

SUNY Cortland

# Therapeutic Recreation

# Adapted Equipment

# Ideas

## Volume I



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Edited by Dr. Lynn Anderson, CTRS

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This book was developed by the therapeutic recreation students  
in SUNY Cortland's REC 431/533: Therapeutic Recreation Process II class

2015

A huge thank you to the JM Murray Center

# Adapted Paint Brush

Title of Invention: Adapted Paint Brush

Activity: Painting is a very fun and relaxing leisure activity that anyone can enjoy. When painting, the paintbrush must be held in a stabilized position between one's fingers. This device makes it easier to hold the paintbrush because it has more width and support along with a material that is easier to grip. This device is great for individuals who lack fine motor skills and have trouble grasping objects.

Adaptation Intent: To facilitate independent use of painting for individuals who lack the fine motor skills necessary to hold or grasp paintbrushes.

Materials: Paint brush and a paint roller (can vary in size)

Construction: Stick the paintbrush stick into the hole on the side of the paint roller

Notes: I came up with the invention after seeing my participant struggle grasping a paintbrush.

Drawing of Invention:



Photo of Invention:



Youtube link to video  
of invention in use:

<https://www.youtube.com/watch?v=T2T02nn-rCs>

Invented by:

Shelby Morrison, Therapeutic Recreation Student

# Adapted Pull-Up Bar

Title of Invention: Adapted Pull-Up Bar

Activity: For doing pull-ups

Adaptation Intent: Standard pull-up bars are normally pretty high. Usually you have to jump up to do pull-ups on a bar. There is no way someone in a wheelchair would ever be able to get up there. So I brought the pull-up bar down to a seated level.

Materials:

- 6 foot threaded rod
- 1" inch electrical PVC pipe
- Electrical tape (duct tape works as well)

Construction:

- Bend the threaded rod to form a "U" and bend hooks on the end of it
- Slide pipes onto rod to form handles
- Tape the pipes in place when you are satisfied with their placement

Notes: You will most likely need assistance setting up the bar onto the regular pull-up bar. Depending on height of wheelchair seat and arm length.

Drawing of Invention:



Photo of Invention:



Youtube link to video  
of invention in use:

<http://youtu.be/hiVtN9vjUG0>

Invented by:

Michael Meyreles, Therapeutic Recreation Student

# Art Assist

Title of Invention: Art Assist

Activity: Painting. While creating art on a piece of paper, people that are blind or visually impaired sometimes have a difficult time locating the edge of paper. Therefore, they may be unsure of how to position their art or may go off the paper without realizing it.

Adaptation Intent: To assist an individual that is blind or with a visual impairment with being able to find the edges of the paper they are painting on and to independently find colors of paint.

Materials: To Build: 4 feet of 1/2 inch quarter round, a 10" x 13" piece of particle board, wood glue, 8 small flat bottomed containers, fabric paint.  
To Use: Art Assist with paint containers, paper, paint, brushes, water, and paper towels.

Construction: Cut out a 10"x 13" piece of particle board. Cut 4 pieces of quarter round to fit the length and width of the particle board. The ends of the quarter round should be cut at 45 degree angles so they fit evenly on the corners. Glue the quarter round to the particle board so that the quarter round creates a frame on the edges of the board. The round part of the quarter-round should face inward so that the flat part of the quarter-round is flush with the outer edges of the particle board.

Notes: It is important to clean the Art Assist immediately after using it before the paint dries. This piece of equipment was originally designed for painting but could be used for drawing or coloring as well. Art assist is designed to be used with a 9"x12" piece of paper. If other sizes of paper are desired, other frames would have to be constructed to accommodate them.



Drawing of Invention:

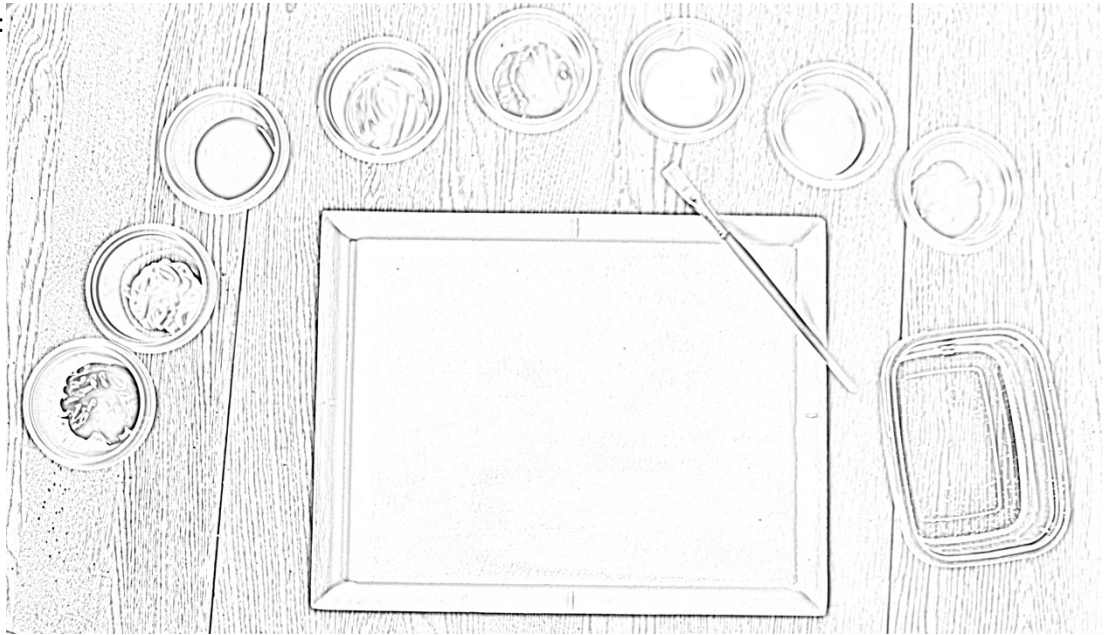
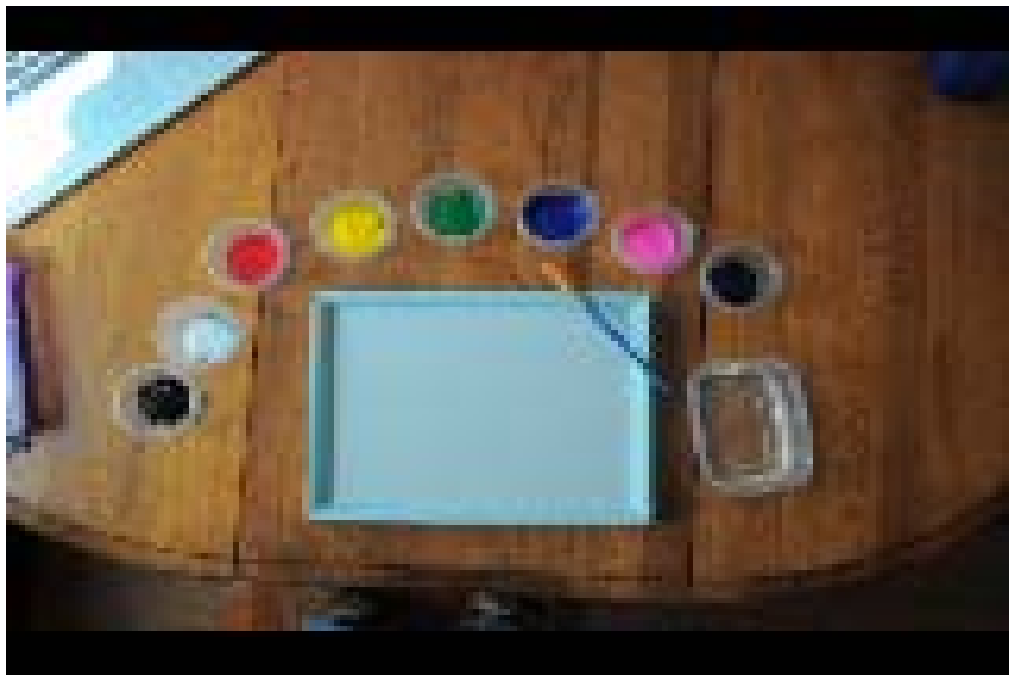


Photo of Invention:



Youtube link to video <https://youtu.be/kTGhpoBgFSU>  
of invention in use:

Invented by: Blake Propst, Therapeutic Recreation Student

# Attachable Umbrella

Title of Invention: Attachable Umbrella

Activity: This piece of adaptive equipment can be used in every outdoor activity being done using a wheelchair or chair.

Adaptation Intent: To reject sunlight and rain to individuals that are required to sit when participating in an outdoor activity.

Materials: There were three materials used to put together the attachable umbrella.

- One wooden dowel about 36 inches long
- One umbrella, any size
- Zip ties about 11 inches long

Construction: This piece of adaptive equipment is very easy to put together. Put the end of the umbrella handle next to the wooden dowel and zip tie the dowel to the handle of the umbrella. When that first step is finished put the wooden dowel next to the chair/wheelchair and zip tie the dowel to it.

Drawing of Invention:

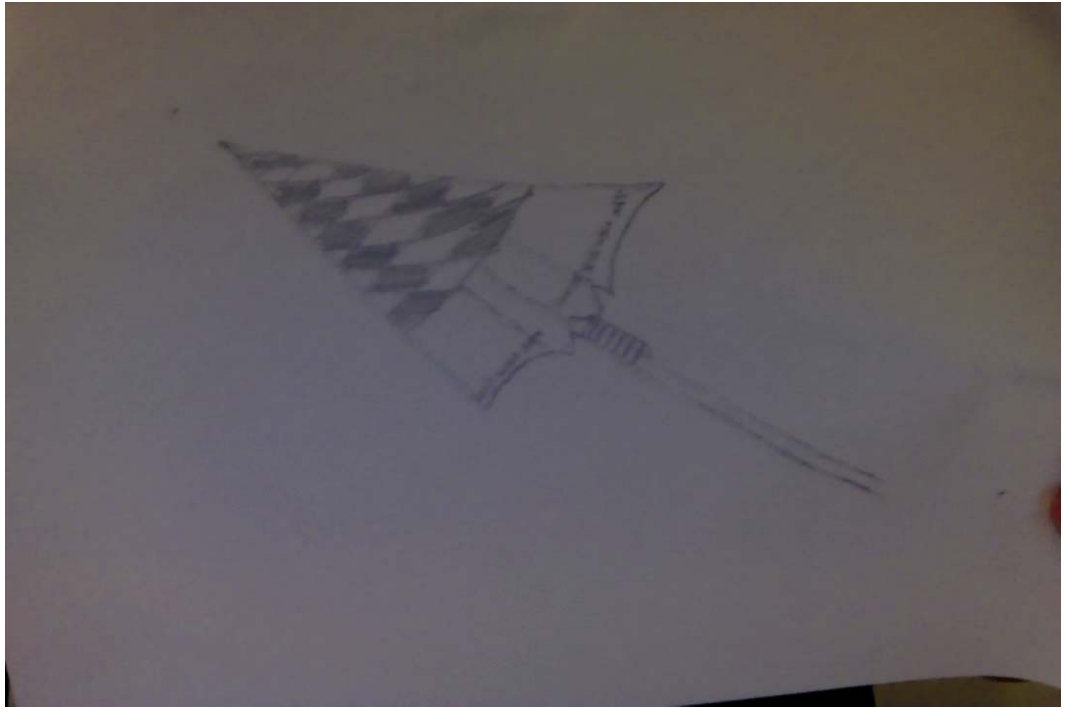


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/nbz8HeLCs9c>

Invented by:

Christina Shapiro, Therapeutic Recreation Student

# The Beading Buddy

Title of Invention:	The Beading Buddy
Activity:	Beading is an activity that can be used to create many kinds of jewelry and other types of crafts. There are no set rules to beading and it is completely up to the participant to create with their own ideas of creativity.
Adaptation Intent:	To help individuals without fine motor skills by adding a stable way to add beads rather than pinching an end of a string. This can also be used with application of one hand, for individuals that may not have function in one hand. It is also an adaptation for individuals with visual impairment that may have difficult seeing the end of a string well enough to thread it through a bead.
Materials:	<ul style="list-style-type: none"><li>• A variety of beads (up to participant which type and quantity)</li><li>• Round wooden platform</li><li>• 6-12 inches of skinny wooden dowel</li><li>• Craft string: 6 inches for each bracelet (depending on size of wrist)</li><li>• Paint and Paintbrush: if color is desired</li><li>• 3 Paperclips</li><li>• Wood burner</li><li>• Hot glue gun &amp; glue</li></ul>
Construction:	<ul style="list-style-type: none"><li>• Paint rounded base and dowel</li><li>• Wood burn name and bead rack</li><li>• Glue dowel vertically to base</li><li>• Break 3 paper clips in half</li><li>• Glue two to the base for string holders</li><li>• Glue one vertically on top of the dowel for a string holder</li><li>• Let dry and use!</li></ul>
Notes:	This can be great to do with a friend or alone! If you run out of time or don't feel like finishing, you can come back and finish later because the beads will stay in order in the bead rack or on the dowel.

Drawing of Invention:

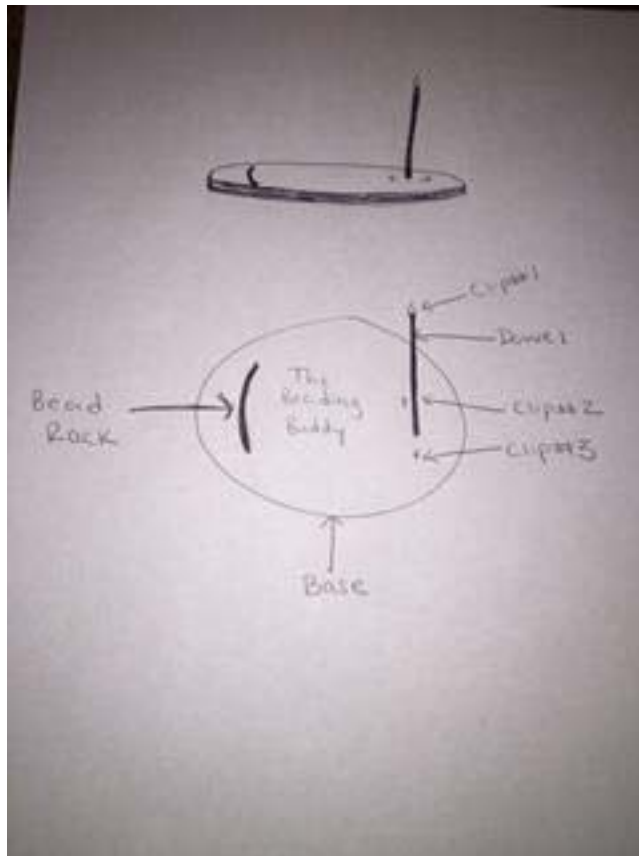


Photo of Invention:



Youtube link to video of invention in use:

<https://www.youtube.com/watch?v=sU6icYnGTol>

Invented by:

Alexa Caselli, Therapeutic Recreation Student

# CD Card Holder

Title of Invention: CD card holder

Activity: Playing cards

Adaptation Intent: Help individuals with lack of grip, arthritis, or carpal tunnel easily hold their hand of cards.

Materials: Two CDs, masking tape, playing cards

Construction: Tape the two CDs together toward the bottom using small pieces of masking tape, leaving an opening in the top where the cards will go.

Notes: Can be used for any individual lacking fine motor skills. Basic gross motor skills and minor grip required.

Drawing of Invention:

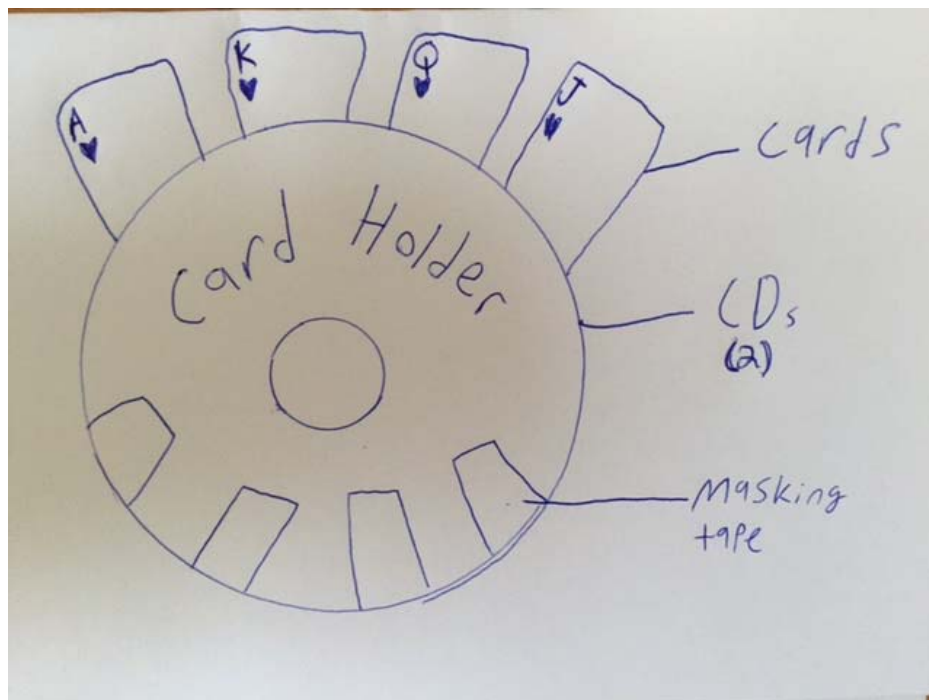


Photo of Invention:



Youtube link to video  
of invention in use:

<https://www.youtube.com/watch?v=iqfNmVHsOq4>

Invented by:

Jack Rooney, Therapeutic Recreation student

# Clip-On Hockey Stick

- Title of Invention: Clip-on hockey stick
- Activity: This adaptation can be used as a hockey stick to go play any type of hockey, indoors or outdoors.
- Adaptation Intent: The intent of the adaptation is meant to be used as a hockey stick either indoors or outdoors and can easily be attached to a walker. The player can easily push the walker, that will then push the broom, and can move along with a puck, or ball, in front of it leaving their hands on the walker.
- Materials:
- Wooden dowel for stick
  - Large brush for broom end
  - PCP T attachment
  - Velcro strips
  - Tape/super glue
- Construction:
- Place the wooden dowel in one of the holes on top of the brush.
  - Place a lot of super glue around the dowel to secure it to the brush.
  - Leave it overnight to dry.
  - While the broom is drying, take the PCP T attachment and carefully cut out a section on top so that it can be secured to a walker.
  - At the top of the dowel, place the PCP T attachment over top securely with the hole that is not cut.
  - Make sure to place super glue inside of it to secure it to the dowel.
  - Take velcro strips and secure them to the ends of the PCP T attachment so that when placed on the walker, they will wrap around the pole of the walker.
  - Tape the velcro and add some super glue under the tape to secure them to the PCP T attachment.
  - Let dry overnight.
- Notes:
- Make sure the super glue is dried fully before touching the broom.
  - Make sure nothing moves out of place while adding other pieces.
  - Make sure the opening that is cut on the PCP T attachment is wide enough for the walker.



Drawing of Invention:

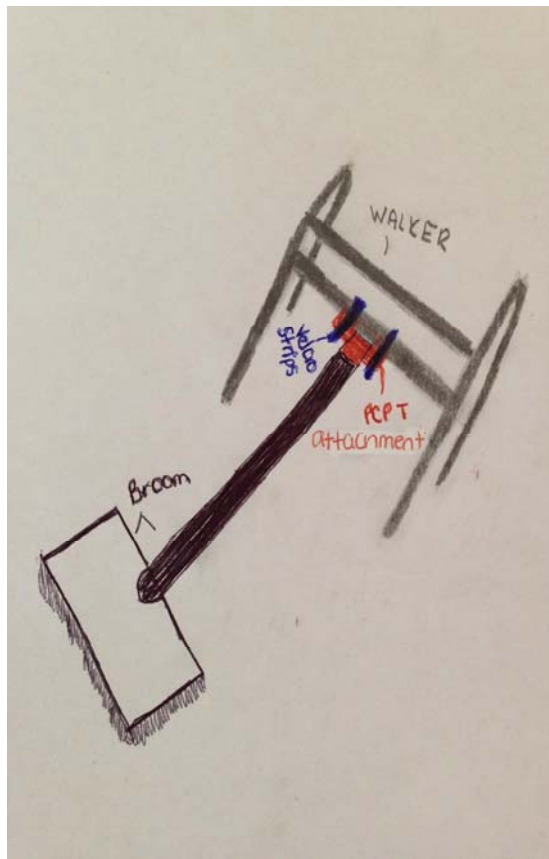


Photo of Invention:



Youtube link to video of invention in use:

<https://youtu.be/lu8CZPrC7x4>

Invented by:

Nicole Lair, Therapeutic Recreation Student

# Color Assister

Title of Invention: Color Assister

Activity: Coloring is an activity done by people of all ages. To color, the person has to be able to pick up the utensil (such as a colored pencil, crayon, or marker) and grip it in their hands in order to color the picture. They will have to do this multiple times as they switch colors to color in different areas of the picture. Due to injuries or illnesses, some people may not be able to pick up or grip things without the assistance of another person.

Adaptation Intent: The color assister is designed to help people who are not able to pick up or grip a coloring utensil, color more independently. The Velcro on the back of the color assister will be wrapped securely around the participant's hand. Using the opposite hand, the participant will push down on the colored pencil they wish to use. When they are finished with that color, they can push it back up and push down a new color. By using this piece of equipment the participant will not have to pick up or grip the colored pencil. The participant will only have to move their hand back and forth over the area they wish to color.

Materials:

- Foam sheets
- Bendable wire
- Velcro
- Pencil grips
- Crazy glue

Construction: Steps to create the Color Assister:

1. Cut foam sheets in the shape of a rectangle (size should appropriately fit participants hand)
2. Cut pieces of the bendable wire to be the same length as the foam sheets
3. Use crazy glue to glue the wire in between two pieces of the foam sheets
4. Glue another piece of the foam sheets on each side for more cushion
5. Glue Velcro on one side of the foam sheets
6. On the opposite side, glue on the pencil grips in a straight line

Notes:

- The participant will need help putting the Color Assister on their hand and putting the colored pencils in the pencil grip slots.
- May need smaller or larger pencil grips depending on what coloring utensil the participant prefers to use (Ex: marker, crayon, or colored pencil)

Drawing of Invention:

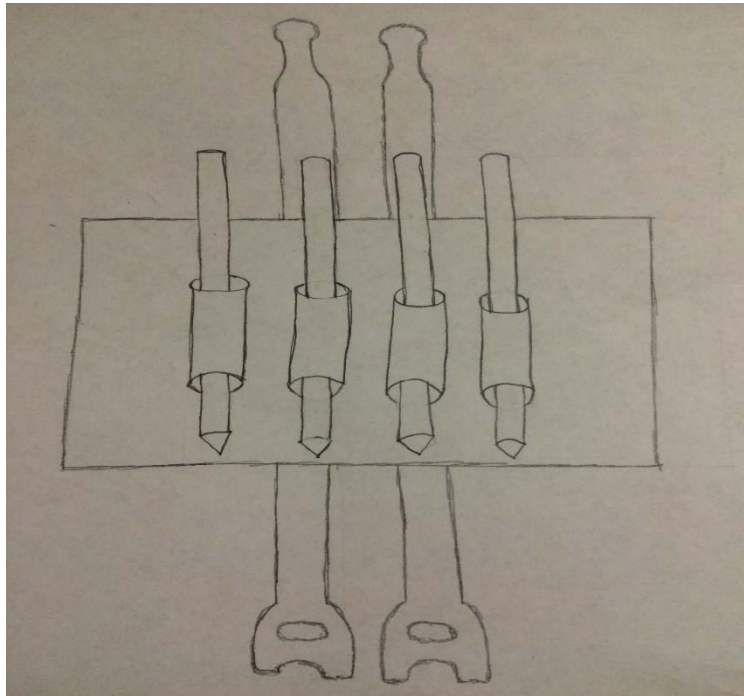
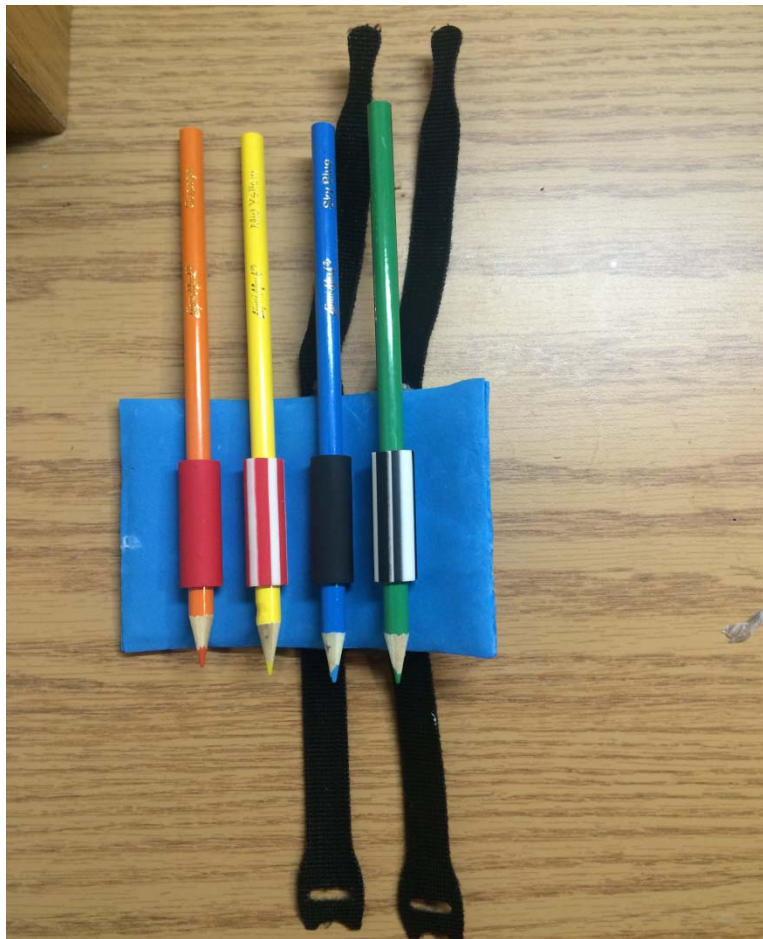


Photo of Invention:



Youtube link to video of invention in use:

<https://www.youtube.com/watch?v=J4-ykK6U0xA>

Invented by:

Kelli Liotta, Therapeutic Recreation Student

# Easy Beading

Title of Invention:	Easy Beading
Activity:	beading
Adaptation Intent:	To make it easier to put the bead on a thin string for someone with limited vision, fine motor and neurological impairments.
Materials:	Metal hook from a velvet hangers, ball chain connectors, pillars, awl, gorilla glue, tape, scissors and jewelry wire.
Construction:	<ol style="list-style-type: none"><li>1) With care take apart of the velvet clothing hanger and put the hook part on the side.</li><li>2) Grab a ball chain connector and use the awl and pillars from each side to open it up.</li><li>3) remove the chain part from the chain connector</li><li>4) Place the connector onto the bottom of the hook. Hint the opening should face to the front as though it looks like an opposite question mark.</li><li>6) Put some wax paper and newspaper down.</li><li>7) Place your hook down and old newspaper.</li><li>8) Carefully take out the gorilla glue and wait thirty minutes to have it dry.</li><li>9) Once dry take some string and get 36 inches or 48 inches f string depending on if you want to make a necklace or a bracelet.</li><li>10) Then place the string through the opening.</li><li>11) Tape down the strings</li><li>12) Then with your non dominant hand hold on the hook and on the other hand pick up the bead.</li><li>13) Then put the bead to the curve side of the hook and slide it down.</li><li>14) Repeat step 13 until you are satisfied</li><li>15) When the individual is satisfied take your dominant hand and place the hooks onto one hand.</li><li>16) With the other hand grab the other string and make sure you pull it out without removing the beads from the string</li><li>17) tie a knot as you would to complete the knot.</li></ol>
Notes:	<ul style="list-style-type: none"><li>• Have some assistance if necessary when opening the bottom of the key chain from using the awl and pillars</li><li>• Work in a hard service and make sure you use just one drop of gorilla glue</li><li>• Best beads to use for this adaptive equipment is pony beads</li><li>• Hanger came from a velvet clothing hanger</li><li>• Key chain may be hard to find if that is the case then find something that does the same affect that just opens up.</li></ul>

Drawing of Invention:

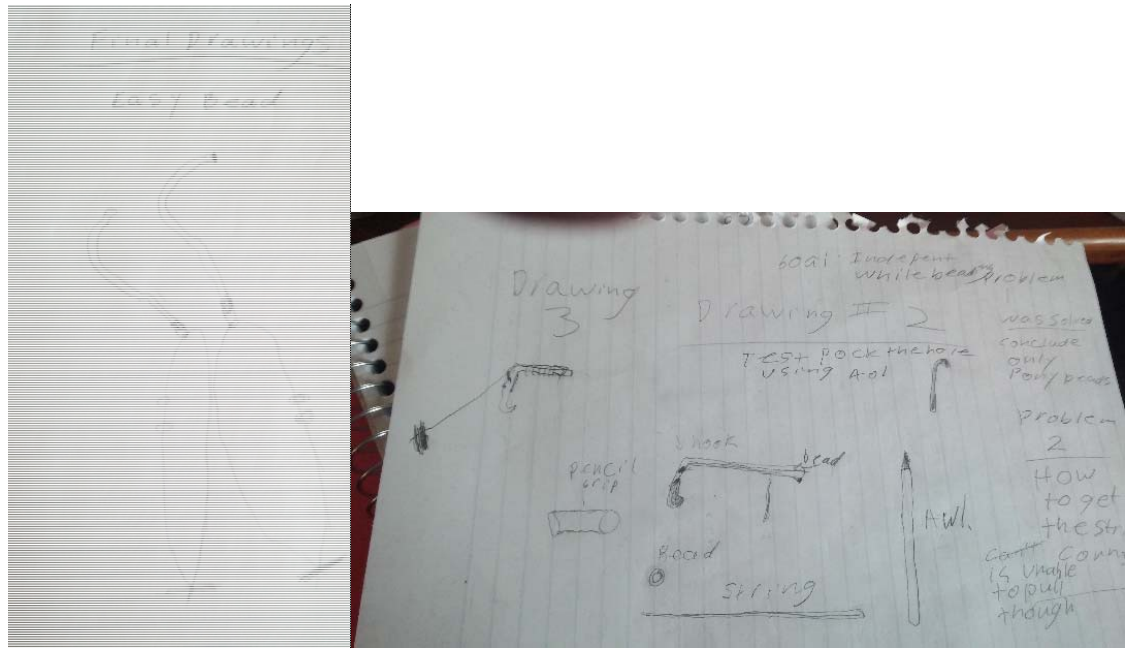


Photo of Invention:



Youtube link to video of invention in use:

Is not able to upload at this time

Invented by:

Katie Mahlum, Therapeutic Recreation Student

# Easy-Grip

- Title of Invention: Easy-Grip
- Activity: Art and music; any activities that involve gripping or holding a narrow implement. Examples include drawing, painting or using a drumstick or mallet.
- Adaptation Intent: To facilitate individuals with limited fine motor skills to participate in activities that involve holding and using thin/narrow objects like pens, pencils, markers, paintbrushes and even musical mallets or drumsticks.
- Materials:
- Foam pipe insulation tubing (1" width)
  - 2 Strips of Velcro (each about 8" long)
  - Hot glue/hot glue gun
- Construction:
- Cut a piece of the pipe insulation tubing about 5" long
  - Cut 2 strips of Velcro, each measuring about 8" long
  - Use a hot glue gun to glue the first strip of Velcro along the bottom edge of the pipe tubing (Only glue about the first two inches of Velcro around the tubing, this allows the Velcro to tighten down on the tubing and hold thin objects)
  - Using the same method described in the previous step, glue the second Velcro strip about an 1" above the first strip
  - Wait a few minutes to let the hot glue dry before trying it out yourself!
- Notes:
- You can buy a 6 ft long piece of foam pipe insulation tubing, which can produce up to 14 Easy-Grips, at Lowes for just under 2 dollars!
  - You can also buy a 12ft by ¾ inch roll of Velcro, which can produce about 9 Easy-Grips, at Lowes for about 6 dollars.

Drawing of Invention:

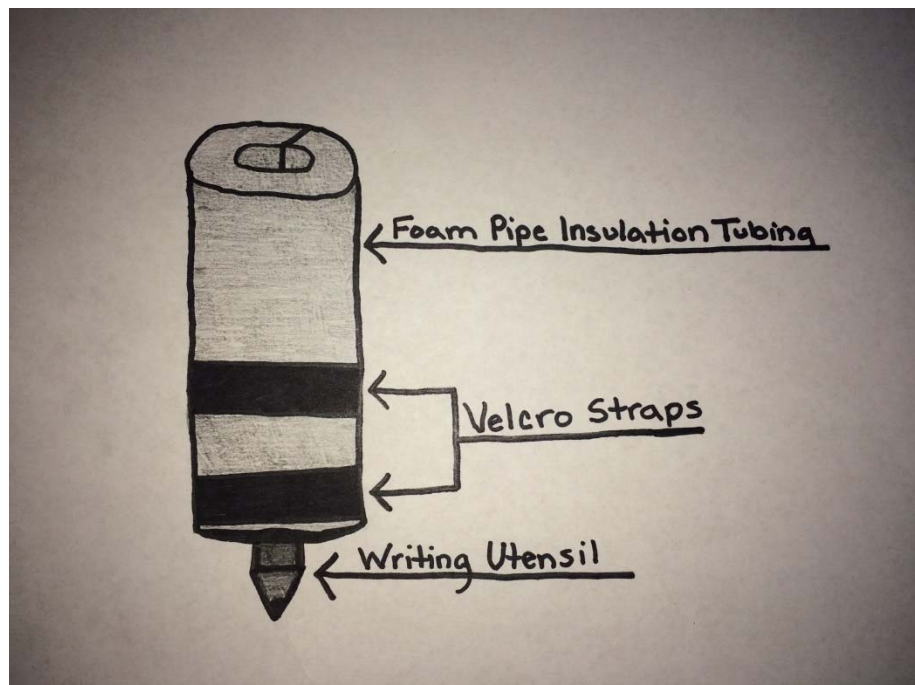


Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/iFqBZB6XEEQ>

Invented by:

Ashlee Boughton, Therapeutic Recreation Student

# Finger-Tip Paint Brush

Title of Invention: Finger-Tip Paint Brush

Activity: Painting

Adaptation Intent: Allow someone who has difficulty gripping a paint brush to still utilize their hands to paint.

Materials:

- Hot Glue Gun & Sticks
- Scissors
- Rubber finger pad gripeeze
- Paint brushes
- Needle (optional)

Construction:

1. First collect all the materials you will need.
2. Next cut the handles to the paint brushes.
3. Puncture a small hole in the rubber finger pads with the end of the paintbrush or needle.
4. Place the cut part with the brush through the hole on the finger pad
5. Hot glue the inside of the finger pad as well as along the rim of where it comes out.
6. Let the hot glue cool completely.
7. Give them a try!

Notes:



Drawing of Invention:

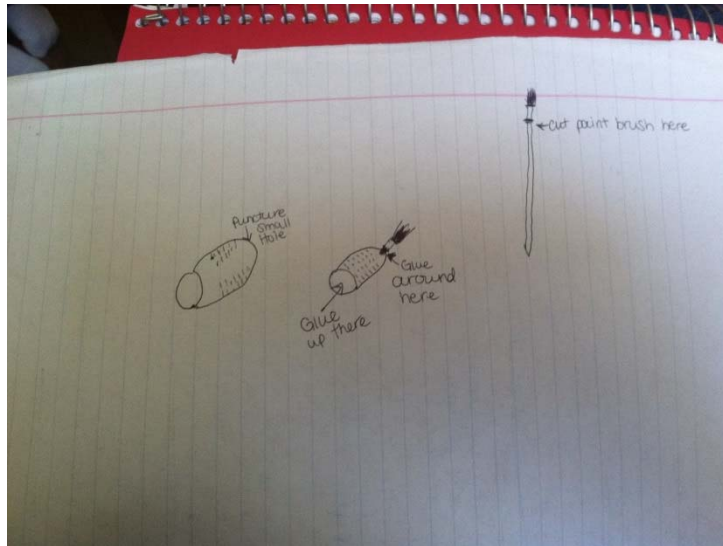


Photo of Invention:



YouTube link to video of invention in use:

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

Invented by:

Mikayla Manner, Therapeutic Recreation Student

# Gardening Grasp

Title of Invention: Gardening Grasp

Activity: Gardening or potting plants

Adaptation Intent: To allow everyone a chance to garden with ease. Anyone who has a harder time grasping an object for a while will be able to use the gardening grasp to comfortably garden without worrying about grasping the tools.

Materials: Velcro  
Gardening gloves  
Super glue  
Gardening spade

Construction: Take a longer strip of Velcro and wrap it around the gardening spade. Cut the Velcro where it meets around the handle. Then cut four thin strips of Velcro to fit on the glove. Super glue the back of the Velcro and place the strips on both the glove and the spade.

Notes:

Drawing of Invention:

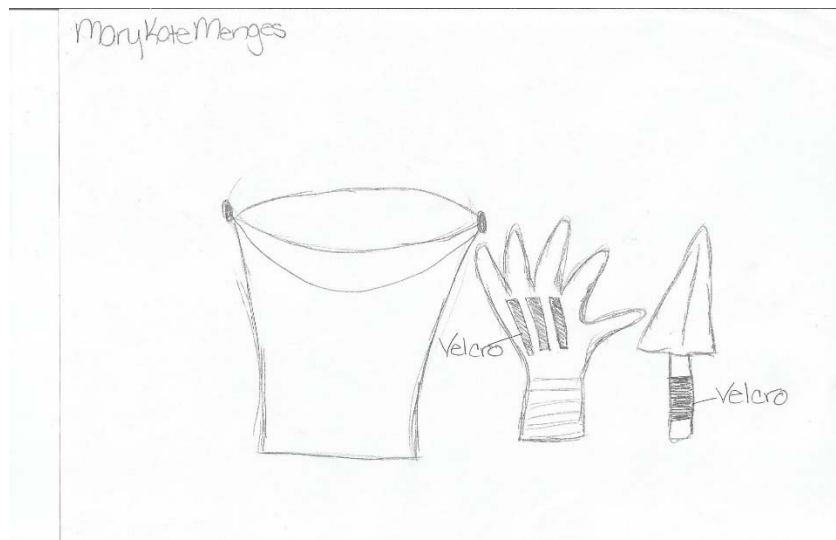


Photo of Invention:



Youtube link to video  
of invention in use:

Invented by: Mary Kate Menges, Therapeutic Recreation Student

# Gardening Tweezers

Title of Invention: Gardening Tweezers

Activity: Planting for persons who have fine motor difficulties can be challenging, especially when it comes to grasping the seeds. The Gardening Tweezers have foam tips that grasp the seeds when closed by the person using them. It also has measurements on the outside to plant the seeds at the correct depth. The tweezers are big enough to hold with the whole hand which makes it easier to use.

Adaptation Intent: To assist persons with fine motor difficulties to pick up seeds and plant them at the correct depth of planting.

Materials:

- Two 12 inch gardening wooden slates
- One 2 inch spring
- Hot glue/gorilla glue
- Permanent marker
- Ruler
- Foam sheet (color of choice)
- Paint (if desired color is wanted)

Construction: To construct the gardening tweezers place the spring 1/3 of the way up the two slates of wood from the bottom (pointed end) up. Hot glue/gorilla glue the spring to both wooden slates. Hold together until glue dries (about one minute). Once glue has dried take the tops of the wooden slates and glue them together at the ends to create a tweezer like look to the wooden slates. Hold together until the glue dries (about one minute). Take the ruler and align it with the pointed end of the wooden slates and mark the 1 inch, 2 inch and 3 inch areas on the slate. One side marked is enough unless both sides are desired. Label these markings with the permanent marker. Lastly, hot glue a fitted piece of foam to the pointed ends of the wooden slates on the inside.

Notes: This adaptive piece of gardening equipment is designed to assist persons with fine motor skill difficulty in the task of picking up the seeds and planting them in the soil at the depth in which it needs to be planted.

Drawing of  
Invention:

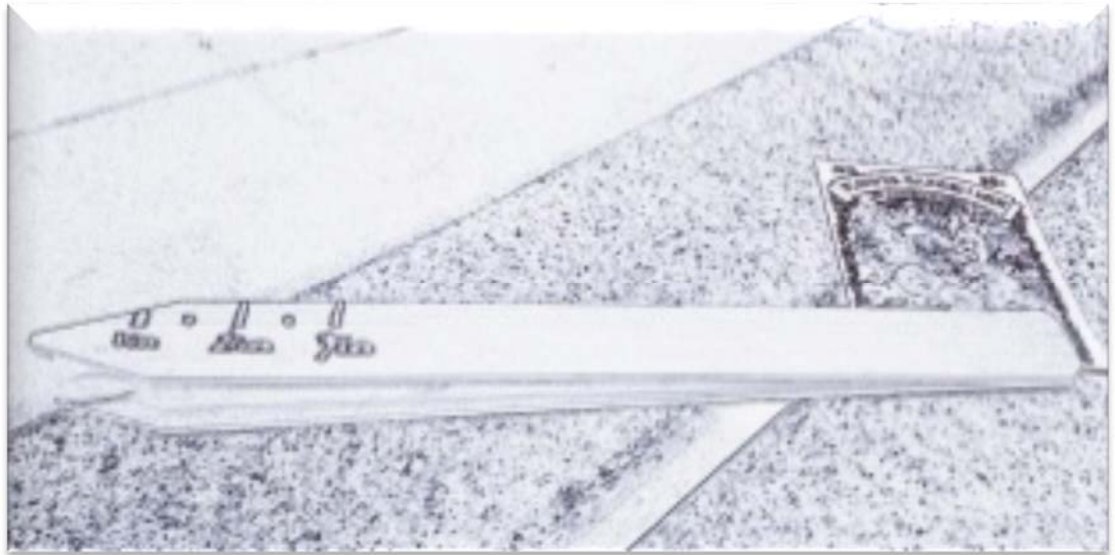


Photo of Invention:



Youtube link to  
video of invention in  
use:

<https://www.youtube.com/watch?v=D18-gtYiigg&feature=youtu.be>

Invented by:

Amanda Ruland, Therapeutic Recreation Student

# Golf Ball Retriever

Title of Invention:

Golf Ball Retriever

Activity:

Golf or Mini-Golf

Adaptation Intent:

The intent of this adaptation is to pick up golf balls either from inside the cup on the green or off of any surface that the ball needs to be moved from.

Materials:

Golf club, Tupperware dish cover or any light weight plastic sheet, duct tape, scissors, and a golf ball to test.

Construction:

The construction of this equipment is simple. The first step after gathering the materials needed is to cut the Tupperware top down to size. The size of the top should be about 3 inches in diameter after cutting it with the scissors. The next step is to take the Tupperware top and tape it to the top of the handle of the golf club. Using the duct tape, tape the top on to the club with half of the Tupperware exposed above the club and the other half secured to the club. The Tupperware should now be shaped like a cylinder, with the opening of the cylinder being just wide enough to fit the golf ball.

Notes:

The Tupperware taped tight enough to let the ball enter the cylinder but not escape when the club is moved around. The key to this invention working is the tension or friction of the ball against the Tupperware.

Drawing of Invention:

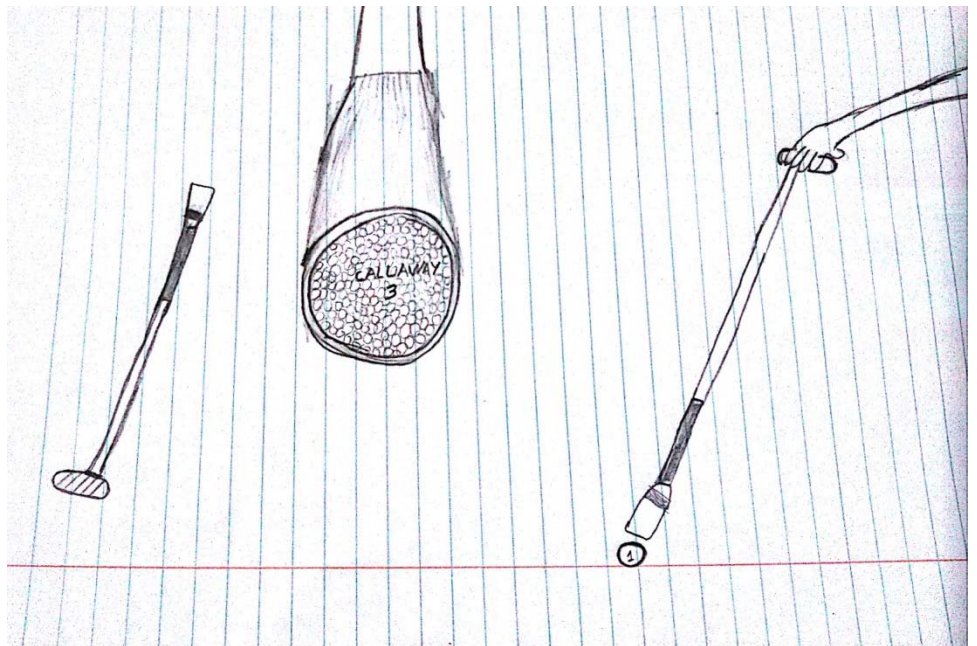


Photo of Invention:



Youtube link to video of invention in use: <https://youtu.be/4CIYfpullVs>

Invented by: Ian Haines, Therapeutic Recreation Student

# Gripped Whiffle Ball Bat & Noise Making Ball

Title of Invention: Gripped Whiffle Ball Bat & Noise Making Ball

Activity: Whiffle ball

Adaptation Intent: Give individuals with visual impairments the opportunity to participate in whiffle ball. The ball will make noise so they can use their sense of hearing to easier locate where the ball is when in the air. For this specific project bells were placed to inside to rattle inside the ball. However, other items that make noise will work just fine. The bat also has Velcro strips and gloves so that individuals who cannot grip well can hold the bat. The Velcro makes it easier and more secure to hold. The strips used for this project need to use of gloves as well that have the opposite sticking side of Velcro so that it works. However, things such as Velcro strips that can wrap around themselves or anything that can be wrapped around the hand work well too.

Materials: *Bat:* Velcro strips, gloves  
*Ball:* small bells, duct tape

Construction: *Bat:* Place Velcro strips on handle of bat all the way around. Get gloves (whatever kind is comfortable) and put opposite material Velcro strips on them so that gripping is possible.  
*Ball:* Cut slit into the ball so that bells (or other noise makers) can be placed inside the ball. When done the slit needs to be covered (duct tape works the best).

Notes: Some gripping from individual needed to hold the bat. However the use of Velcro requires minimum grip.  
Ball needs to be thrown with a lot of spin to get bells to rattle and make noise. A small device that makes a constant beep sound would be ideal to put inside the ball (could not be found at the time of construction).



Drawing of Invention:

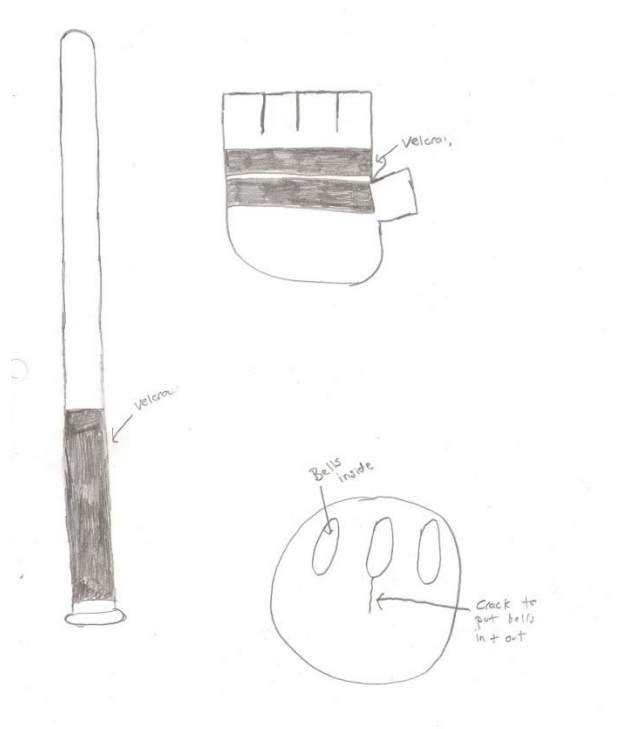


Photo of Invention:



Youtube link to video of invention in use:

[https://www.youtube.com/watch?v=NGO2Pvm2\\_Yo&feature=youtu.be](https://www.youtube.com/watch?v=NGO2Pvm2_Yo&feature=youtu.be)

Invented by:

Paul Romanenko, Therapeutic Recreation Student

# Handy Pal

Title of Invention: Handy Pal

Activity: Writing/Drawing/Painting

Adaptation Intent: The tennis ball is slid onto the writing tool allowing for an individual who may not have full grip potential/full use of fine motor skills in hands or fingers, allowing them to be able to control the writing tool.

Materials: Tennis Ball, Scissors, Writing Tool

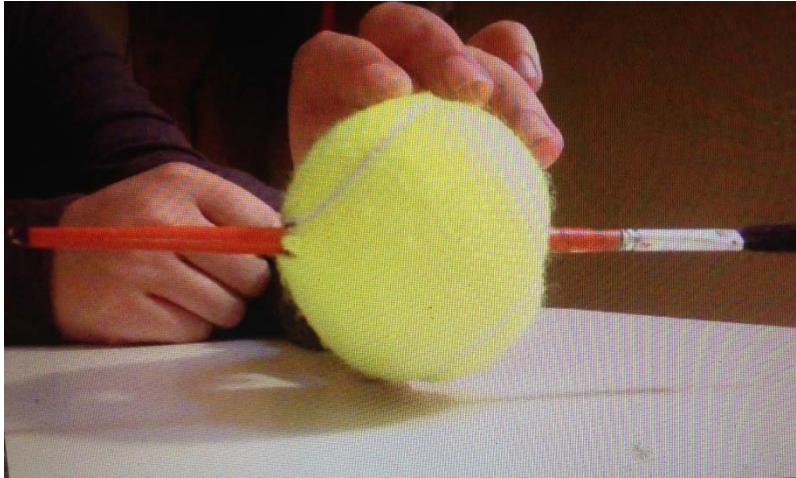
Construction: Use scissor or tool with sharp point to project 2 holes into the tennis ball. It is easier to project hole into a spot on the seam. Slide the writing tool through one hole and then the other.

Notes:

- Will need help to make holes
- Tennis Ball is thick making it difficult to create a hole

Drawing of Invention:

Photo of Invention:



Youtube link to video  
of invention in use:

<http://youtu.be/Olh6XJqxRng>

Invented by:

Jackie Hart, Therapeutic Recreation Student

# The Helping Hand

Title of Invention: The Helping Hand

Activity: The Helping Hand can be used by a participant when writing, drawing or coloring. The helping hand helps to guide a pen, pencil, colored pencil along with minimal guidance of the participant. It can be used to help hand write or draw anything the participant pleases.

Adaptation Intent: The intent of the adaptation is to assist person with difficulty in regard to grip strength. The invention can also assist persons with low to moderate fine motor skills. The intent is to help guide the pen or pencil along the paper when writing or drawing.

Materials: The only materials needed are metal wire, duct tape, and scissors to snip the wire

Construction: The construction needed is copper or metal wire bent and manipulated to it will adhere to a participant's hand. I used my hand to mold the wire around, bending, snipping and twisting it to make the helping hand. The pink duct tape was then wrapped around for a more appealing look and so that it did not hurt or cut a participant.

Notes: The idea of the invention is to make it easy for the participant to not have to grip the pen, pencil, and marker or crayon when coloring or writing. The hand can lay free with minimal grip of the utensil and all the participant must do is move their hand.

Drawing of Invention:

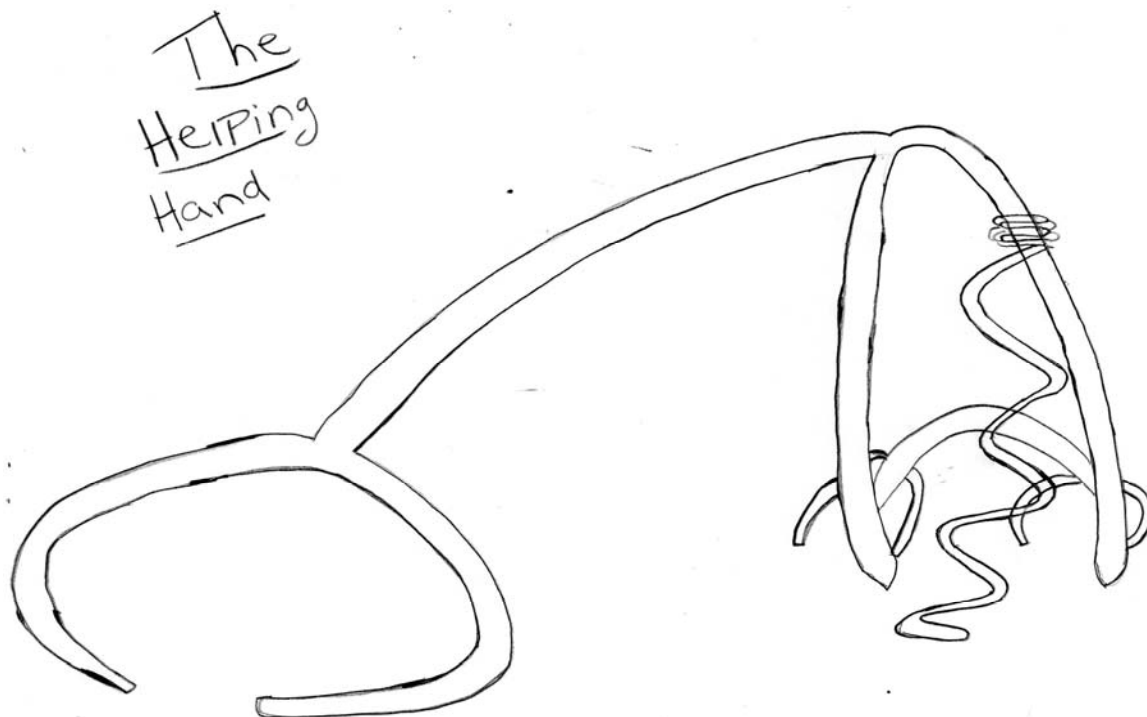
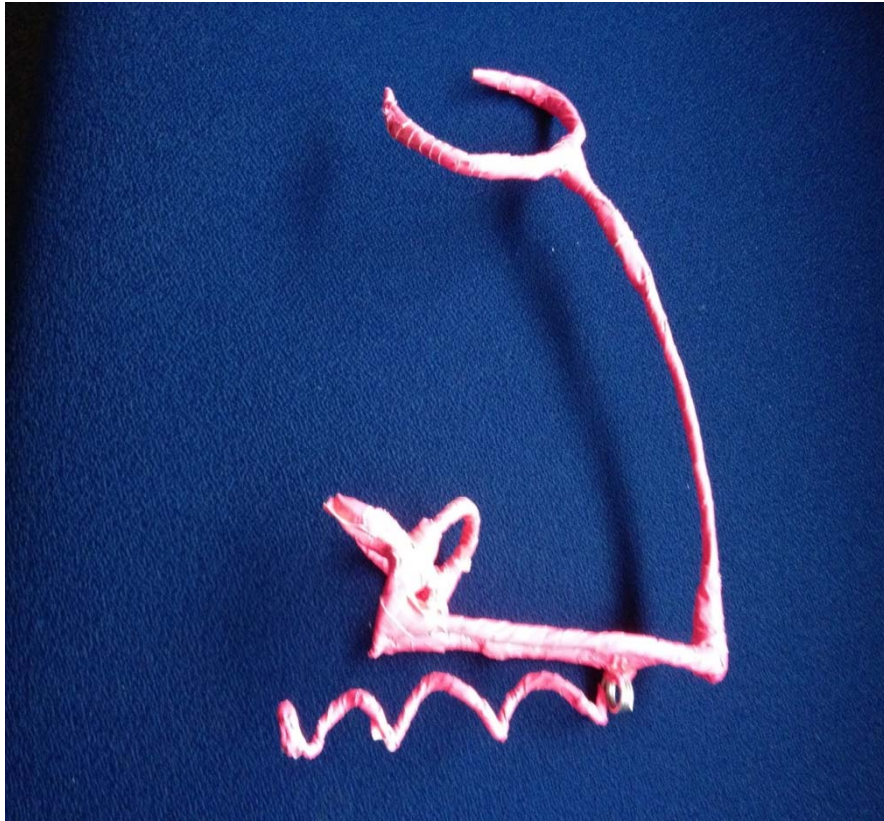


Photo of  
Invention:



Youtube link to  
video of  
invention in use:

<http://youtu.be/6MmoDNkRnWk>

Invented by:

Ryan Dichiara, Therapeutic Recreation Student

# “Help-You-Grow” Watering Hose

Title of Invention: “Help-You-Grow” Watering Hose

Activity: Gardening is a world-wide activity that people of all ages can participate in. It can be extremely rewarding to look out at a fully grown garden that you put together, step by step, day by day. One of the most important steps in gardening is watering the plants. How much water is put on them can make or break the survival of any vegetation. For someone with minimal gripping abilities, this step can be a huge challenge because it is hard to hold the watering can properly.

Adaptation Intent: To facilitate an individual who needs extra assistance with watering plants by providing a piece of equipment that caters to their physical need, making watering a garden a fun task rather than a stressful one.

Materials: Up to three materials are needed:

1. Auto-syphon pump
2. A larger source of water; can be a watering can, jug, or up to a 5-gallon bucket
3. A nozzle to place at the end of the syphon, depending on how much water pressure desired

Construction: The Auto-Syphon should be constructed already upon purchase. Place the syphon inside of the desired water source, ie: watering can. Using the provided pumping lever, pull up on this lever, allowing the syphon to fill with water. Then, before lowering the pump to release water, have someone direct the end nozzle over the desired plant to be watered. Once in place, the participant pushes down on the lever originally pulled up, releasing the desired amount of water.

Notes: This is a nice activity to do with any participant of any age range. Doing hand-over-hand assistance on a typical watering can is harder because the person providing assistance has to make sure the right amount of water is poured while providing hand-over-hand. The “Help-You-Grow” equipment allows the participant to feel like he or she is in control, which is the desired outcome of an adaptive piece of equipment. It helps you grow your plants, and grow as an individual!

Drawing of Invention:

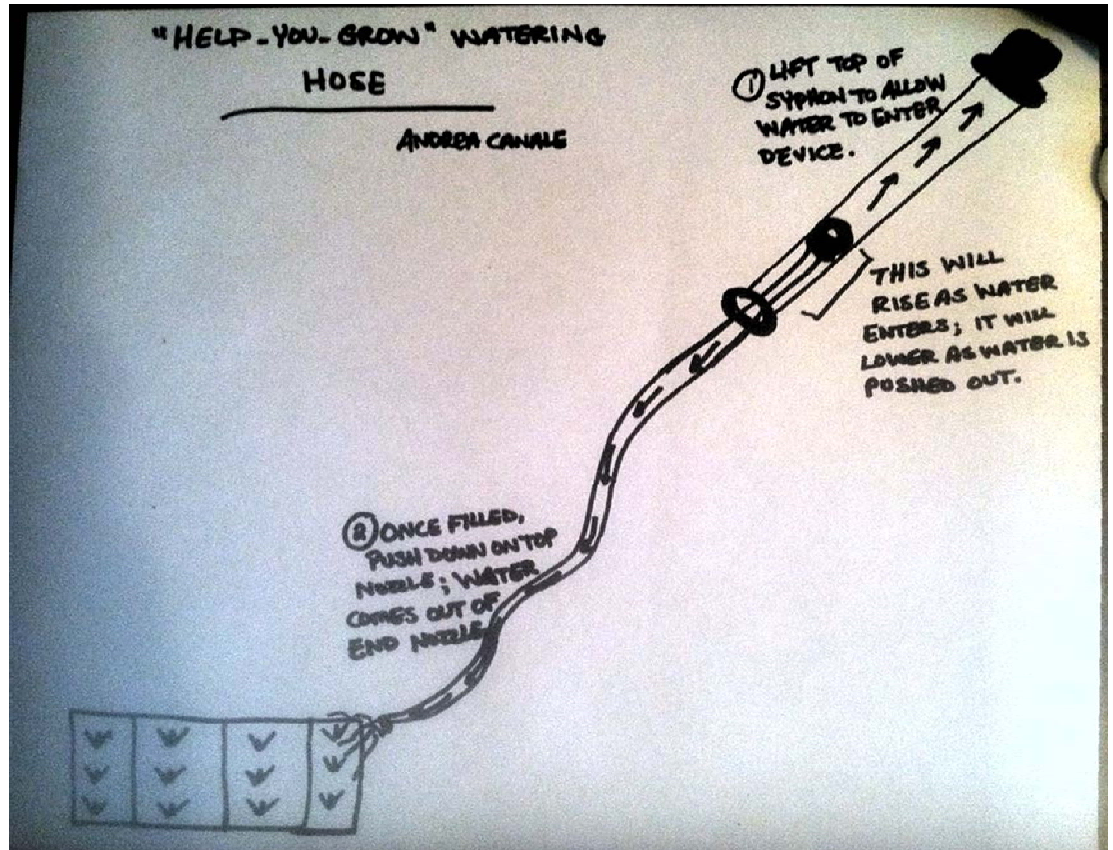


Photo of Invention:

None provided

Youtube link to video of invention in use:

<http://youtu.be/3vPQpBdTc>

Invented by:

Andrea Canale, Therapeutic Recreation Student

# The Hill Climber Attachment

Title of invention The Hill Climber Attachment

Activity Hiking

Adaptation Intent Assist a person who is confined to a support boot (keeping the foot and ankle at 90 degrees) walk up hill with little to no ROM or strain in the ankle.

Materials PVC pipe, PVC primer and glue, Rubber, Small screws with built on washers, Velcro

Construction Cut the PVC pipe to the width of the boot. Adhere the Velcro on the inside of the PVC pipe. Rub PVC primer over the entire PVC pipe and one side of the rubber. Once primer is dry place glue on the same side of the rubber you used the primer on. Stick the glue side to the PVC pipe. Using a drill, place the screws in the rubber through the PVC pipe, fixing the rubber to the pipe. Glue the side of the Velcro that you will be placing on the Velcro already inside the PVC pipe. Adhere the Velcro to the other piece of Velcro inside the pipe. Measure the length of the Velcro so it fixes (temporarily) the pipe to the bottom of the boot.

Notes Various sizes of PVC pipes can be used for different degrees of incline.

Drawing of Invention

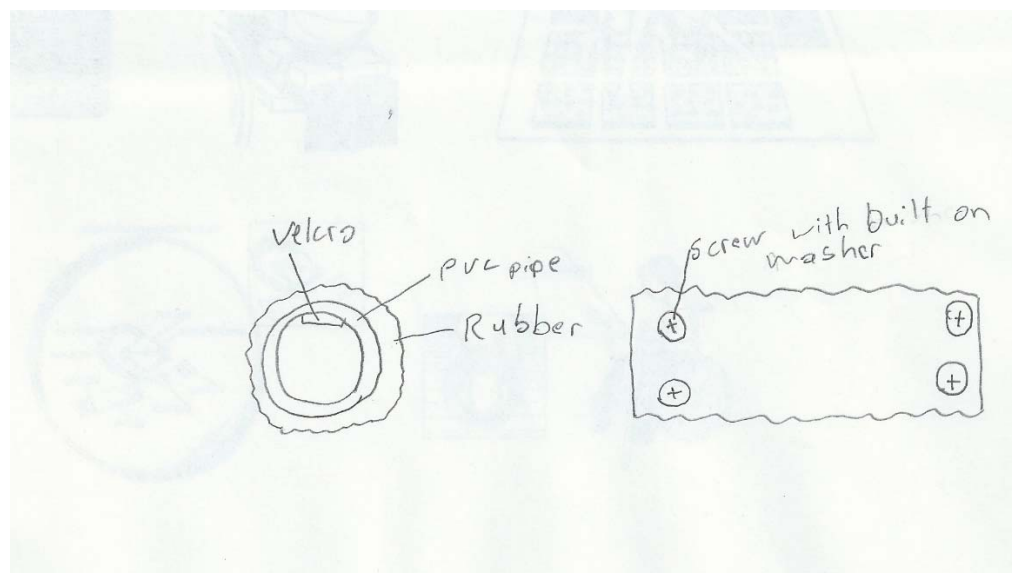




Photo of  
Invention



YouTube link of  
invention in use

<http://youtu.be/Kcj4dcRr21E>

Invented by

Justin Miller, Therapeutic Recreation Student

# Magnetic Puzzle

Title of Invention: Magnetic Puzzle

Activity: Puzzles are usually done individually or can be done with a group of people. There are many different sizes of puzzles ranging from 5 pieces to 1,000 pieces. The object of putting a puzzle together requires putting smaller pieces of a picture together to make the whole picture. Fine motor skills are needed to be able to pick up the pieces and put them together. Individuals with poor motor skills due to cerebral palsy and other physical disabilities may have difficulty putting a puzzle together.

Adaptation Intent: To facilitate individuals with physical disabilities to put together a puzzle independently through the use of magnetic pieces and a magnetic board. The magnetic puzzle pieces can be easily pushed around the magnetic board to construct the puzzle.

Materials: Magnetic strips with sticky backing, scissors, baking sheet, puzzle.

Construction: Cut the magnetic strip into tiny rectangular shapes that will fit on the back of the puzzle pieces. Cut enough for each puzzle piece of your puzzle. Then, stick each magnetic piece onto the back of each puzzle piece. The puzzle pieces will magnetically stick to the baking sheet. Once finished putting the magnets on each piece putting together the puzzle can begin!

Notes: This invention also works great for people who use a wheel chair because they can place the baking sheet in their lap without worrying about the puzzle pieces getting lost.

Drawing of Invention:

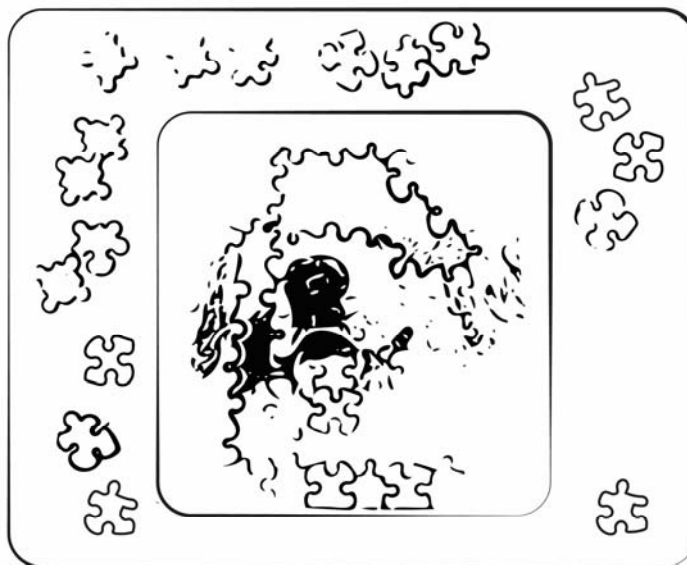
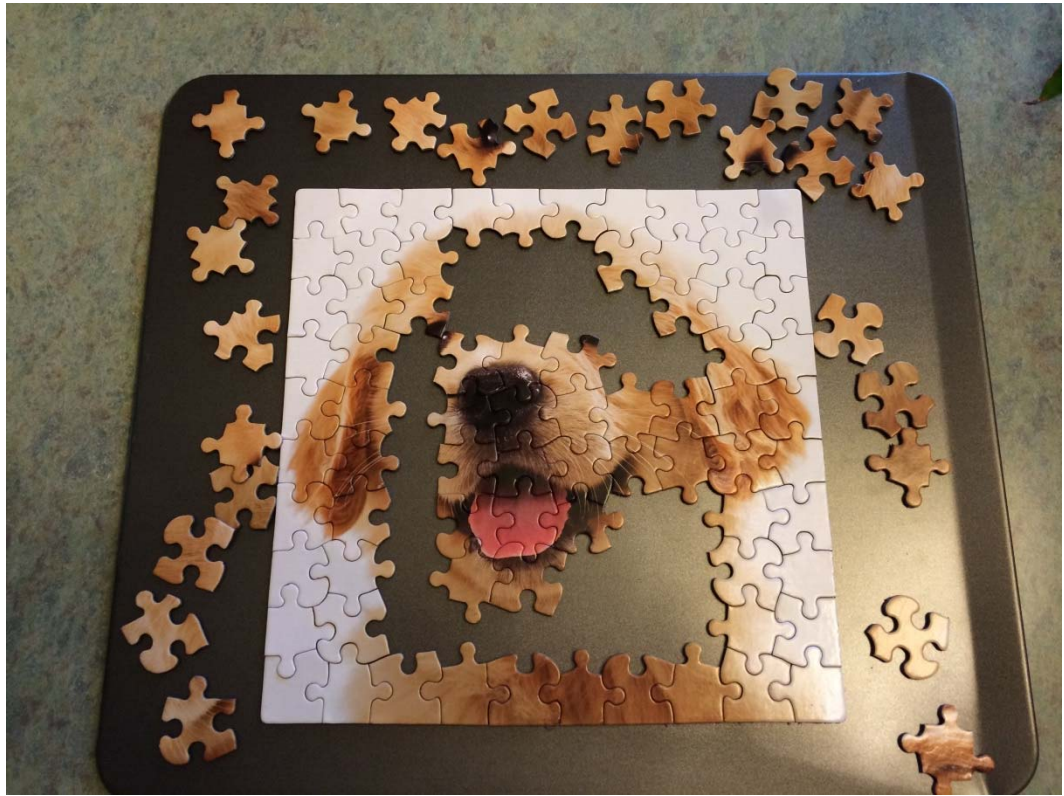


Photo of Invention:



Youtube link to video  
of invention in use:

<http://youtu.be/lw1756M3o-A>

Invented by:

Kalli Garey, Therapeutic Recreation Student

# Painting with Ease

Title of Invention:	Painting with Ease
Activity:	Painting can be participated individually, and in a group. Painting is a fun activity that everyone can participate in. It can easily be adapted to meet the needs of all individuals. Here I have decided to adapt a paint brush that an individual who may have limited grip and experience discomfort while holding the brush for any period of time. Many paint brushes do not come with a supportive handle, so I have decided to build up the handle by using the materials I have listed below.
Adaptation Intent:	To assist individuals to have a better grasp and comfort while holding a paint brush and still enjoy all the aspects of painting.
Materials:	Paint brush (medium-large) Model magic or clay About 4-5 rubber bands Scissors Rubber shelf lining  Additional materials  Paper of your choice Paint Cup of water
Construction:	<ol style="list-style-type: none"><li>1. Start with paint brush of your choice</li><li>2. Take about a handful amount of the model magic clay and wrap it around the edge of the paint brush handle</li><li>3. Let the clay dry for a couple of hours or as long as it takes</li><li>4. Take the rubber shelf lining and cut an even amount so it matches up with the length of clay handle (making Two even pieces)</li><li>5. Wrap both pieces of lining around the clay creating a grip</li><li>6. Take the rubber bands and wrap them around the lining to secure in place</li></ol>
Notes:	The model magic/clay is great material to build up the handle on the brush The shelf lining acts as a gripper and adds a softer touch to the handle The rubber bands secure everything in place

Drawing of Invention:

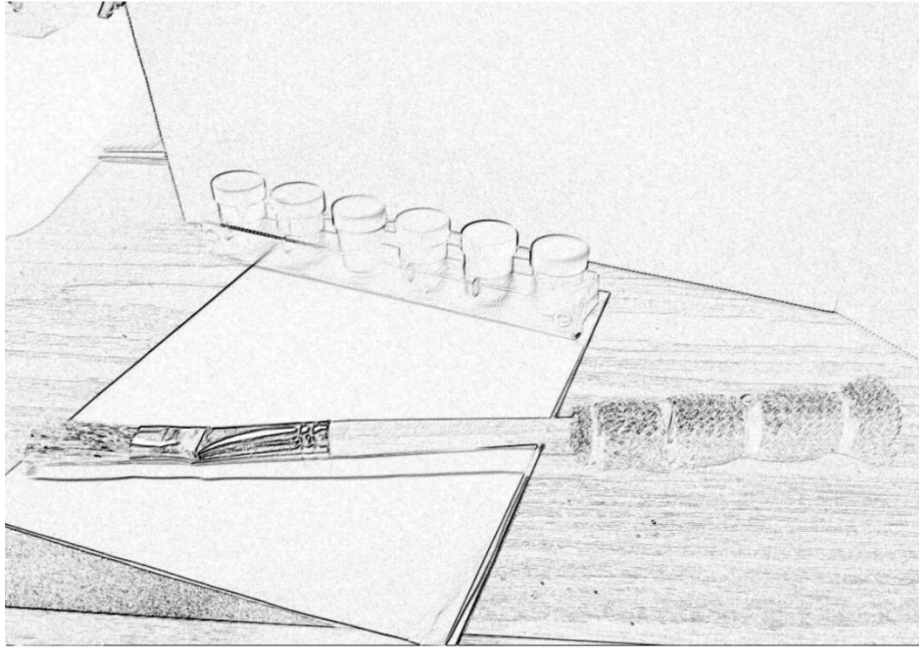


Photo of Invention:



Youtube link to video of invention in use: <https://www.youtube.com/watch?v=6JfieZXarwQ>

Invented by: Lisa Anne Gallagher, Therapeutic Recreation Student

# Ping Pong Paddle Extender

Title of Invention: Ping Pong Paddle Extender

Activity: Ping Pong

Adaptation Intent: To help those who have the inability to grasp the paddle firmly on their own when trying to enjoy a good game of pong or pong ball juggling.

Materials: Ping Pong Paddle, duct tape, Velcro, wooden rod

Construction: Attach the rod to the paddle with duct tape, place Velcro on both ends of the wooden rod with duct tape.

Notes: Wooden rod can be shorter or longer depending on participants needs. Extra Velcro can be added if more support is necessary. Recommend wearing sleeves, Velcro may irritate skin.

Drawing of Invention:

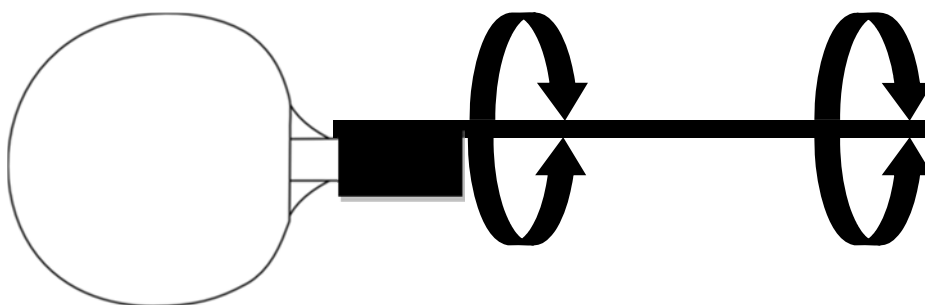


Photo of Invention:



Youtube link to video  
of invention in use:

<http://youtu.be/hxCZ5Mvr6l4>

Invented by:

Emma Hebert ,Therapeutic Recreation Student

# Scoop and Score

Title of Invention: Scoop and Score

Activity: Scoop and Score is a game where 2 participants use paddles that are designed as an arch to better catch and cradle the ball. They will throw the ball back and forth, playing catch.

Adaptation Intent: To facilitate participants that cannot grip the paddles.

Materials: General-purpose latex coated worker's glove, 2 paddles and 1 plastic ball.

Construction: The general-purpose gloves were super glued to the handle of the paddle supported by Velcro for added support. The participant who cannot grip will be able to slip the glove on which will already have the paddle connected.

Notes:

Drawing of Invention:

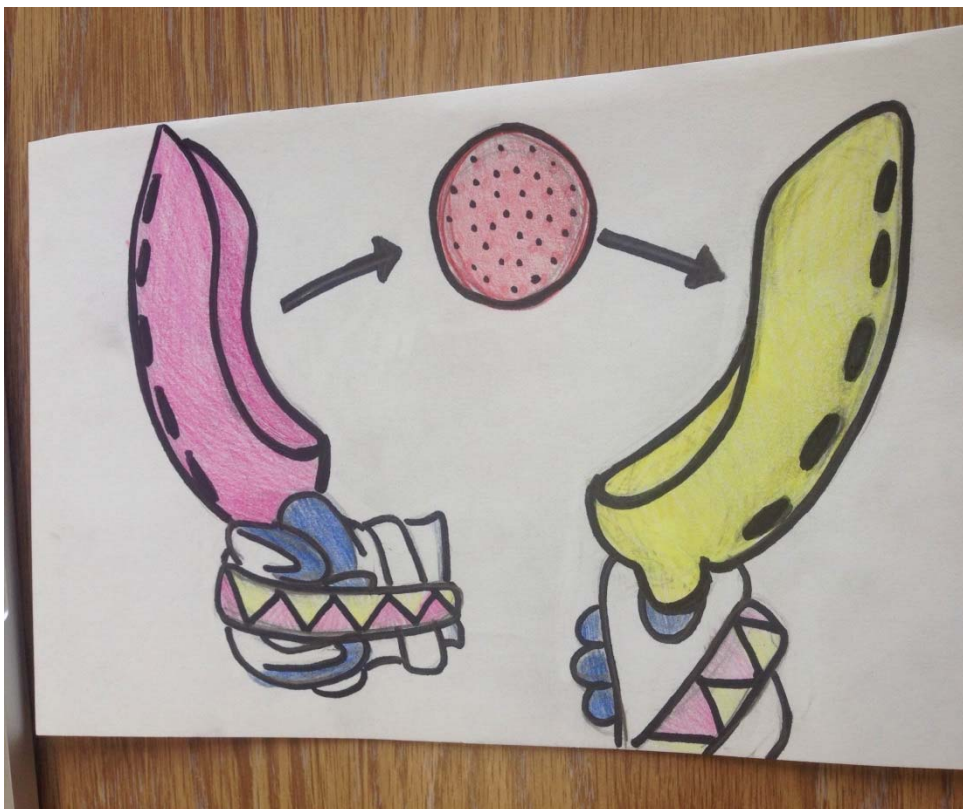




Photo of Invention:



YouTube link to video of invention in use:

[http://youtu.be/p4Wh5\\_cFUEQ](http://youtu.be/p4Wh5_cFUEQ)

Invented by:

Alexis Rivera, Therapeutic Recreation Student

# Sensory Touch Memory Cards

Title of Invention: Sensory Touch Memory Cards

Activity: Closing your eyes and feeling one textured card, you have to match another textured card to the texture you just felt. You have two chances to try and match the textured cards.

Adaptation Intent: This is bridging the gap between people with visual impairments and people without visual impairments by using your sense of touch. Four of the cards have the same texture but, you may only use two cards if you wish to make it more challenging.

Materials:

- A box of thick cards
- Different textures of your choice
- Glue

Construction: Choosing different types of your favorite textures, glue them onto two or more cards, making sure each card has at least one, then wait for the card to dry and you are ready to begin the game.

Notes: All types of ages and abilities can play this memory game.

Drawing of Invention:



Photo of Invention:



Youtube link to video  
of invention in use:

<https://youtu.be/QZQ8BdnxK98>

Invented by:

Abbey Gray, Therapeutic Recreation Student

# The Sole Glove

- Title of Invention:** The Sole Glove
- Activity:** This invention is made for participants of sit down volleyball. The Sole Glove is made for participants who use wheelchairs and/or for those who do not use wheelchairs to play the sport.
- Adaptation Intent:** The intent of this adaptation is to allow participants to fully participate in the activity without injury to one's hand. Sit down volleyball requires the participants to use their arms and hands extensively. When the player is not using their arms and hands to pass, set, or hit the volleyball, they must hold themselves up with their arms. The wrist is often bent and the palms of ones hands are usually facing the floor to allow for maximum support and balance. This body position may cause strain on the participant's wrist and hand. The Sole Glove allows for participants to still use their fingers to set and grip the volleyball without interference from the glove. The sole located on the inner palm of the hand covers the balls of the participant's hand so that they do not injure themselves due to the impact of their hand hitting the floor when diving for the ball or catching themselves from falling. The material of the glove prevents sweat on the palm from interfering with the participant's contact with the volleyball. The grips on the palm of the glove prevent the player from sliding when using their hands to move during the game. The glove is made to mimic the sole and grips of shoes that players wear when playing volleyball standing up. The Sole Glove gives sit down volleyball players the same comfort and support for their hands as a pair of sneakers would give for a player's feet. This glove gives sit down volleyball players the freedom to make contact with the volleyball while they support themselves. If the participant uses a wheelchair, this glove prevents their hand from sliding as they move the wheel of their wheelchair. It gives the participant better grip and can also be used to help decrease the impact on the hands if they were to fall in their wheelchair or out of it.
- Materials:**
- 1 pair of gloves
  - 2 ace bands made for the wrist (optional)
  - 2 heel cushions for shoes
  - 2 sole grips
  - sewing kit
  - scissors
- Construction:**
- Step 1) Cut all of the fingers of the glove off down to the knuckle.  
Step 2) Put the gloves on.  
Step 3) Place the heel cushions over the gloves so that they cover the balls of your hand.  
Step 4) Remove the gloves.  
Step 5) Sew the heel cushions on the palm of the glove exactly where you placed them for step 3.  
Step 6) Fit a basic ace band to your wrist so that it isn't too loose but that it gives you support. (optional)  
Step 7) Sew the ace band around the wrist of the glove. (optional)  
Step 8) Put the glove on and check to make sure it fits correctly so that the ace band supports your wrist and yours fingers are free to make contact with the volleyball. (optional)  
Step 9) Take the glove off and make any necessary adjustments to the fit of the glove. (optional)  
Step 10) Put the glove on and get ready to play!
- Notes:** The ace band is optional. If the participants feels they needs more support than what they glove offers they can attach an ace band to the wrist opening of the glove.

Drawing of  
Invention:



Photo of Invention:



Youtube link to  
video of invention  
in use:

<https://www.youtube.com/watch?v=rF5VzQfyZmA&feature=youtu.be>

Invented by:

Marie Sullivan, Therapeutic Recreation Student

# Wrap a Weight

Title of Invention: Wrap a Weight

Activity: This invention is designed to increase the resistance when working out.

Adaptation Intent: The weight can be attached to an ankle, wrist, arm, leg etc. This is ideal for individuals that may not have the strongest grasp or for someone that uses a wheelchair and wants more exercise for their legs.

Materials: Materials needed: 1 roll of duct tape/ Velcro for both ends/ desired weight(s)

Construction: Measure around ankle or intended location. Cut 1 piece of duct tape that length. Lay the weight over the top of that, so the sticky side is up. Cover the weight with another piece of duct tape, sticky side down. Leave about two inches on each end to attach Velcro. Once it is complete, attach the weight to your intended location.

Notes: May need to use a couple layers if the tape is not stable enough. The heavier the weight the more tape that will be required.

Drawing of Invention:

## Materials Needed

Dumbbells



Duct Tape

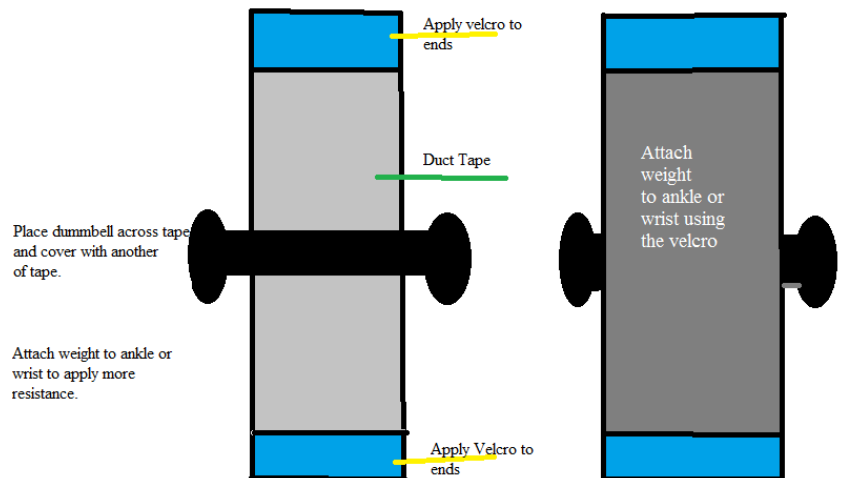
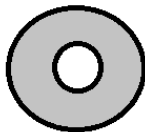


Photo of  
Invention:



Youtube link  
to video of  
invention in  
use:

<https://www.youtube.com/watch?v=6XbkwsSTwcE>

Invented by: Sean Hughes, Therapeutic Recreation Student



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