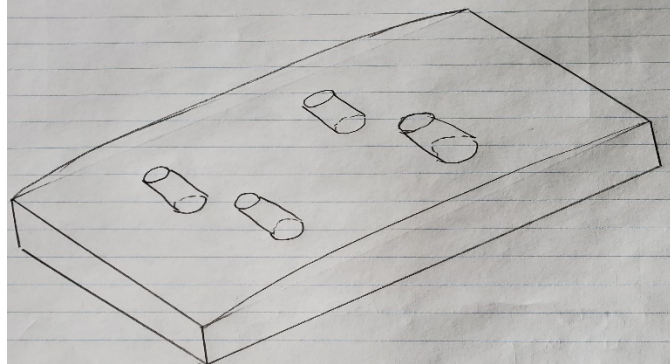
Teacher's Signature \_\_\_\_\_ Date \_\_\_\_\_

I approve of the solution/invention my student has chosen to pursue and agree that it not only meets the guidelines shown on the Restrictions and Requirements page, but that it is also safe.

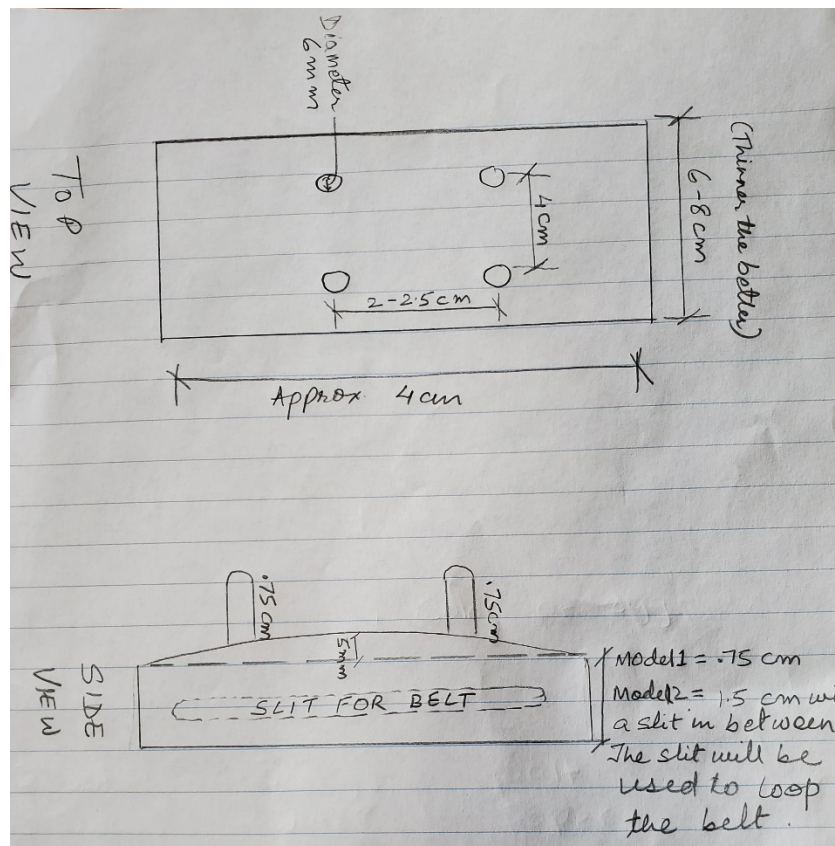
## Creating and Improving the Design (Ideating and Designing)

5. Draw a model (a sketch or 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.

Diagonal View from Top-i2 and i3



Full Design for solutions i2 and i3





**6. What problems or issues might you encounter with this design? Is this design compatible with the principle of sustainability? Who did you talk to about this design (another student, parent, teacher, etc.)? What were their comments about your design?**

**Iteration 1(i1)=** I may encounter an issue with the weight of the design. It has to be heavy enough so that it does not fall off, but it can't be so heavy that it harms the neck. I am also not sure how to keep the gears in the correct direction (they rotate when operating).

**Iteration 2(i2)=** For now, I have given up the idea of moving gears up and down the Governing Vessel meridian line as the gears don't stay in place. I will try the back of the solenoid to push the device for pressure. Though I am not sure if that would need more power.

I plan to use minimal power and materials. This makes it sustainable and environment friendly. I am considering using wood waste or 3D printing to minimize waste of materials; minimal power or even kinetics or body weight to make the device work. I have talked to a few engineers and 3D printing experts about the design and feel I will be able to make a sustainable prototype. I will try my base design into other versions I am working on.

**Iteration 3(i3)=** I did not succeed in positioning the solenoid within the most effective area of the pressure points with minimal power and weight. So I will focus on developing a better design of the pressure device. If the pressure can be pointed to the focal area, I will need less power to push. I will seek help from 3D printing experts so I can get a customized device.

**7. How can you fix those problems or address those issues?**

I am figuring ways to distribute weight across the unit while I can still get the needed pressure. I might even have to focus more on using body weight and movements to generate needed pressure. For that, my device will need to be designed well to stay in place.

I will need to study the most effective pressure points in Acupuncture and find points that give me a more area (classical acupuncture points are difficult to locate). The doctors I spoke with emphasize different locations, so I will study the standard nomenclature of WHO to identify better locations. For my device to be successful, it is important that users do not need much knowledge of the points and the device fits in the area of pressure easily.

8. Repeat steps 5 to 7 until you have a design that you think will work. You may have to make multiple copies of a blank page until you have a good design.



## Building the Invention or Prototype (Designing, Building, Testing)

### **9. What parts, materials, and tools will you need to make the invention and how much will they cost?**

The parts I will need for my invention will be:

Solenoid: \$7- \$20.

Gears= A few cents each

Power box= \$5

3D printed block (50 cents)

Wires (\$1-\$3)

Cloth casing for device= \$5-\$10

Elastic belt (\$2-\$4).

### **10. Where will you get those parts and materials?**

I will get my parts from Amazon, JoAnn Stores and from a few things lying around my house.

### **11. What additional skills or abilities will you need to make the invention?**

I will need mechanical skills, carpentry, and possibly engineering skills. I will also need to learn to design for 3D printing

### **12. Who can help you build the invention?**

Mr. Steve Rohde can help me build the invention.

Dr. Muhammad Ahmed will connect me to 3D printing experts.

I might need to work with the Acupressure experts at different times.

**13. Get the parts and materials and build the invention with**



**14. Test and evaluate the invention. What did you do to test the invention?**

I used the established Brief Fatigue Inventory (BFI Attachment 2), a survey used to analyze someone's fatigue levels. I had multiple people of different ages, genders, and health levels tell me how bad their fatigue was on a scale of 1 – 10. After that, I had them use my invention following the directions I gave them, and then fill out the questionnaire again. Here are the results for i1, i2 and i3.

**Iteration 1 (i1):** I have built i1 with help from Mr. Steve Rohde. I tried it on 5 people and instantly knew that I cannot keep the gear from moving when the solenoid gets power. The fatigue levels also did not go down at all as the people using it did not feel enough pressure. This would be a heavy design, even after improvement.

**Iteration 2 (i2):** In 12, I solved the problem of rotating gear by replacing it with pressure device. Now I cannot focus on a meridian line, but need to affect the points directly, which means I need more accuracy in the pressure applied. A single solenoid again does not provide the required pressure. I will need at least two solenoids which will bring up the problem of weight and power again.

**Iteration 3 (i3):** For now, I gave up the idea of using power for applying pressure. I have now identified smaller but more effective anatomical areas in the back of body and created a device accurate enough to provide pressure for instant effectiveness. I will focus just on the governing vessel in the back of the neck.

I tested the unpowered device on 32 people using the BFI taking their fatigue levels before and after use. The results showed that everyone's fatigue went down 2-4 units. This shows that my invention worked. One thing that happened was that on some people I had to use it twice to show a lasting effect, while on others just once.

**15. Identify any problems with the invention. What will you change to make it better?**

I cannot use one standard device. Instant effectiveness requires pressure at the accurate point. I need at least two sizes for that.

I also need to develop instructions for use which will give recommended uses (body position, how to identify the point, amount of pressure, duration for each pressure and number of times the pressure be given in one trial).

**16. Repeat steps 5 to 15 until the invention works as planned. You may have to copy and make multiple copies of this blank page until you have an invention that works the way you want.**



## Naming the Invention (Communicating)

17. Naming your invention is important.

- **What words describe your invention?**

- Fatigue reducer
- Fatigue release
- Energy
- Awake

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

- Energize
- Rennervate (Harry Potter Spell to revive against a Stunning Spell)

- **What is the function of your invention?**

My invention releases fatigue in a natural but instant way. All you have to do is place it on your neck, place your arms in the arm holes, let your arms hang, and it will put weight against the acupressure points, waking you up.

- **Think in terms of marketing it. How will it solve the problem? How will it help others?**

It will solve the problem because my problem was this: When people are tired their choice are usually to use something harmful (e.x. the caffeine and sugar in coffee or energy drinks) or they choose a more natural option (e.x. cold shower or stretching), but that could take them away from whatever they were working on. These things cannot be used by someone who is too young, or if they have health problems. We also want an option that doesn't disrupt what we are doing. My solution solves exactly this, because it doesn't take you away from what you are doing, but it also gives you instant, not harmful energy.



- How is your invention different from others that may already be on the market? If it is similar, what did you do to make it better? How is it different?

My invention does not require specialized knowledge, special materials (except my device) or settings. IT also does not disrupt what one is doing, but one can buy an hour or so of energy without any harmful side effects.

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

Fatigue is a universal problem of modern life. There are terms like Academic fatigue (representing students and teachers), workplace fatigue (representing working people), compassion fatigue (representing care givers) and many other types, which shows that over 90 % of people face fatigue, from school children to seniors. Since there are no side effects, anyone 7-97 years old) can use my 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 3000"
- Describing the function of the invention: "Hydro-Blast"

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

- Accio, come to me energy!
- Reinnervate – It's science, not magic!
- Alohomora – It's the magic of energy

- Which name do you like best and why?

Reinnervate.- Since the product is universal, I need a name with a more universal appeal, and who does not love Harry Potter spells.



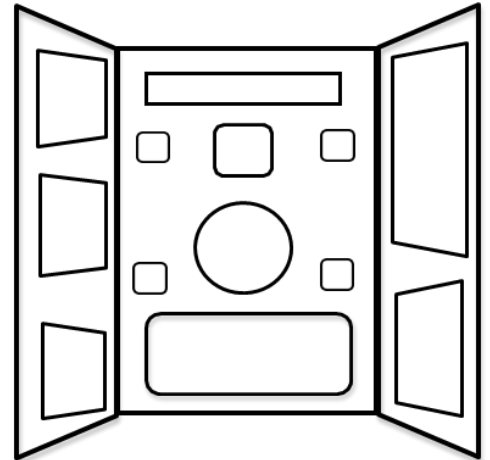
## Planning and Creating the Invention Display Board (Communicating)

18. Create your display board. This is an example of what a Display Board might look like, but you can make it look however you want. This is your invention and your display, so use your creativity to tell the story of your invention the way you want.

Be sure you use:

- Fonts that are readable (style, size, color)
- Colors that look good together
- Shapes that are the right size
- Correct grammar and spelling
- Proper punctuation

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



Your Display Board **MUST** contain the following information in one consolidated place on the poster:

- Student(s) Name(s)
- Project Name
- Student(s) Grade(s)
- Student(s) School
- School City, State
- Preferred Industry-Focused Award Category (e.g. Telecommunications)
- Patent Status (three options: None, Under Counsel, or Patent Pending)

Students should note "Patent Pending" on their posters for Patent Status **only** if a provisional or non-provisional patent application has been officially filed with the USPTO. If you are currently represented by an attorney or patent agent (pro bono or otherwise), then mark "Under Counsel." It is possible to be both "Under Counsel" and "Patent Pending", or just "Under Counsel", or just "Patent Pending" (if you did the filing yourself).

You might also want to add this information:

- Images showing you building or testing
- How the invention was made
- How the invention is used
- The biography of the inventor
- Text which supports and explains any pictures, drawings, charts, etc.
- What scientific principles were used in your invention? (e.g. buoyancy, heat transfer)
- What engineering disciplines were used in your invention? (e.g. electronics, optics)
- Testimonials from users, research results
- Any other information about the invention that will help explain it, what it does, or why it is good





### Practicing What You Will Say About Your Invention (Communicating)

19. Be prepared to answer questions. 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?

I will answer all these questions in the video pitch.

- What people, situations, or conditions 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, better materials you could have used that would improve the invention?
- Who has used your invention and what did they think about it?



- What changes might you want to make to your invention?

**20. 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!**

### **Blank Page(s)**

These blank pages are available for you to add anything to your Invention Log that will help explain what you did, how you did it, and what the results were. This could include drawings, calculations, descriptions, test results, etc. Multiple copies of this page can be inserted anywhere you want in the Invention Log.



## Attachment 1

### Medical Publications Referenced:

1. Dr. Richard Harris and others (2005), Using acupressure to modify alertness in the classroom: a single-blinded, randomized, cross-over trial. *Journal of Alternative and Complementary Medicine*. 11(4), 673-9.

**Author list:** Harris RE, Jeter J, Chan P, Higgins P, Kong FM, Fazel R, Bramson C, Gillespie B.

2. Dr. Suzanna M. Zick and others (2011) Relaxation Acupressure Reduces Persistent Cancer-Related Fatigue. *Evidence Based Complementary and Alternative Medicine*.

**Author List:** Suzanna M. Zick, Sara Alrawi, Gary Merel, Brodie Burris, Ananda Sen, Amie Litzinger, and Richard E. Harris

3. Dr. Suzanna M. Zick and others (2016) Investigation of 2 Types of Self-administered Acupressure for Persistent Cancer-Related Fatigue in Breast Cancer Survivors: A Randomized Clinical Trial. *Journal of AMA Oncology*, 2(11), 1470-1476.

**Author List:** Zick SM, Sen A, Wyatt GK, Murphy SL, Arnedt JT, Harris RE.

4. A Proposed Standard International Acupuncture Nomenclature: Report of a WHO Scientific Group. Available <https://apps.who.int/medicinedocs/en/d/Jh2947e/4.html>

# Brief Fatigue Inventory

STUDY ID# \_\_\_\_\_

HOSPITAL # \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Time: \_\_\_\_\_

Name \_\_\_\_\_  
Last First Middle Initial

Throughout our lives, most of us have times when we feel very tired or fatigued.  
Have you felt unusually tired or fatigued in the last week? Yes ☐ No ☐

1. Please rate your fatigue (weariness, tiredness) by circling the one number that best describes your fatigue right NOW.

0	1	2	3	4	5	6	7	8	9	10
No										As bad as
Fatigue										you can imagine

2. Please rate your fatigue (weariness, tiredness) by circling the one number that best describes your USUAL level of fatigue during past 24 hours.

0	1	2	3	4	5	6	7	8	9	10
No										As bad as
Fatigue										you can imagine

3. Please rate your fatigue (weariness, tiredness) by circling the one number that best describes your WORST level of fatigue during past 24 hours.

0	1	2	3	4	5	6	7	8	9	10
No										As bad as
Fatigue										you can imagine

4. Circle the one number that describes how, during the past 24 hours, fatigue has interfered with your:

**A. General activity**

0	1	2	3	4	5	6	7	8	9	10
Does not interfere										Completely Interferes

**B. Mood**

0	1	2	3	4	5	6	7	8	9	10
Does not interfere										Completely Interferes

**C. Walking ability**

0	1	2	3	4	5	6	7	8	9	10
Does not interfere										Completely Interferes

**D. Normal work (includes both work outside the home and daily chores)**

0	1	2	3	4	5	6	7	8	9	10
Does not interfere										Completely Interferes

**E. Relations with other people**

0	1	2	3	4	5	6	7	8	9	10
Does not interfere										Completely Interferes

**F. Enjoyment of life**

0	1	2	3	4	5	6	7	8	9	10
Does not interfere										Completely Interferes