

SUNY Cortland

# Therapeutic Recreation

# Adapted Equipment

# Ideas

## Volume IV



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This book was developed by the therapeutic recreation graduate students in SUNY Cortland's REC 533: Therapeutic Recreation Process II online class in Spring 2018



# Adapted Kan Jam

- Title of Invention:** Adapted Kan Jam
- Activity:** Kan Jam is a backyard game where you are throwing a flying disc into a black “kan” with a partner trying to score more points than your opponent’s team. It requires you to see your partner’s “kan” from a distance and to assist your partner with getting the disc into your “kan” while it is being thrown towards you.
- Adaptation Intent:** Someone with a visual impairment may find it difficult to differentiate the Hole in the all black “kan” from the “kan” itself, at a distance. This adaption is intending help aid that by creating a contrasting color for the “kan” and making the disc brighter.
- Materials:**
- Kan Jam set
  - flying disc
  - white spray paint
  - fluorescent orange spray paint
- Construction:** Unhook your hinges on the Kan Jam set so that it lays flat on the ground. Use the white spray paint to paint the entire outside of the “kan”. Let dry and then add another coat. When it is completely dry rehook the hinges to form the “kan” shape.
- Use the orange spray paint to paint your flying disc. Let dry.
- Play!
- Notes:** White on the outside is thought to be a better contrast for playing in a yard or black top or somewhere with a darker background. If you are playing in a setting where the inverted colors (black outside and white inside) would be better visually, like possibly the beach, then you can invert your “kan” by unhinging it and reforming the tube in the other direction.

Drawing of Invention:

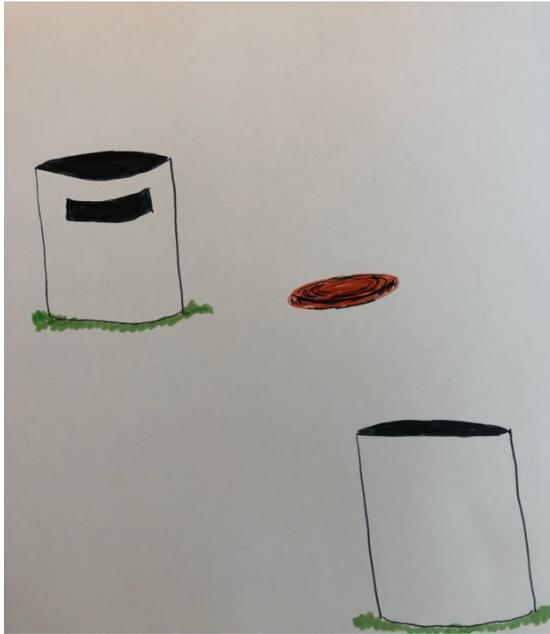


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/vs8ccH9EUuw>

Invented by:

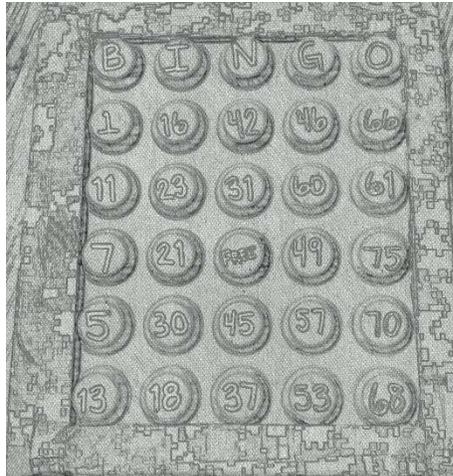
Margery Storey, Therapeutic Recreation Student

# Adapted Bingo Card

- Title of Invention:** Adaptive BINGO card
- Activity:** BINGO
- Adaptation Intent:** To redesign a traditional BINGO card for an individual with impaired vision and/or decreased fine motor control to be able to play independently.
- Materials:** [silicone candy mold](#) (available from Amazon.com Freshware CB-116RD 30-Cavity Silicone Mold for Chocolate, Candy, Cookie, Gummy, and More), heavy corrugated cardboard, duct tape, small bolts with nuts (4), paint pen. Optional: bamboo skewers, electrical tape
- Construction:** Trace the outline of the candy mold onto two pieces of thick cardboard (I used the sides of a box from the liquor store). Also trace the corner holes in the mold onto each piece of cardboard and punch using a screwdriver. Using a boxcutter, cut out the inside of both pieces of cardboard just smaller than the size of the mold. Sandwich the edges of the mold between the two pieces of cardboard, taking care to line up the holes. Then, pass the bolts through each corner hold and secure with the nuts. Using the duct tape (there are many printed and patterned duct tapes available for increased aesthetics), wrap the edges of the frame together. If necessary, depending on the strength of your cardboard, tape bamboo skewers horizontally between the rows on the back of the card and secure with vertical strips of electrical tape, also run between the rows. Also if needed, secure the top of the card (one of the rows of 5) with an additional piece of cardboard behind-since the letters are not “marked” during the game, they do not need free movement. Use the paint pen to mark the letters B-I-N-G-O on the top row, bottom side of the candy mold. Fill in BINGO numbers appropriately on the other 25 mold bottoms.
- Notes:** To use, simply hold the card, propped against the table if needed (the upper reinforcement of cardboard can help with this) and use a finger, thumb, or pencil eraser to push in the BINGO numbers as they are called. They will stay pushed in until pushed from the other side after a game is complete.

Drawing of Invention:

Front View



Back View

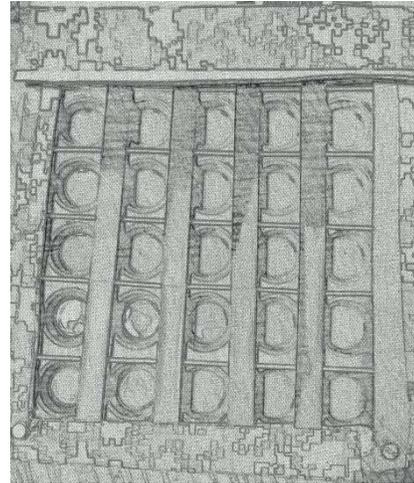


Photo of Invention:



Youtube link to video  
of invention in use:

[https://youtu.be/ELOXIT6\\_0MY](https://youtu.be/ELOXIT6_0MY)

Invented by:

Megan Mawhinney, Therapeutic Recreation Student

# Balanced Rider

- Title of Invention:** The Balanced Rider
- Activity:** The Balanced Rider is for use during horseback riding and/or hippotherapy. It can be used for pleasure riding or therapeutic purposes.
- Adaptation Intent:** The Balanced Rider was created for riders with balance and stability issues including those with traumatic brain injury, hemiparesis, cerebral palsy, multiple sclerosis, vertigo, past diagnosis of polio, neuropathy, and leg discrepancies. It can be used by any population seeking a more secure feeling in the saddle including entry level riders, advanced riders who like the extra traction, children, and those in lead line classes. The Balanced Rider gives the rider a stable riding surface by increasing traction between the rider and saddle and decreasing potential for slipping, sliding, falling. It may also be used as an instructional aide, for riders to understand proper positioning.
- The Balanced Rider was created with the intent of giving the rider an economic and personalized riding experience. Since it is a cover that goes over an existing saddle, it is a cost-effective solution. Riding is a costly sport with riding specific pants, boots, and saddles being too expensive for many riders' budgets. The Balanced Rider negates the need for specialized riding attire. The Balanced Rider can be customized to the rider to provide the level of support and traction the individual desires. Above all, the Balanced Rider is an invention to help riders feel capable, comfortable, and in control.
- I created this with one of my former students in mind. Stella was a vivacious five-year-old girl with cerebral palsy. She was non-verbal and unable to walk. Stella was a star pupil, showing clear enjoyment during her riding lessons and never dismounting a moment before her lesson was up. The pony Stella rode would stop whenever Stella became unbalanced and allow us to settle Stella back in the center. When Stella rode, I would use an English saddle and a halter with a lead rope and reins attached allowing her to steer if desired. For Stella, I took the traditional stirrups off of the saddle because they constantly slid from under her feet, creating distraction and thumping the sides of the horse. After assisting her to mount up, I would hold the lead rope and walk at the shoulder of the horse. From that position, I was at hand to provide any assistance needed. In Stella's case, I kept a hand on her leg, hip, or lower back to make sure that she stayed in the center of the saddle and felt confident. I believe that if I had invented the Balanced Rider at that time and used it in these lessons, Stella would have felt more centered, we would have had to stop and reposition fewer times, and we would have been able to use the stirrups to create stability instead of detracting from it. In addition, I believe I could have taken my hand off her, giving her more autonomy and increasing her self-confidence.
- Materials:**
- Toklat English Saddle Cover (black) \$23.75
  - 3M Gripping Material TB641; 1 in x 15 ft (black), \$15.23
  - Extra Large Sticky Anti Slip Gel Mat 2 pack 11 in x 7in \$12.99
  - Hook and Loop Self-Adhesive 10 cm wide x 1 m long (black) \$11.99

- Homder 234 PCS Lightweight Reduced Non-Slip Furniture Pads, Heavy Duty Adhesive \$12.99
- Duck Select Grip Easy Liner Shelf Liner 20 in x 24 in (black) \$11.70
- Upholstery Needles \$2.36
- Thread (black) \$3.79
- Scotch Extreme Mounting Tape \$3.49
- Duck Electrical Tape (black) \$5.23
- Gorilla adhesive \$7.95
- Saddle (not bought by participant, but provided by riding program \$\$\$-\$\$,\$\$\$)

Construction:

1. Make a pattern using the Toklat English saddle cover.
2. Place pattern on shelf liner and use pattern to cut shelf liner
3. Attach shelf liner cut into saddle pattern to Toklat saddle cover using adhesive and sewing edges together with upholstery needle and thread.
4. Secure non-slip furniture pads onto the back of the cover with adhesive.
  - Pads are placed in a way to provide a deeper seat and raise the cantle of the saddle so that the rider is more stabilized and shifts less from front to back.
5. Cover the seat area with Strips of 3M Gripping Material to provide traction and increase durability of cover.
6. Attach Anti-Slip Gel Mats to the knee roll area of the cover on both sides of the cover using Scotch Extreme Mounting Tape, adhesive, and needle and thread.
  - These designate the place the participant's knees should be, provide cushion and decrease risk of abrasion if wearing jeans, and increase grip.
7. Use electrical tape to cover edges of cover as needed for a sleek look
8. Roll 24 inch x 4 inch piece of shelf liner length wise.
9. Use 3 M Gripping Material to tape around rolled material.
10. Pass ends through metal loops under the skirt of the saddle and tie securely to make a handle for the rider to use as needed to increase confidence.
11. Cover the stirrup pads with hook and loop (hooks) to provide more traction and keep the participants feet firmly in the stirrup iron.
  - (Optional) Participant can stick a section of loop material to bottom of shoes (area underneath ball of the foot) or place a non-adhesive band of loop material around shoe if desired.

Notes:

This prototype was made of all black material because traditional horseback riding equipment is brown, tan, or black. If the participant wanted to customize it in different colors or bedazzle the Balanced Rider the options would be limitless. Additionally, an instructor may find value in making the 3M Gripping material strips on the seat one color, the knee rolls another, the hooks on the stirrup pads another, the handle another, and so that the rider could be given color cues such as "Put your knee on the red rectangle;" "Make sure you are sitting on the blue seat;" etc. I think that would be a neat variation, but I stuck to the black for the prototype so that the participant would not stand out or be recognized as using adaptive equipment.

I chose to use an English saddle instead of a Western saddle because there is less bulk between horse and rider allowing an increased amount of feel and communication between horse and rider. An English saddle is also lighter than a Western saddle making it easier to

put on the horse. However, same idea could be translated onto a Western saddle and saddle cover if desired.

As I no longer teach, I did not have a student who could demonstrate my invention to its full potential.

Drawing of Invention:

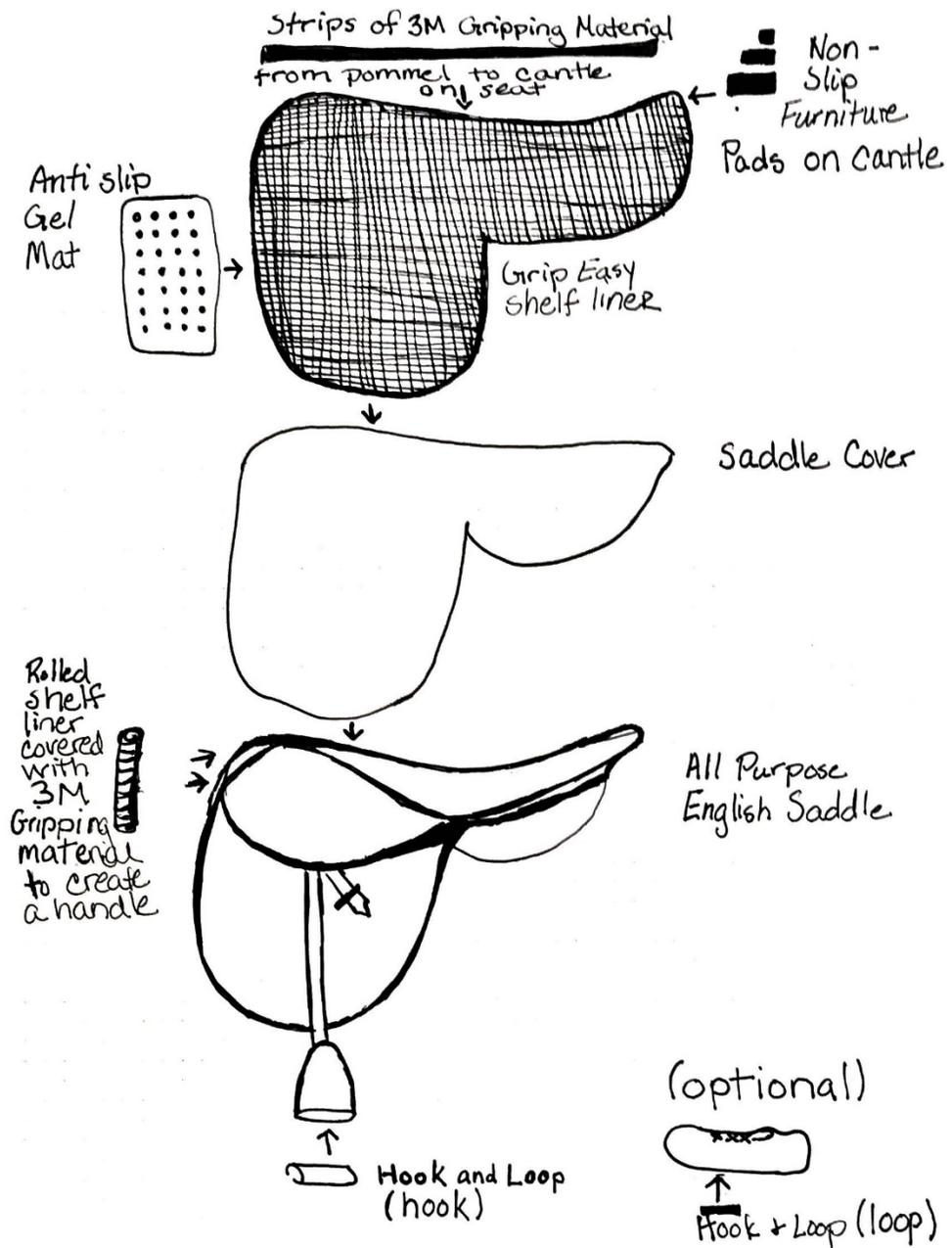




Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/6WGlkdiUdWA>

Invented by:

Megan Mack, TR Student

# Bead Booster

- Title of Invention: Bead Booster
- Activity: Jewelry making
- Adaptation Intent: For those that have difficulty picking up small beads, the bead booster will give them a better grip.
- Materials:
- Vinyl glove
  - Tacky Putty
  - Glue
- Construction: The thumb of the vinyl glove is cut off and tacky putty is mounted on the top.
- Notes: This can be used for anyone lacking fine motor skills, including arthritis. Parkinson's, and poor circulation.

Drawing of Invention:

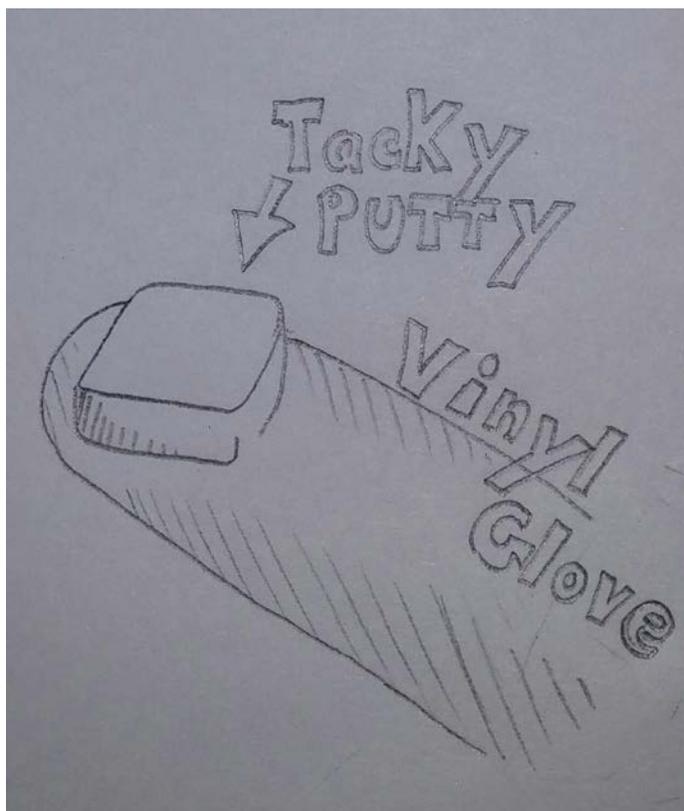


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/o3Pj8m3IHBQ>

Invented by:

Greg Slingluff, Therapeutic Recreation student

# Bingo Button Wrist Holder

- Title of Invention: Bingo Button Wrist Holder
- Activity: Bingo
- Adaptation Intent: To ease a participant in grabbing the “buttons” to put on their Bingo card during the game.
- Materials:
- Plastic Tupperware cup (or an old dip container)
  - Magnets
  - Velcro/ elastic band
- Construction:
- Find empty plastic containers
  - Hot glue/ gorilla glue magnets onto the bottoms of the containers
  - Measure velcro/elastic band that is small/large enough to fit onto a person’s wrist
  - Hot glue/ gorilla glue other half of magnets onto the wristband
  - Place wristband on wrist
  - Attach the container with magnet
  - Place Bingo buttons in the container
- Notes:
- Can use other materials for wristband
  - Magnets must be strong enough to hold container, can be square, circle, or rectangular magnets
  - Wristband must be comfortable and not too tight on participants
  - Containers and wristbands can come apart for easy storage

Drawing of Invention:

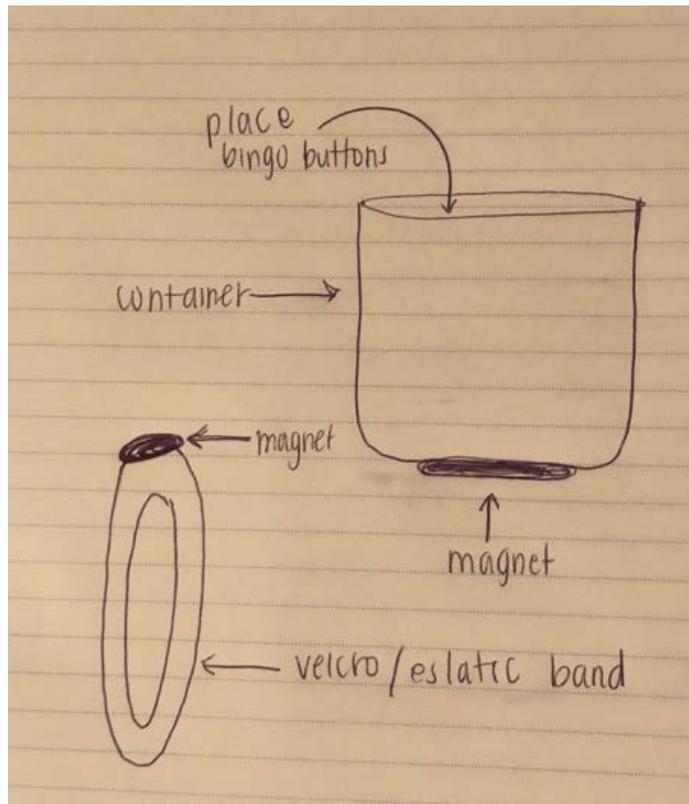


Photo of Invention:



\*corks were used in the example; side picture is the bingo 3D pieces that are intended to be used

Youtube link to video of invention in use:

[https://youtu.be/LI41HjvaM\\_U](https://youtu.be/LI41HjvaM_U)

Invented by:

Leah Ziegler, Recreation Therapist

# Bingo Chip Holder

- Title of Invention: The Bingo Chip Holder
- Activity: To stop the bingo chips from moving during the game.
- Adaptation Intent: To help the participant who enjoys playing bingo keep the chips in place but because of fine motor skills or neurological impairments might unintentionally move or scatter the chips.
- Materials:
- Velcro- Thin Clear Fasteners with sticky backs (Small Circles) Thin Design, 25 to cover entire board
  - Bingo/Poker Chips
  - Laminated Bingo Board
- Construction: Gather materials:
- Laminated Bingo Board
  - 25 Bingo/Poker Chips (24 Red 1 Blue)
  - 25 Clear Velcro Fasteners with sticky backs
  - Take one chip, adhere one part of the Velcro circle on either side
  - Take another Velcro fastener and place it in the middle of the number on the bingo board.
- Notes: Placing a Velcro fastener on both sides of the chip is an option
- Make sure to use clear Velcro fasteners.

Drawing of Invention:

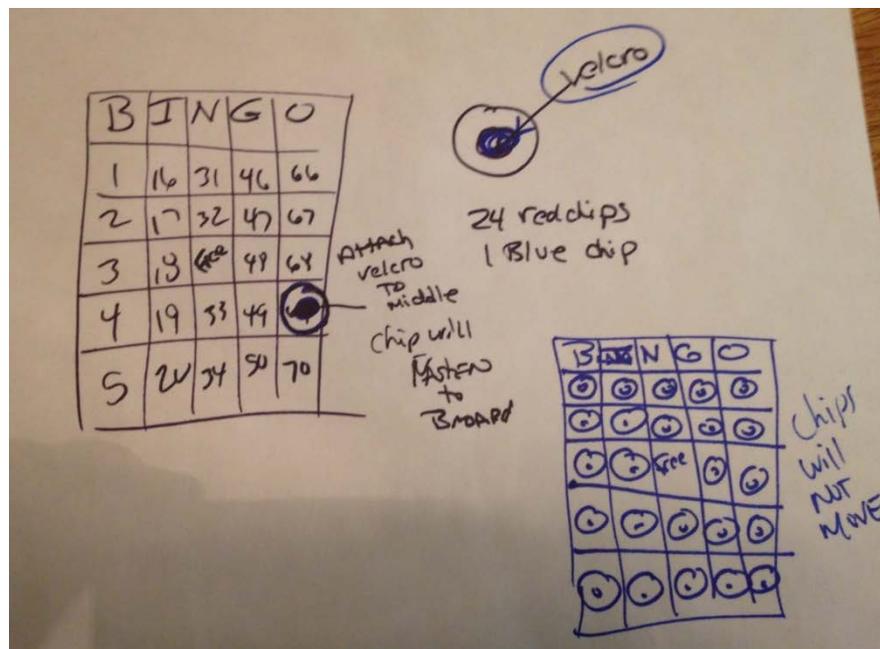
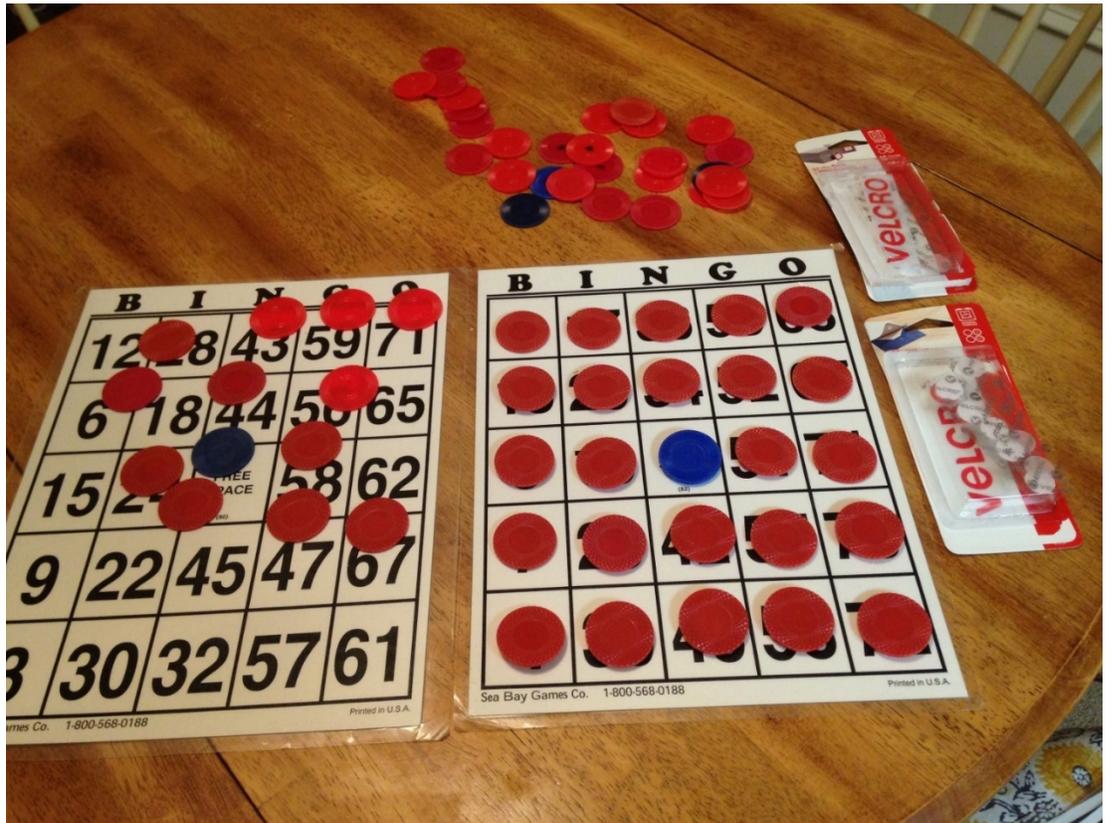


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/Zdz4g1iZEB0>

Invented by:

Ann Marie Roach

TR Student

# Bowling Ball Pusher

- Title of Invention: Bowling Ball Pusher
- Activity: Bowling
- Adaptation Intent: To provide participates that are currently unable to use their fine motor skills to place their fingers in the ball and support the weight of the ball.
- Materials: Wood; aluminum pole; duct tape; jigsaw; wood glue; sander
- Construction:
1. Take two 2x6 pieces of wood that are 8 inches long and glue them together overnight
  2. Once dry draw on the wood block the outline of the prongs on the wood block
  3. Use a jigsaw and cut the outline on the wood block to have a rough set of prongs
  4. Sand the prongs down to ensure no splinters are present and can easily glide
  5. Sand extra at the end of the prongs to allow for them to glide on the ground
  6. Duct tape the aluminum pole to the wood prongs
  7. Test out the product once everything has dried to ensure success!!
- Notes: Light wood is preferred to decrease the weight of the equipment

Drawing of Invention:

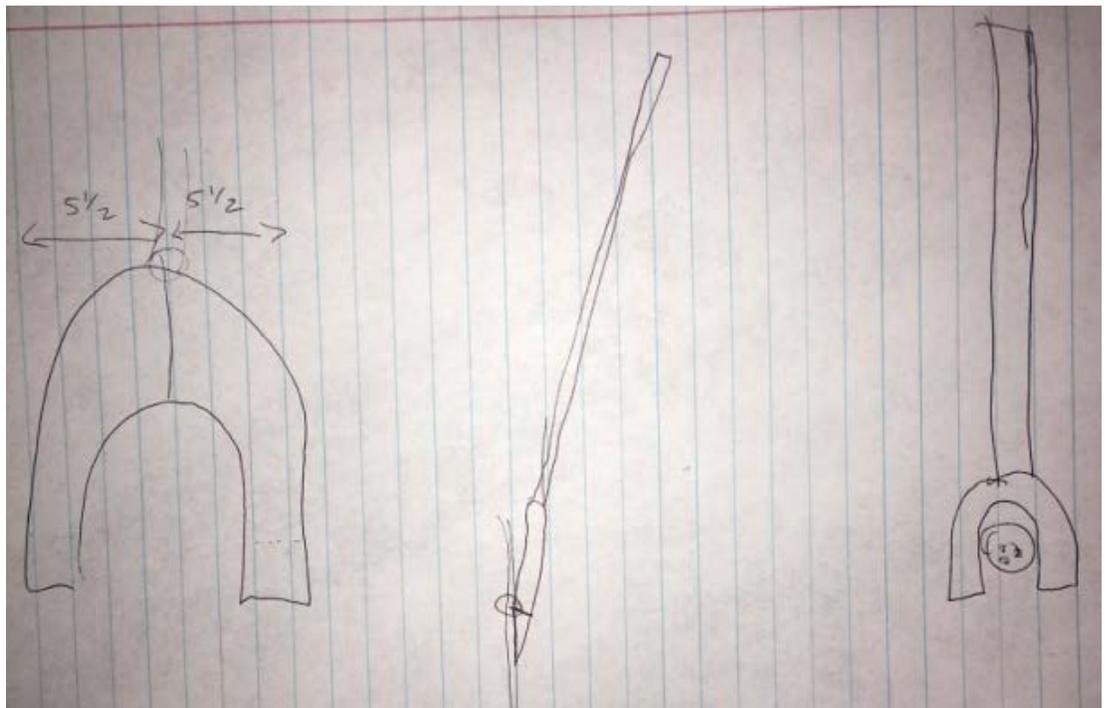


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/77UqcccP1e0>

Invented by:

Shelbie Rosenblum, RT Student

# Color Coded Band Instruments

Title of Invention:	Color Coded Band Instruments
Activity:	Drum Circle, performed by individuals with varying stages of dementia
Adaptation Intent:	<p>Most individuals who live with dementia enjoy music, and studies show that music therapy (listening to music, singing tunes, playing instruments) offers multiple benefits. Those benefits include: reduce agitation, increase good mood, and promote positive social interactions. The human brain naturally responds to music even as dementia progresses, therefore the benefits don't stop as cognitive function declines. In fact, music therapy likely becomes more important as the disease progresses.</p> <p>The intention of this music adaptation is to lead individuals with varying degrees of Alzheimer's and other forms of dementia in playing a variety of instruments as part of a drum circle. Though they listen to music frequently throughout the day, most haven't been musically active in many years. Because short-term memory function is low, people with dementia need frequent cues and reminders when participating in activities. During group sessions, recall is even more difficult. Therefore, leading a group to play various instruments can pose a great challenge.</p> <p>To help bridge the gap and foster communication between the music leader and the musicians, as well as with each other, the group was presented with colorful homemade musical instruments. The colors of the instruments have corresponding cards that the music leader will use to indicate when it is time for the participants to play their instruments.</p>
Materials:	<ul style="list-style-type: none"><li>• Homemade percussion instruments (drums, maracas, guiros, tambourines)</li><li>• Different colors of electrical tape</li><li>• Cards matching the colors of the electrical tape</li></ul>
Construction:	<ul style="list-style-type: none"><li>• Make instruments using household items like empty and clean cans, bottles, and other miscellaneous items. (The actual making of the instruments is not considered part of the adaptation, so I will not go into detail in the construction of each piece.)</li><li>• Distinguish each instrument type by decorating with the colored electrical tape. For example, drums will have yellow tape, guiros will have red tape, and so on.</li></ul>
Notes:	<ul style="list-style-type: none"><li>• Be careful to not put too much tape on the instruments, which could create sound distortion.</li><li>• Show the group how each instrument sounds, and allow them to pick the one they prefer.</li><li>• Explain how the color system works, and when showing a card also call the color to give the participants a visual and an audio cue.</li></ul>

Drawing of Invention:

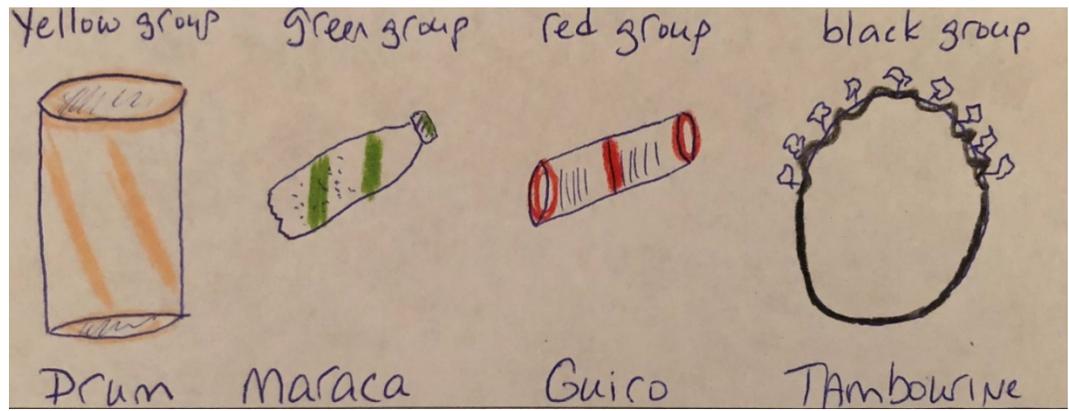


Photo of Invention:



Youtube link to video  
of invention in use:

<https://www.youtube.com/watch?v=ke4dYvksFkE&t=10s>

Invented by:

Laura Gorycki, TR Student

# Easy Grip

- Title of Invention:** Easy Grip
- Activity:** The easy grip can be used by a participant when writing or drawing.
- Adaptation Intent:** The intention of this adaptation is to assist people who have difficulty gripping things. The intent is for the participant to feel as if they have a strong hold on the item and can complete what they wish to do comfortably.
- Materials:** The only materials needed are a rubber band or hair tie.
- Construction:** The construction of this is very very simple. You just attach the hair tie/ rubber band onto the writing utensil and begin working!
- Notes:** The background of the adaption I thought of, comes from a personal story. A resident that I work with enjoys writing hand written letters and sketching/drawing. However, his ability to grip the utensil (pen, pencil,etc.) comfortably without it falling out of his hand has significantly declined. So, we use this for him and I wanted to make this as simple as possible, so it could be utilized for anyone with basic materials.

**Drawing of Invention:**



Photo of Invention:



Youtube link to video of invention in use: none

Invented by: Brianne O'Rourke

# Easy Slider Sled Hockey Stick

Title of Invention:	Adaptive Sled Hockey Glove & Stick: "Easy Slider Sled Hockey Stick"
Activity:	Sled Hockey
Adaptation Intent:	This glove and stick are adapted to help those with reduced hand strength or neurological disorders that make hand coordination and grip hard for them to hold on and slide the stick without dropping it.
Materials:	<p>The materials used:</p> <ul style="list-style-type: none"><li>• Sled hockey stick</li><li>• (2) Sink Inlet Rubber washers (1-1/4")</li><li>• Velcro one-wrap tie 8" x 1/2"</li><li>• Hockey glove</li></ul>
Construction:	I started off with taking the Sled Hockey Stick and stretching two rubber washers over the stick. I slid one onto the top near the blade of the stick and another one near the pick of the stick. These are meant to create a barrier so it is possible to slide to the top and bottom of the stick. Next I took the hockey glove and using the loop in the thumb of the glove I threaded a small Velcro strap through it. Once the Velcro strap was thread through we wrapped it around the stick. This makes it impossible to drop the stick if released along with the same ability of sliding the hand up and down the stick to either washer.
Notes:	This adaptation is not meant for competitive play but rather for those who would like to play at a recreational level and still be able to keep up without dropping the stick or need to tape their hand to the middle of the stick and lose the concept of motion in the hand to move and pass the puck.

Drawing of Invention:

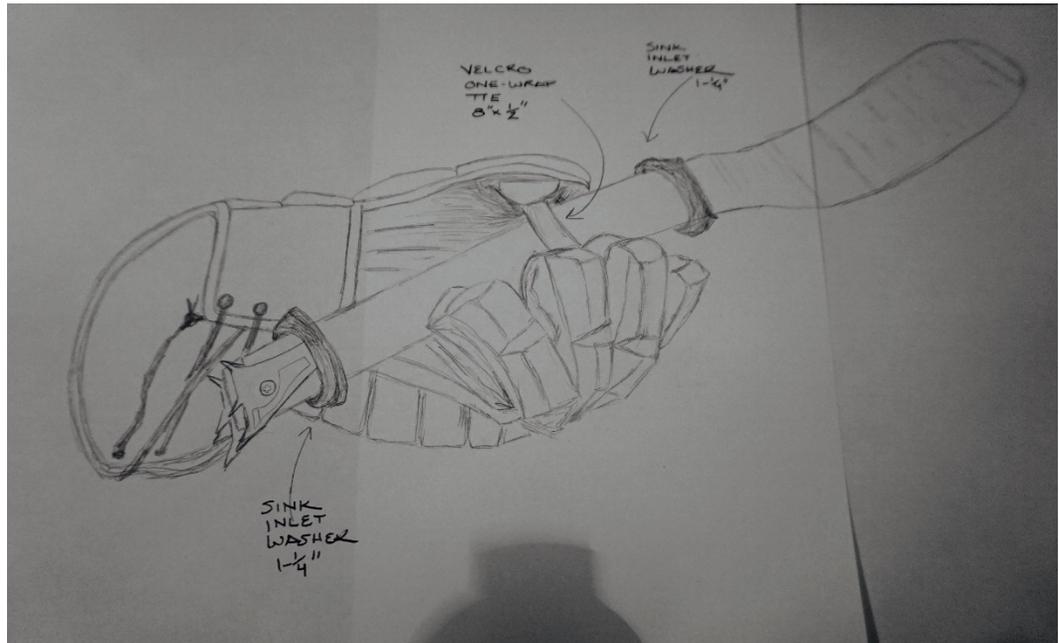


Photo of Invention:



Youtube link to video of invention in use:

<https://youtu.be/zRLqV0cqNBo>

Invented by:

Nicole Taylor, Therapeutic Recreation Student

# Ergonomic Semi-Rigid Dog Lead

Title of Invention: Ergonomic Semi-Rigid Dog Lead

Activity: Dog-Handling / Dog Walking

Adaptation Intent: The purpose of this piece of equipment is to provide safe and comfortable handling of a dog for all individuals. The design provides a comfortable palm grip and mendable lead material that can attach to virtually anything. The bright colors of the handle and lead enable walking during dusk.

Materials:

- Long Turn PVC Pipe (two sizes for versatility)
- Bright Neon Orange 6 ft Reusable Utility Tie with Grip
- Standard Dog Lead Clip (Two are possible)
- Bright Neon Orange Duct Tape
- Friction Tape

Construction: The conception of this piece of equipment began when I realized I would wrap the dog leash around my hand multiple times to get the right length. On busy streets dogs should be at most a few feet from you. Also, the handle on most leashes are constricting and flimsy and not everyone is able to use them. This piece of equipment provides a rigid enough material to control the dog but also enough give to provide safe handling for participant and animal. The handle fits well into the palm and the tape provides an extra sensory input for gripping. The handle has room to rotate and slide with any direction change. The mendable lead material would be simple to attach to the arm of a wheel chair while still utilizing the handle for control. Dogs attached to this piece of equipment must be obedient and follow commands to ensure safety.

Notes: The loose leashes available today are dangerous around things like wheels so a more rigid lead would be safer for individuals handling animals. The grip allows for a nice fit into most palms and an adapted strap could be applied if necessary. If clips are unable to be used the mendable utility tie could loop right in any harness.

Drawing of Invention:



Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/4vOT-ww9DhE>

Invented by:

Jeremy Garry TR Student

# Finger Gripper Glove

Title of Invention: Finger Gripper Glove

Activity: Card games that require the player to pick up a playing card off of the table or off of the top of a deck of cards

Adaptation Intent: The intent of the adaption is to assist a participant, who has an impairment of their fine motor skills, with grasping and picking up playing cards.

Materials: The materials used are a pair of cotton gloves purchased from a pharmacy, scissors and self-adhesive rubber foam weatherseal tape purchased from a hardware store.

Construction: In order to construct, first cut five pieces of the weatherseal tape in half inch pieces. Take off the backing from the pieces and press each piece, adhesive side down, against each fingertip of the glove. Do this on the palm side of the glove. It can be used immediately.

Notes: These gloves can be used for other board games, such as checkers. The gloves are available in small, medium and large sizes. Some participants may enjoy customizing their gloves by decorating them glitter, self-adhesive embellishments for fabric or by using colored markers for fabric.

Drawing of Invention:

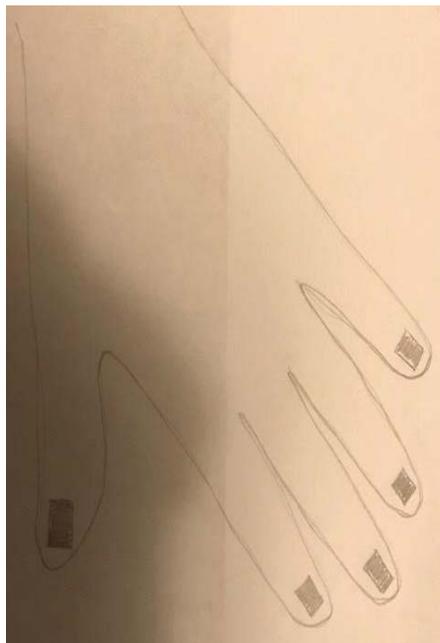


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/H1YT2GwxLPI>

Invented by:

Joanne Cunningham, Therapeutic Recreation Student

# Gaming Mat

Title of Invention: Gaming Mat

Activity: Dominoes or Mahjong Tiles

Adaptation Intent: Allows participants to shuffle and move tiles freely around on the mat. Keeps the tiles or dominoes from falling out of reach of the participant.

Materials:

- Invisible Screen Cut into 34''L 34''W
- 1 Roll of Duct Tape or Fabric
- Needle and Thread

Construction:

1. Measure out how wide you want the mat or for how many people you want to accommodate. (I used the standard card table size to make mine)
2. Around the cut edges either sew or use duct tape to cover the raw edges.

Notes: I came up with this idea as a result of playing dominoes with my residents. Often times when shuffling the dominoes, they fall on the floor or out of reach of the residents. With this mat, the tiles and dominoes don't move all over the place. You can use fabric to outline the edges which can be washed for infection control.

Drawing of Invention:

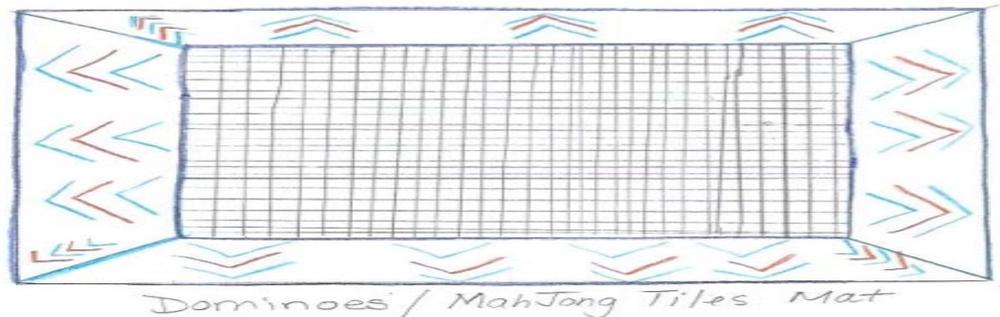


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/CFMeRrtMtm0>

Invented by:

Freya Donadelle

# Page Turners

Title of Invention: Page Turners

Activity: We have a very talented resident in our Assisted Living facility. She double majored in music and religion during her college years and loves to play the piano. She is dexterous and has no trouble playing, but she has trouble flipping the pages of her music sheets. Flipping pages involves very fine motor skills, and pages sometime stick together. Other residents find the same trouble with flipping pages when they read or flipping the pages of a recipe book while cooking.

Adaptation Intent: The page turners are made to assist the participant in flipping through the pages while also not impeding their ability to participate in leisure. One page turner wraps around the participant's index finger and another on the thumb, creating better friction between the person's fingers and the pages.

This invention does not stigmatize the user as pages of books or music sheets sometimes stick together regardless of the user's fine motor skills. All of us have had a time where we've had trouble turning a page or flipping through a book.

Materials: large rubber bands or rubber exercise bands

Construction: Construction steps:

- Cut four circles of 1 inch diameter into the rubber exercise bands
- Make two cuts less than halfway into each circle on opposite sides
- Snuggly wrap the circles on the tip of the index fingers and thumbs
- Tape around fingers
- Test for fit and use
- Refit as needed

Notes: Because the page turners are wrapped around the index finger and thumb, it is important to use thin rubber or latex so as not to impede the use of these fingers. Rubber or latex bands come in different colors and in non-latex (hypoallergenic). To make the page turners more personal, have the residents choose which color they like best.

Drawing of Invention:

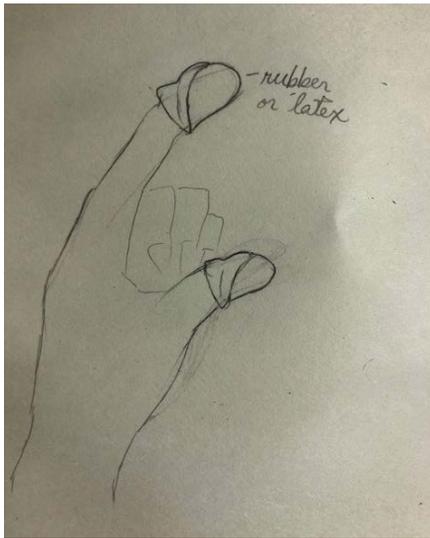


Photo of Invention:



Youtube link to video of invention in use:

None

Invented by:

Lauren Gadingan

# Painting Partner

- Title of Invention: Painting Partner
- Activity: The “Painting Partner” is used to assist individuals while they are painting. Painting often requires the artist to hold their arm above the paper so they do not smudge their prior work.
- Adaptation Intent: To assist painters in having a block to rest their arm on while painting, so they don’t have to hover their arm in the air. It is meant to assist people with shoulder injuries, decreased range of motion and older individuals with low strength to hold their arms up for long periods of time.
- Materials:
- (3) 3.5in x 6in wooden blocks
  - (1) 3.5in x 6in foam block
  - (12) pieces of velcro
  - Cloth covering
  - 4 straight pins
- Construction:
1. Place 4 pieces of velcro (prickly side) on the top of wooden block 1 (one in each corner).
  2. Place 4 pieces of velcro (soft side) at the bottom of wooden block 2 (one in each corner), and attach to wooden block 1.
  3. Place 4 pieces of velcro (prickly side) on the top of wooden block 2 (one in each corner).
  4. Place 4 pieces of velcro (soft side) at the bottom of wooden block 3 (one in each corner), and attach to wooden block 2.
  5. Place 4 pieces of velcro (prickly side) on the top of wooden block 3 (one in each corner).
  6. Place 4 pieces of velcro (soft side) at the bottom of the foam block (one in each corner), and attach to wooden block 3.
  7. Carve with a sharp knife a half circle cutout approx. 2 inches across in the foam board to rest the arm in.
  8. Cut an old t-shirt into a 8in x 10in rectangle.
  9. Lay the cloth over the foam board and pierce 4 straight pins (one in each corner) through the t-shirt into foam board.
- Notes:
- Velcro is peel and stick circles.
  - 3 blocks are put together using velcro, this allows for easy adjustment of height by removing/adding blocks with ease. Just pull them apart to take away and stack to add blocks.

- The top piece to rest the arm on is the foam board with the cloth covering for extra comfort.
- Cloth covering is attached using straight pins to allow for easy removal and increased sanitation. Cloth can be easily removed to wash or exchange.
- \*Cloth covering is cut from old t-shirts. Pick your design and make it your own!  
Customize your Painting Partner to be your favorite sports team, favorite color, or old concert tee!\*

Drawing of Invention:

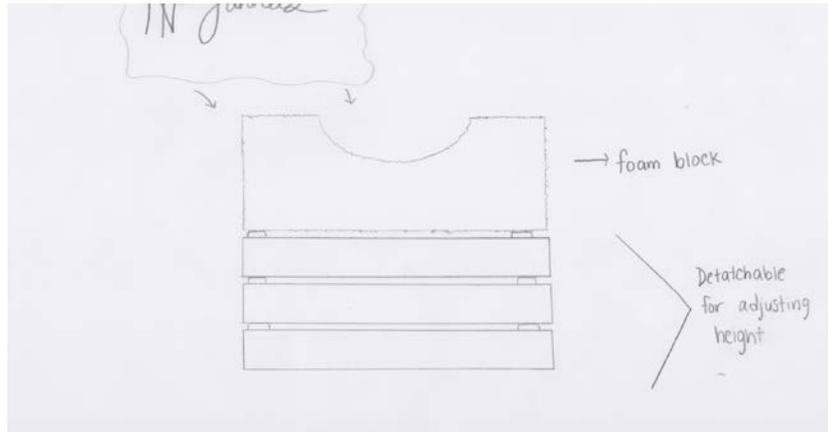
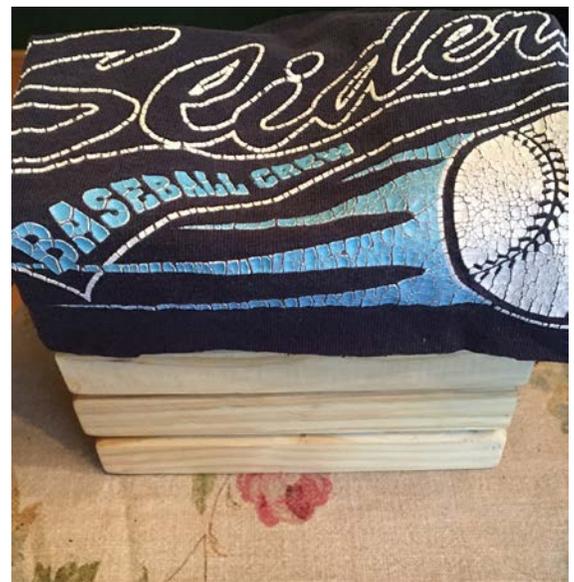


Photo of Invention:



Youtube link to video of invention in use:

<https://youtu.be/mR0qLJFeYJI>

Invented by:

Nicholle Pandolfi, Therapeutic Recreation Student

# Poised for Painting

Title of Invention:	Poised for Painting
Activity:	Painting for individuals with Parkinson's Disease, Huntington's Disease, other neurodegenerative disorder, or uncontrolled movement.
Adaptation Intent:	Poised for painting intends to stabilize the dominate arm of the artist. Since these conditions cause shakiness, random movements, and lack of coordination, the poised for painting adaptive equipment will help hold their arm in place.
Materials:	Pipe insulation cut to size, 2 square U-bolts large enough to fit around the individual's arm, duct tape with preferred design, scissors, 2 bungee cords, a chair with arms that you can attach the bungees to, paint, paintbrush, canvas, water in a cup, paper towels
Construction:	Cut insulation to fit comfortably around the bottom and top of the U-bolts. Duct tape in place to the bottom and top. Place the insulated U-bolts onto the painter's arm. One towards the elbow and the other near the wrist. Hook the bungee cord to the bottom right side of the U-bolt, wrap cord around the chair arm at least once and until the cord is tightened, but not uncomfortable, and hook the other side of the bungee to the left bottom half. Repeat process on the second U-bolt.
Notes:	Requires help from another person to set up the poised for painting contraption and for taking it off. The U-bolts and bungees will need to be tight enough to limit muscle contractions, but not so tight that they cause the wearer pain or discomfort. This device may be combined with other painting adaptive equipment for stabilizing the water, an extra paintbrush gripper or glove, or an anchor for the easel.

Drawing of Invention:

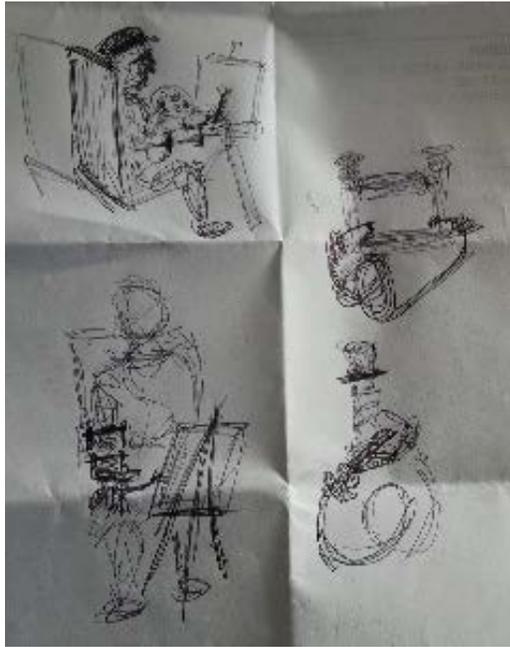


Photo of Invention:



Youtube link to video of invention in use:

<https://youtu.be/nbkFQVNB1c>

Invented by:

Amelia Gelnett, Therapeutic Recreation Student

# Pouring Buddy

- Title of Invention:** *The Pouring Buddy: Adaptive Liquid Pouring Equipment*
- Activity Description:** Any type of liquid activities: Painting, soaps, water, safe chemicals, etc.
- Adaptation Intent:** The intention of this invention is to assist individuals who may have hand and arm mobility and flexibility issues, some issues with strength. The Pour Buddy takes pressure of the hand, wrist, and fingers and allows participant to pour liquids from bottles into cups, beakers, bowls, and any secondary material for an activity.
- Materials Needed:**
- Two copper hangers
  - One set of Pliers
  - Two soft cushion handles
- Construction Steps:**
1. Take a one copper hanger and untwist the top, unravel until straightened out. Leave hook of hanger as is.
  2. Wrap hanger around bottle of choice to fit the shape of the bottle. Position on top part of bottle.
  3. Use pliers to tighten hanger and close grip around bottle.
  4. Take a second hanger and repeat the process. Position on bottom of bottle, leave hook as is.
  5. Place handle cushions on hooks
  6. Check to make sure hanger is secure around the bottle.
- Notes:** The Pouring Buddy should be adjusted to fit the shape of the bottle being used. Cushion on hooks are optional, able to be used without. Hooks can be adjusted to bigger bottles by placing them on the bottom.

Drawing of Invention:

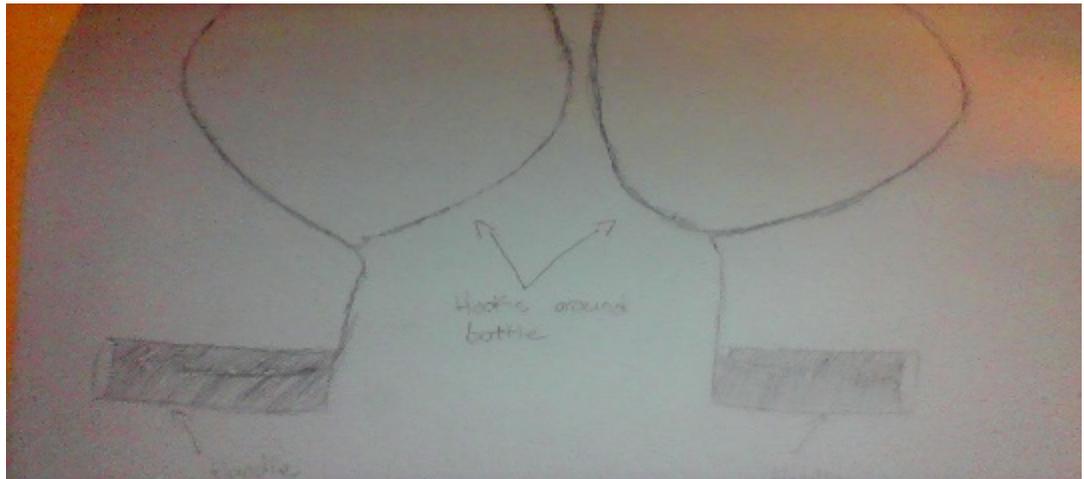


Photo of Invention:



Youtube video of invention in use:

<https://www.youtube.com/watch?v=fOkZeqSOkgk>

Invented By:

DeVon Avant

# Rowlett's Rack

- Title of Invention:** Rowlett's Rack (Billiard/Pool Cue assist device)
- Activity:** Billiards/ Pool
- Adaptation Intent:** Named after Lamar Rowlett, Rowlett's Rack was created to help/allow those without out function in one of their two upper appendages greater access to the activity (billiards/pool). The Rowlett's Rack allows players to access more shots at different angles then they would otherwise have.
- Materials:** Wooden Dowel ½ x 48 (size, personal preference), pool cue bridge "head", spring link (5/16in) (with, or without eyelet), Switch plate screws (if necessary, #6 – 32 x 1/2in), pool cue/stick. (optional: sand paper, super glue)
- Construction:** Begin by making sure the wooden dowel is smooth with no splintering (sand paper). Slide the wooden dowel through the smaller end of the spring link (or eyelet), about ¾ to ½ way down the dowel (your preference). It should fit snug, allowing the spring link to move only by adjustment, not by itself. You may use super glue at this point to insure no movement of the spring link. Then, attach the "Bridge Head" to the end of the dowel. Use a switch plate screw to fasten it and not allow movement. Construction is complete!
- Notes:** You may shorten the dowel of "Rowlett's Rack" to the length you desire. Using it both long and short, we learned that longer was better. It allowed Lamar to use his one hand to control the movement of both the pool cue and the invention.

**Drawing of Invention:**

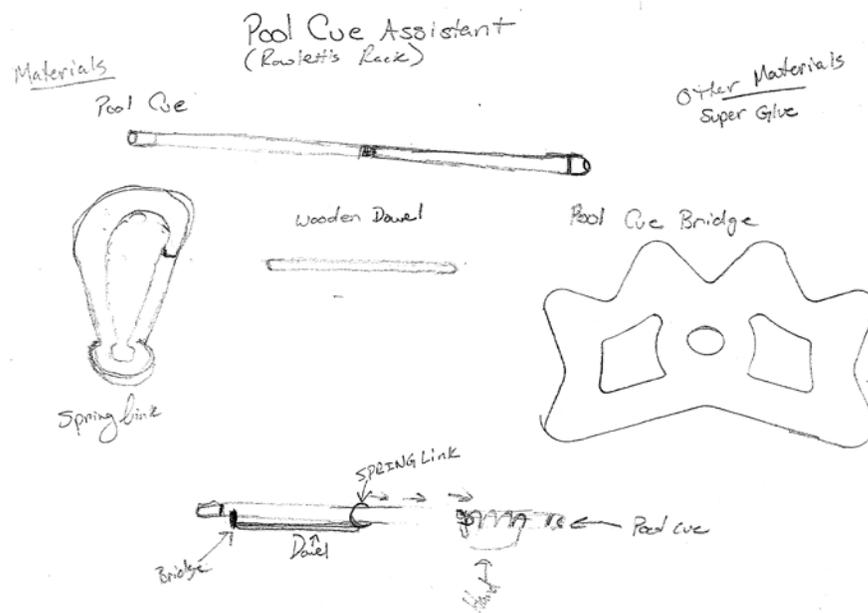


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/IW0OnLow204>

Invented by: Robert L. Coleman and Lamar Rowlett

# Scent Memory Game

- Title of Invention: Scent Memory Game
- Activity: A memory game using essential oils
- Adaptation Intent: Participants with limited or severe eyesight disability can use this as a game and aromatherapy experience
- Materials:
- Dixie cups
  - Essential oils
  - Optional: pin
- Construction:
- Use an even number of Dixie cups (6 minimum)
  - Drop one drop of essential oil into a pair of Dixie (one drop per each cup)
  - Repeat three times- to make a total of six cups with three different essential oils
  - If necessary, make holes (from inside cup) with pin, to create braille letters
  - Swirl oil in cup to release scent
- To play game:
- Instruct participant to smell one cup, provided by the game administrator
  - Ask participant to describe scent
  - Instruct them to take a deep breath between cups
  - Provide next cup and ask them to describe scent
  - Repeat until participant has matched the scents into pairs
- Notes:
- Participants may be more partial or sensitive to certain scents  
Be careful to only add a minimal amount of drops, to not overwhelm participant  
Be aware of any allergies  
Try to use calming or stimulating scents depending on the participant's needs  
Pictured scents are suggested, not required  
Game is ideal when using between 3-6 scents

Drawing of Invention:



Photo of Invention:



Youtube link to video  
of invention in use:

[https://youtu.be/nU90\\_rMXSTg](https://youtu.be/nU90_rMXSTg)

Invented by:

Liza Kotar, TR Student

# Stress Ball Art Tool

- Title of Invention:** The Stress Ball Art Tool
- Activity:** Drawing, painting, coloring. When drawing, painting and/or coloring, stability is needed to hold the pencil, paintbrush, crayon or marker. Individuals who have difficulties with fine motor skills may encounter challenges of holding an art instrument such as a crayon when coloring.
- Adaptation Intent:** This device is a stress ball that holds a crayon, marker, pencil, pen or paintbrush so that an individual with difficulties using fine motor skills, may be able to grasp the art instrument with less difficulty. During an activity like drawing, if the individual becomes frustrated, the stress ball may also help relieve some of the frustration.
- Materials:** 3" stress ball, scissors or drill, art instrument (i.e. crayon, marker, paintbrush, pen, pencil)
- Construction:** Cut or drill a hole through the center of the stress ball. The diameter of the hole should be about  $\frac{3}{4}$  of an inch to hold the art instrument in place. Insert art instrument through hole.
- Notes:** My inspiration behind inventing this device as an adaptive equipment came from wanting a tool that is versatile and simple to make. In my line of work, I have encountered many individuals who find it challenging to do art and become frustrated and discouraged when trying to work on an art project. I came up with this invention in hopes to help individuals with poor fine motor skills be able to make art and alleviate any frustrations he/she may feel during the activity.

**Drawing of Invention:**



Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/sReULUTBGZE>

Invented by:

Rose Ferreira, SUNY Cortland Student

# Swimming Noodle Belt

**Title of Invention:** Swimming Noodle Belt

**Activity:** Swimming- Aquatic therapy and/or personal swim time

**Adaptation Intent:** I came up with this adaptation/invention after watching my participant with a physical challenge demonstrate difficulty holding onto his pool noodle with his hands and resting it under his arms during adaptive aquatics classes.

The noodle belt is designed for children and adults with physical challenges who need extra assistance and/or support when walking or moving in an upright position in the water. It can also be used for individuals who are just learning to be comfortable in the water, as well as for individuals who have a difficult time remaining still/calm and cannot hold on to a typical pool noodle when swimming. The noodle belt has a clip so that it can rest around a participant's waist or under their arms/chest area without slipping from their hands or underarms. It can be customized for each individual's size. The belt itself can be adjusted to a shorter or longer length. The 3" individual noodle pieces can be taken away or additional pieces can be added depending on the individual's size or to increase and/or decrease the amount of flotation needed.

**Materials:**

- 1 pool noodle (preferably a thick noodle, sometimes called a "monster noodle." A thicker noodle carries more weight and is more supportive in assisting someone to float.)
- 1 quick release buckle (side release)
- 1 water resistant polypropylene webbing strap (a nylon strap can be used but may absorb water quicker than polypropylene)

**Construction:** To create this belt:

- Use a ruler to mark 3 inch lines across the length of the noodle
- While keeping safety in mind, use a sharp knife to fully cut through the noodle at each 3" mark (I cut the noodle on a cutting board)
- Take your belt strap and thread it through each 3" piece of noodle
- Attach the buckle clips to both ends of the belt strap  
(I like to tie the extra belt strap that is hanging at the end in a knot as additional support so the belt clip does not come loose in the water. This knot & buckle clip can be untied and/or removed at any time to add or take away noodle pieces.)
- Clip the belt together and the project is complete!*

Notes:

The swimmer may need assistance putting the belt on and clipping it together. The belt can be worn with the clip in the front or the back side of the body. If you are concerned about a child or participant unclipping the belt and putting themselves at risk for a dangerous situation such as slipping or going under the water without knowing how to swim, turn the belt so the clip side is in the back opposed to their front, so they are not able to unclip the belt as easily.

The noodle belt can be used in aquatic therapy or while swimming for enjoyment during one's personal time. Please note that this flotation device is not used as a lifesaving piece of equipment- it is used as added support. A child should not be left unattended when using this equipment.

Drawing of Invention:

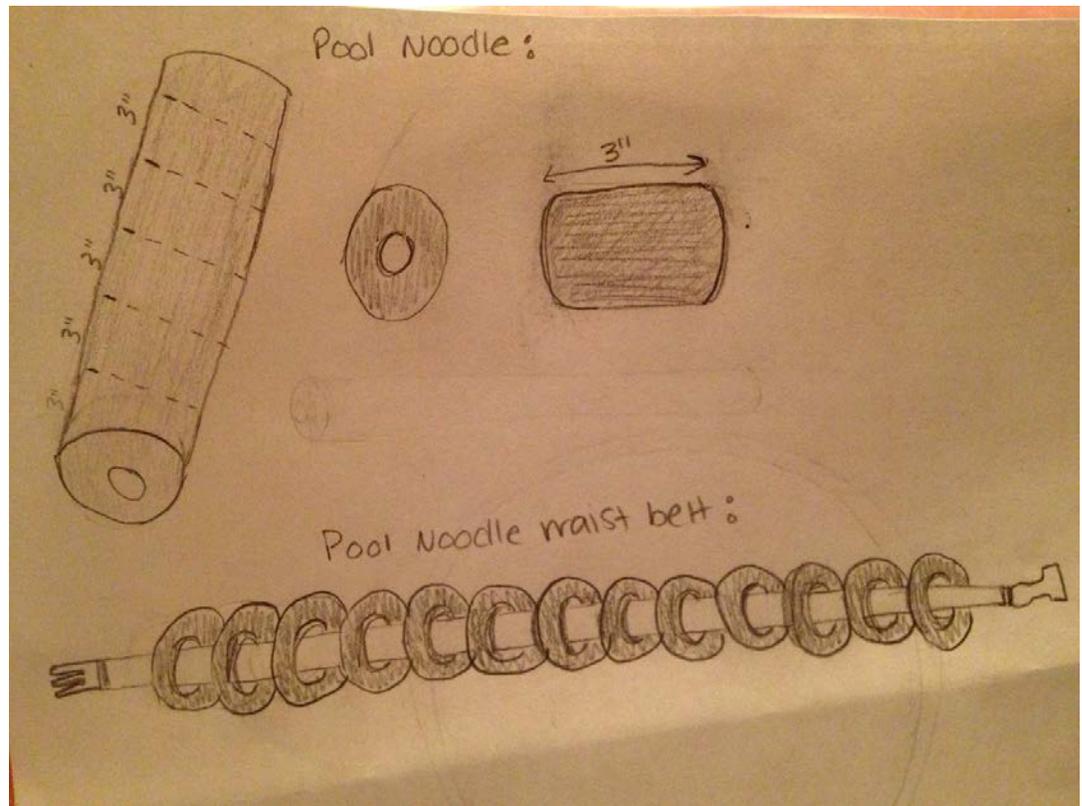


Photo of Invention:



Youtube link to video  
of invention in use:

[1. How to wear/use a swimming noodle belt](#)

[2. Noodle belt demonstration in water](#)

Invented by:

Danielle Jaffe

# Touch-Based Checkers

Title of Invention: Touch-Based Checkers

Activity: This invention is the classic game of checkers, but with some adaptations designed to help individuals who may have difficulty participating due to a visual impairment.

Adaptation Intent: Checkers is a timeless game that people of all ages know and love. However, it is quite difficult to play if one is unable to see the pieces on the board. This modified version of a traditional checkers set is intended to help anyone with a visual impairment participate in the game, even someone who is completely blind.

Materials:

- Standard game board
- 2 sets of checker pieces (24 total)
- Adhesive bead stickers (or use hot glue and regular, non-adhesive beads)
- White school glue
- Sand

Construction:

- Take one set of the checker pieces (12 pieces) and coat the top of them in white glue
- While the glue is wet, cover the top of the checker piece with sand and set aside to let dry
- Place a bead sticker (or hot glue a bead) on the corner of every square on the game board, so that each square contains four beads
- Once glue is dry, you are ready to play

Notes:

- This adaptation does not require the participants to know braille
- The beads on the board can be used to gauge the distance between spaces, and the sandy texture on one set of checkers is used for players to differentiate their pieces from the other player's

Drawing of Invention:

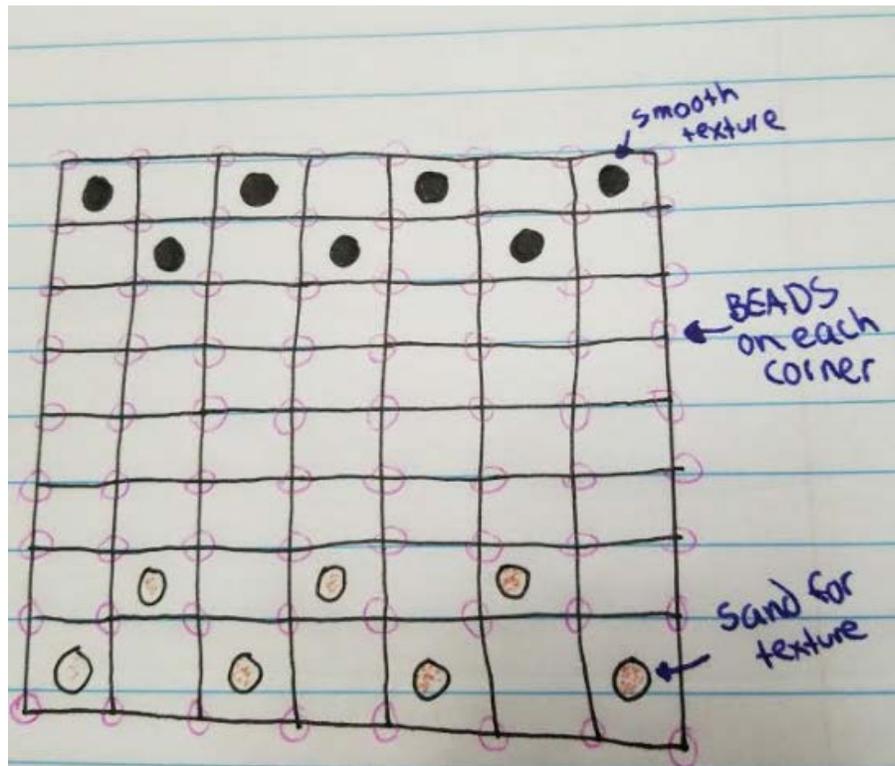


Photo of Invention:



Youtube link to video of invention in use:

<https://youtu.be/6l1tsRCb6tk>

Invented by:

Sara Annese, TR Student

# Waving Hand Surfer

Title of Invention:	Waving Hand
Activity:	To assist individuals who need guiding help while they surf. A lot of surfers sustain a life-threatening injury that results to losing a body part or loss of motion in the body.
Adaptation Intent:	This adapted equipment is meant to aid the help to amputee surfers, this is a big population to help those get back in the water after their accident. This equipment allows surfers with one leg to feel comfortable while surfing and having the help of a handle to allow them to stand with one leg.
Materials:	<ul style="list-style-type: none"><li>• Surfboard</li><li>• 2 Plastic pipes</li><li>• Foam noodle</li><li>• 2 Metal rings</li><li>• A gripped handle</li></ul>
Construction:	Gathered Materials <ul style="list-style-type: none"><li>• Cut foam noodle the same size as the plastic pipe</li><li>• Cover the plastic pipe with foam noodle so it does not hurt the surfer</li><li>• Connect the pipe that stands up with the handle</li><li>• Attach the pipe with handle to the surfboard using a medal ring to secure the pipes.</li></ul>
Notes:	The foam noodles allow the participant to feel safe if they do fall they will not damage themselves on the pipe and will have a safe cover to fall on. The noodles also allow the participant to decorate as they like so you can distinguish yours and be creative. The handle for the surfer can go up and down so when you are paddling out you can have it down. Once you are ready for the wave you pull it up and lock it in and able to use it as a handle.

Drawing of Invention:

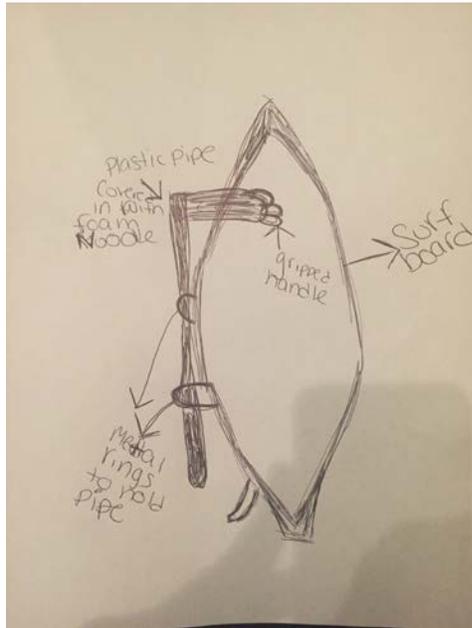


Photo of Invention:



Youtube link to video of invention in use:

<https://youtu.be/4z3onJA173I>

Invented by:

Ryley Weber  
TR Student



SUNY Cortland

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