SUNY Cortland

Therapeutic Recreation

Adapted Equipment Ideas

Volume III

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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 2017

Adaptable Easel for a Wheelchair Table

Activity: Painting Class

Adaptation Intent: Smaller easel, folds, has a cup for water and removable palette board. It is removable so that it can be put on either side of easel depending on whether the person is right- or left-handed. Having two legs helps the easel to be sturdier.

Materials:

- 11x 14 stretch canvas frame
- Screws
- 2 wooden legs
- Bike cup holder
- Piece of board for removable palette
- Velcro and fabric for the brush holder

Construction: I built the easel frame and then used Velcro on both sides of the easel to hang the palette paper holder. I then screwed in the cup holder. I also attached a paint brush holder.

Notes: I came up with this easel after working with many people in wheelchair. They were independent with the painting but there was not enough room to have what they needed accessible to them. I researched the many easels that are out there but did not see what I felt would work.

Drawing of Invention:

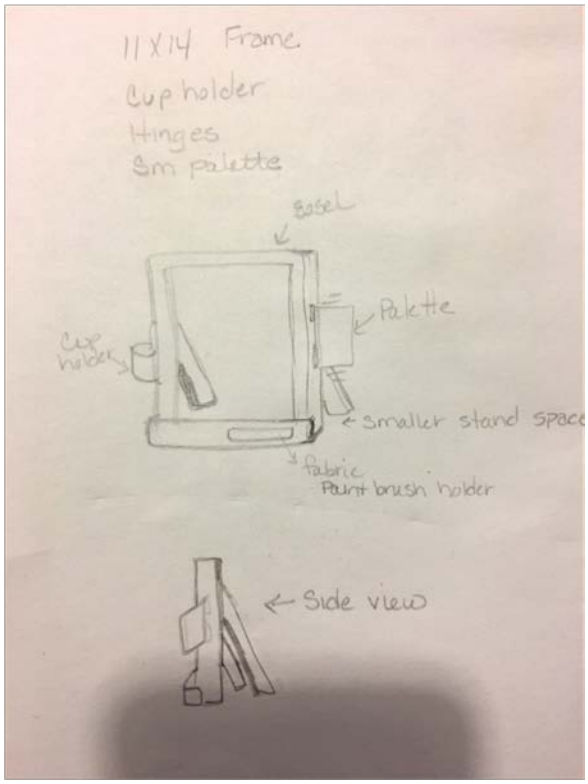


Photo of Invention:

Youtube link: https://www.youtube.com/watch?v=h4nulzLvHmI

Invented by: Julie Quill

Adapted Archery

Activity: Archery

Adaptation Intent: The intent of this adaptation was to design a tool/ accessory that can be utilized by a participant that was legally blind or visually impaired. Archery normally requires the participant to see the target to accurately sight and hit the target. However, this minimal physical modification and added auditory signals will allow for inclusion.

Materials:

- Target- typically 48in maximum diameter/ 90meters (294ft.) distance.
- Bow (recurve/ compound)
- Three arrows (practice tips)
- Tripod
- (2) 2 ft. 2x2 wood boards- foot blocks
- Metal clamp
- 3ft wood 1/8in.x 1in. board

Construction:

Step 1. Position participant directly in the area they will be shooting from. They should be adjacent from the target and, if possible, standing.
Step 2. Place one of the blocks (2x2 boards) along the outside of the participant's foot to make positioning easier when adjusting to target.
Step 3. Have participant ready their shooting stance (with or without the bow) to have a reference point to place tripod.
Step 4. Place tripod on the outside position of the shooter, extend tripod as needed to the height of the arm.
Step 5. Place 1/8in x 1in. board on top of the tripod and secure with a wood clamp.
Step 6. Adjust the length of wood and tripod as needed to reach the outside of the participant's hand to give a reference point where to raise the bow and arrow each time to shoot.
Step 7. Place the target and attach bells down-range. Signal the target with bells for auditory target acquisition.
Step 8. Have participant shoot 3 practice arrows, adjust tripod as needed between shots.

Notes:

- When initially positioning participate, take into consideration the height of the participant.They might need a longer board to reach their hand or other equipment such as draw-locks, recurve/ compound bows/ mechanical releases/ arm guard/ finger tabs, mouth tabs/ w/c.
- Previous experience level of the activity.
- Modify distance of target if needed.
- Safety- Aiming and hitting your intended target is key, but so is drawing the bow and arrow without an accidental misfire. The range staff and participants should be mindful of established safety rules and emergency protocol.

Drawing of Invention:

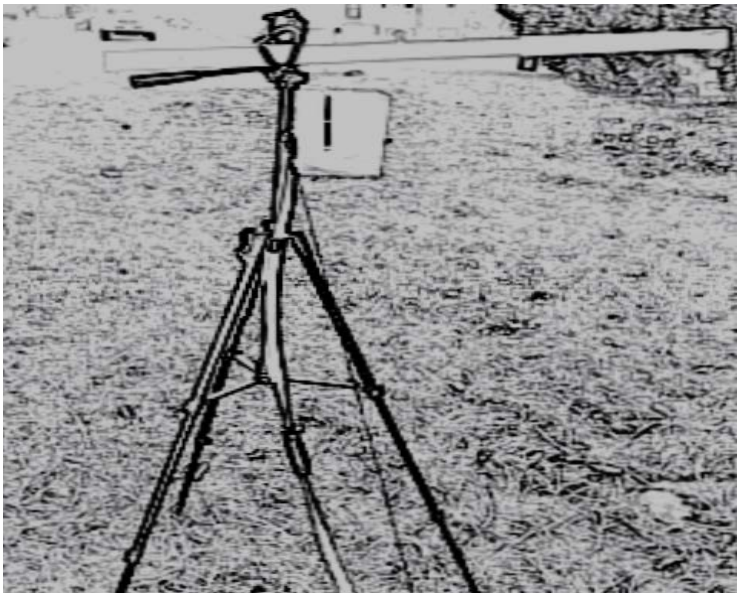


Photo of Invention:

Youtube link: https://youtu.be/OpRQyYAoffQOpRQyYAoffQ

Invented by: Keyshawn Simmons

Adapted Toy Set

Activity: Every child loves to play with toys and have fun. The purpose of the toy set is to assist children who have trouble gripping toys, due to weak motor skills. It will also benefit children who have the habit of chewing on their clothes or placing things in their mouth. The device makes it easier for kids to play with toys without gripping the toys. It will also aid children with habits of putting things in their mouths.

Adaptation Intent: To facilitate independent use of gripping for those who lack the fine motor skills necessary to hold or grip toys.

Materials:

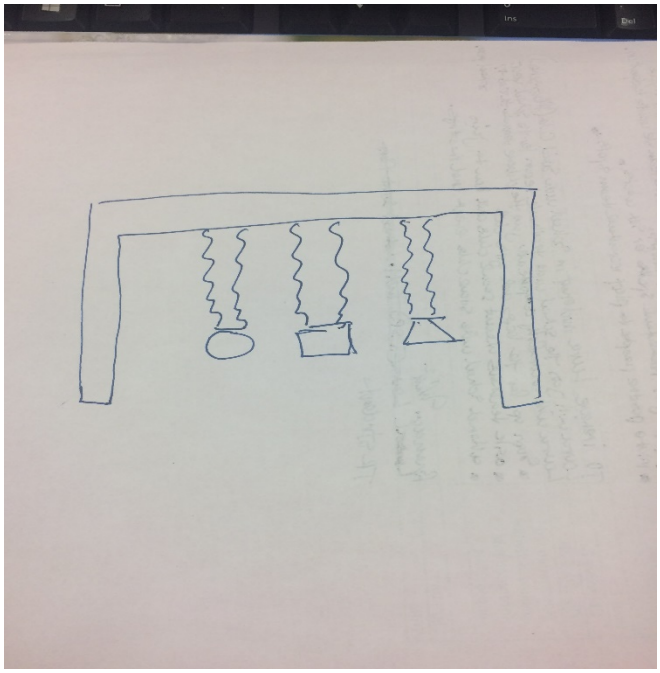
- Wheelchair accessory
- Shoe strings
- Variety of small toys

Construction:

1. Slide the shoe string through the holes of the wheelchair accessory for a swinging motion.
2. Tie the toys with the shoe string for hanging range swinging motion.

Notes: I came up with this idea after seeing my participants having trouble gripping toys and playing with them, and after watching a few participants chew on their clothes.

Drawing of Invention:



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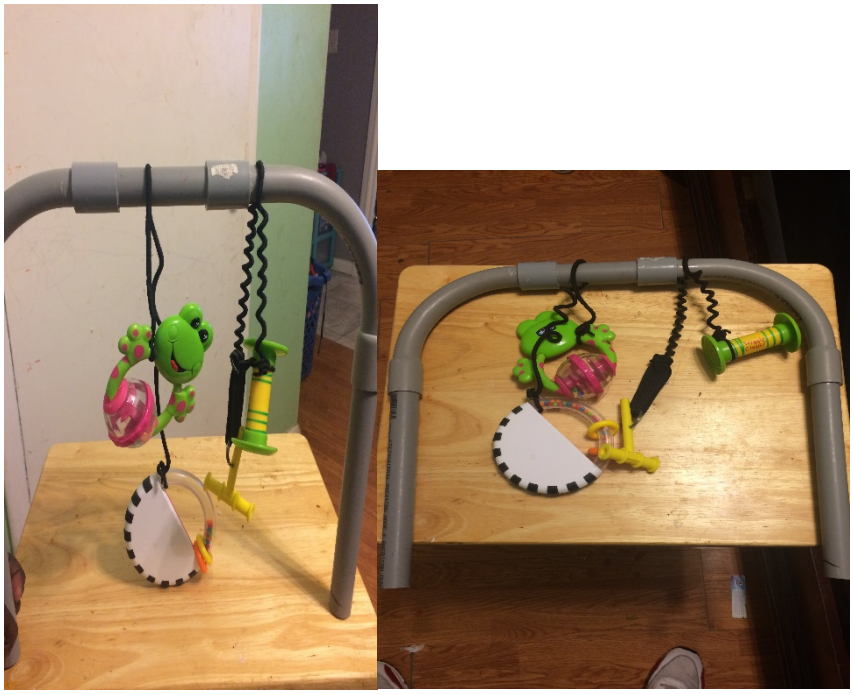

Youtube link: https://youtu.be/hJfWRZDCXaw

Invented by: Brandon West, Therapeutic Recreation Student

Adaptive Rosary

Activity: Praying the Holy Rosary. The Rosary is a form of prayer used in the Catholic church, titled after the string of beads that is used to count the different parts of the prayer. In addition to social well-being, leisure well-being, physical well-being, cognitive well-being, and psychological and emotional well-being, spiritual well-being is an important aspect of a flourishing life that therapeutic recreation specialists can encourage for their participants. Praying the Rosary keeps Catholic individuals connected to their faith and reminds them of important events in the history of the church. The repetitive mantra is also meditative in nature and brings inner peace and calm.

Adaptation Intent: This adaptation is meant to provide larger beads that are easier to grasp for individuals with arthritis or other fine motor impairment. Beads of different textures, sizes, and colors also improve ability to use touch to differentiate between the different beads for different prayers for individuals who are visually impaired.

Materials:

- 53 large beads (represent Hail Mary prayers)
- 6 large beads of a different size, texture, and color (represent Our Father prayers)
- 73 small spacer beads
- About 3.5 yards of string (make sure to pick cord that will fit through the holes of the beads)
- Crucifix

Construction: Divide the Hail Mary beads into five groups of ten and one group of three. String one group of ten Hail Mary beads, each separated by one spacer bead. Add two spacer beads, then one Our Father bead, then two more spacer beads. Repeat the process until all five groups of ten Hail Mary beads are strung. At this point, each end of string should end with one spacer bead. String both ends through two spacer beads, one Our Father bead, two more spacer beads, then the last three Hail Mary beads, each separated by a spacer bead. Finish with two spacer beads, the final Our Father bead, and two more spacer beads. Add the Crucifix and secure tightly with a double knot. Trim excess string.

Notes: Beads of any size, color, texture, or material (glass, wood, plastic, clay, fabric, etc) can be used. Rosary connector beads can also be purchased online.

Drawing of Invention:

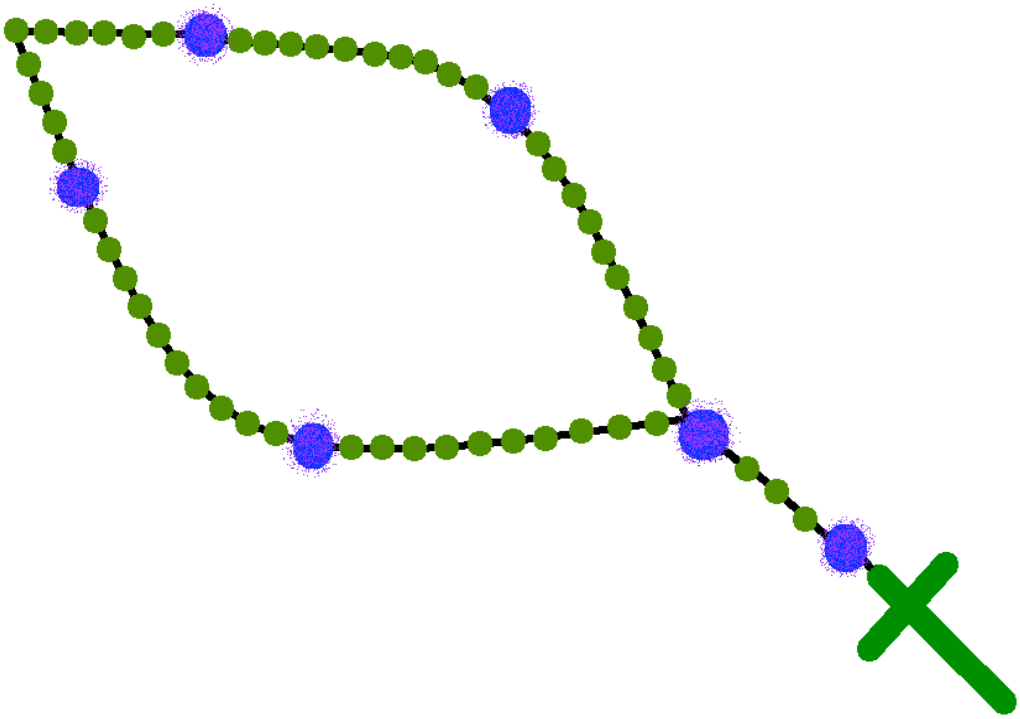

Photo of Invention:

Youtube link: https://youtu.be/k_xBs9GLUrI

Invented by: Sara McFadden, Therapeutic Recreation Student

The Adaptive Whisk and Bowl

Activity: This is designed for baking or cooking where parts of the instructions require mixing in a bowl.

Adaptation Intent: The intent of the invention is to provide a simplified technique for individuals to enjoy the art of baking. The whisk and bowl will allow for individuals who do not have enough strength in their hands or fine motor skills to grasp an object, surpass those limitations and enjoy the wonderful indoor activity.

Materials:

- Whisk (rubber handle)
- Plastic bowl (light in weight)
- Grip liner
- Foam tube
- Velcro
- Super glue
- Scissors

Construction: When constructing the whisk and bowl, first step is to glue the grip liner to the outside of the plastic bowl using the super glue. Cover the entire outside of the bowl for best surface area of the grip material. Set the bowl aside to dry. Cut the foam tube the length of the individuals arm, plus a few inches. When the foam tube is a little longer than the arm, before and after the joint, it will provide the best support. Cut the Velcro into three pieces and glue them around the tube, separating in three even section. Ideally, the first Velcro will be closest to the hand, the second will be near the wrist area, and the third closest to the bend in the arm. Place the whisk inside the tube on the end with the Velcro closest to the hand. With the rubber grip on the handle of the whisk it will provide the whisk from sliding out of the tube. After these steps are complete, the equipment is ready for use!

Notes: It is important to get a light bowl if the individual is going to be holding it; the lighter the better. The bowl can be propped up on a table surface or in the lap of the individual all dependent on personal comfort.

Drawing of Invention:

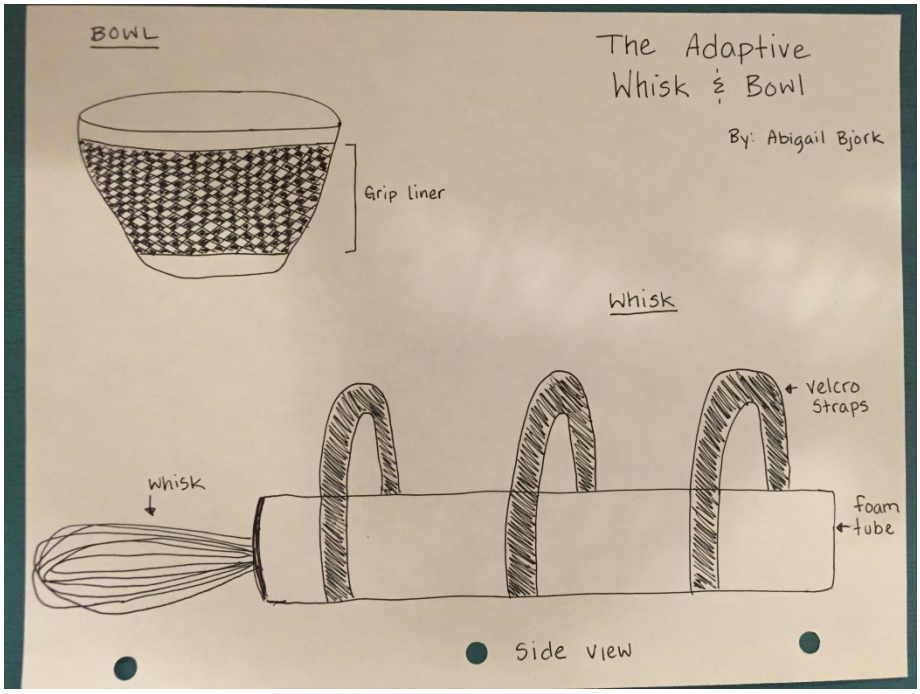

Photo of Invention:

Youtube link: https://youtu.be/3yb_HZdx4EY

Invented by: Abigail Bjork, Recreational Therapist Student

Aquatic Stroke Hand Paddle

Activity:

Lap swimming can have numerous and substantial benefits to one's health. It can be beneficial to all ages and abilities. Swimming can affect many aspects of life, including physical, mental and emotional well-being. It can be an all-in-one fitness regiment, working most muscles in the body. The repetition of strokes can improve muscle endurance because the water creates resistance against the body. The muscles of the body can be strengthened, toned and can also enhance core strength.

Adaptation Intent:

The intent of the adaptation is to help an individual who has experienced a stroke the opportunity to lap swim without the concern of weakness and lack of range of motion in the freestyle stroke. It will allow the individual to catch and pull the water through the paddles and make a full stroke.

Materials:

- Two aquatic hand paddles
- One rehab massage ball
- Two fitness gloves
- Epoxy glue

Construction:

- Take two aquatic swim paddles and align the rehab message ball in the center of the right aquatic paddle.
- Use epoxy to adhere the ball to the paddle and let it dry overnight.
- Once the ball is adhered to the paddle, place a glove over the center of the ball and allow that to dry overnight.
- The left glove will also be adhered to the paddle but without the use of a ball.
- The ball allows the individual to grasp the paddle much easier without the concern of their hand sliding and having a better grip.

Notes:

The individual may need some assistance putting on the glove and strapping the Velcro closed.

Drawing of Invention:

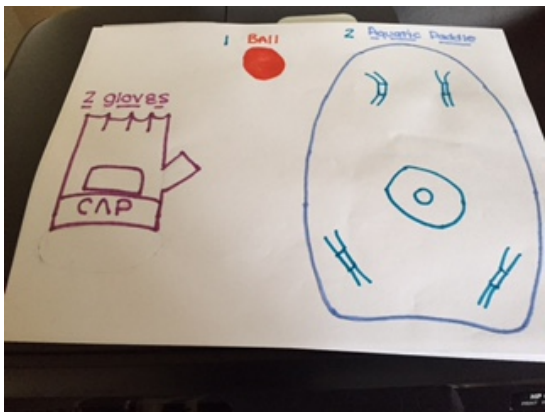

Photo of Invention:

Youtube link: https://youtu.be/SaiS7buDsV8

https://youtu.be/iRNHfUjt3Cs

Invented by: Leigh Myers

Artist's Wheel Covers

Activity: Painting is a therapeutic recreational activity where one may experience flow if engaged properly. Often times an illness or injury such as a spinal cord injury results in loss of physical ability with the addition of new medical equipment such as a wheelchair. Wheelchair painting, which utilizes the wheels of a wheelchair as the paintbrush or extension of the body in which to paint with, is an effective way to build or strengthen the bond between the wheelchair as an extension of one's body while exploring a method of creating abstract art that is very unique to the individual.

Adaptation Intent: This equipment is intended to assist in maintaining independence and cleanliness of wheel chairs for people with limited leg functioning but who do have above average range of motion and hand dexterity. Typically a person with a spinal cord injury at the T6 vertebrae or lower would find the most benefit in utilizing this adaptive equipment when they wheelchair paint.

Materials:

- Foam pipe insulation
- Duct tape
- Scissors
- Wet wipes

Construction:

- Cut slit in tube long ways if there is not already an opening
- Place one end of the foam tubing onto the wheel
- Tape one end of the tubing to the wheel
- Work along the wheel continuously pressing the tubing onto the wheel until the end of the tubing is reached
- Tape the end to the wheel and first end of tubing
- Repeat on other wheel

Notes: Using wipes to remove paint prior to removing wheel covers does reduce mess. The rear wheels are well protected but the small front wheels are not.

Drawing of Invention:

Photo of Invention:

Youtube link: https://youtu.be/b7s5gAhiAaM

Invented by: Angela Sanfilippo, Therapeutic Recreation Student

Baba's EZC Needle

Activity: Embroidery, crewel, needlework

Adaptation Intent: This adapted needle will help those with visual impairments see the needle better in the material when working and also when accidentally dropping the needle in their lap or on the floor or bed.

Materials: Embroidery needle, embroidery thread, needle threader (optional), playing card or any cardboard rectangle/square

Construction: First, take the embroidery thread and loop it around a playing card (on this version it was looped 12 times). Then, cut one side of the thread while holding the middle of all the thread as it comes off the card. Lay the threads flat and with a separate piece of embroidery thread, tie the threads together in the middle.
Now, fold the threads in half where they are tied together and thread them through the needle. You may want to use a needle threader. Then, grab all the threads together, holding above the head of the needle. You might need help with this next step. While holding the threads up, tie them all together above the head of the needle. Cut excess thread length as desired.

Notes: This adaptation is good for those with visual impairments as it allows them to see the needle better when doing their needlework. In addition, a common frustration is losing the needle and not being able to find it because it blends into the carpet, or bedspread, or the person's lap. Lost needles can be a source of frustration not to mention a hazard if stepped on when walking around barefoot. With this needle adaptation, the needle is easy to see so it can be found quickly. The colors can be adjusted to be easily found when used in a room with a certain color carpet or if a certain color is better seen due to some color blindness.

Drawing of Invention:

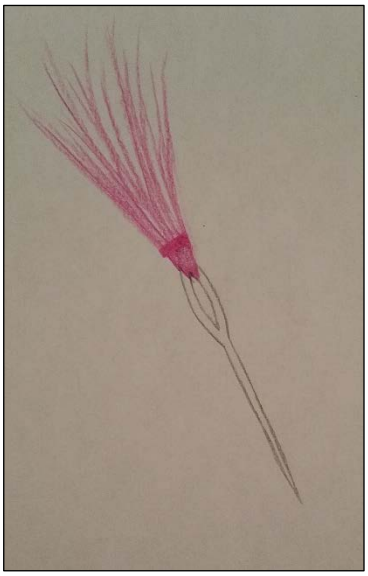

Photo of Invention:

Youtube link: https://youtu.be/w2GzlFKkN90

Invented by: Jenai Goodwin, Therapeutic Recreation Student

Ball Grip Cookie Cutter

Activity: Cookie baking is an activity that extends across a lifespan: from young children to adults. Sugar cookies allow people to use their creativity for the size and shape of their cookie. Cookie cutters are utilized in order to achieve a consistent formation in the dough. Once the desired shape is achieved, the dough is put on to a cookie sheet and placed in the oven to bake.

Adaptation Intent: Cookie baking is an activity that extends across a lifespan: from young children to adults. Sugar cookies allow people to use their creativity for the size and shape of their cookie. Cookie cutters are utilized in order to achieve a consistent formation in the dough. Once the desired shape is achieved, the dough is put on to a cookie sheet and placed in the oven to bake.

Materials:

- Plastic Ruler
- Two cookie cutters
- Lightweight ball
- Anti-slip carpet pad
- Hot glue gun
- Scissors
- Sand paper

Construction:

- Cut plastic ruler to fit the size of the desired cookie cutter.
- Use the sand paper to buff out any harsh edges along the line where you cut the ruler.
- Line up the cookie cutters on a flat surface and hot glue the plastic ruler on top. Be sure to adhere the ruler to as much of the cookie cutters surface as possible.
- Then, roll out a section of anti-slip carpet padding and wrap it around the ball. Once you have your ball wrapped, affix the padding onto the ball using hot glue.
- Place the ball in the center of the ruler. Hot glue the bottom of the ball to the ruler's center.
- Allow 10 minutes for the glue to properly dry and use!

Notes:

- Choosing two of the same shaped cookie cutters is suggested. It will be easier to adhere to the ruler.
- Be sure to let the hot glue dry and cool in between steps before moving on. Be aware that the hot glue gun can cause burns, be careful!
- It is recommended to reinforce the underside of the cookie cutters on to the ruler with hot glue
- Remember to clean off the Ball Grip Cookie Cutter after using to avoid caked on dough.

Drawing of Invention:

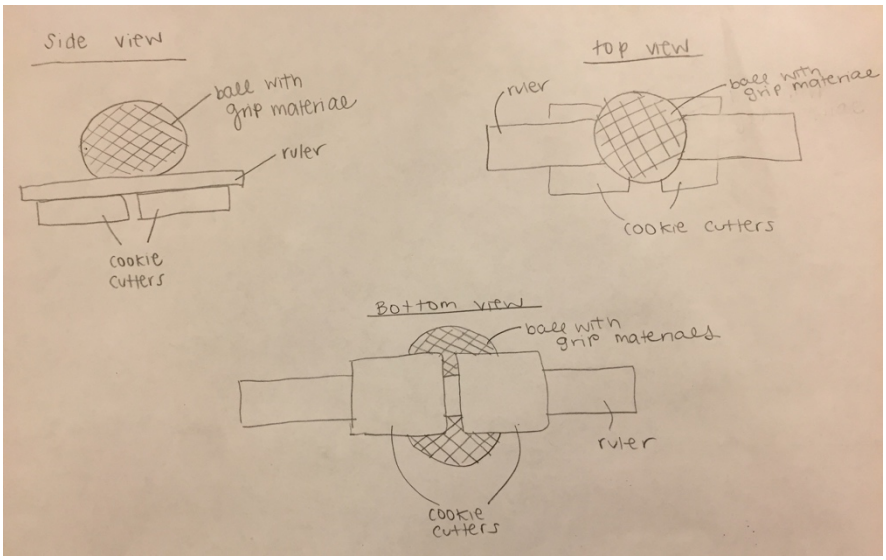

Photo of Invention:

Youtube link: https://youtu.be/g7PMEgWf74Q

Invented by: Allison Stein, RT Student

Cue Stick Cradle

Activity: This adapted piece of equipment can be used when playing a game of billiards.

Adaptation Intent: Pool is a game that typically requires the use of two hands directing the stick toward the cue ball. With the use of this device, a participant who may not have full movement of an arm or hand can still enjoy this wonderful activity. The *Cue Stick Cradler* acts as the hands that would support the stick and guide it toward the ball.

Materials:

- 7 inch cardboard cone
- Miniature plastic easel
- Hot glue gun
- Scissors

Construction:

- Cut the tip off the cardboard cone, about 2 ½ inches from the tip
- Use the hot glue gun to glue the cone to the top of the easel

Notes: After the participant makes contact with the cue ball, it is important to remove this piece of equipment from the table so it does not obstruct the path of other balls.

Drawing of Invention:

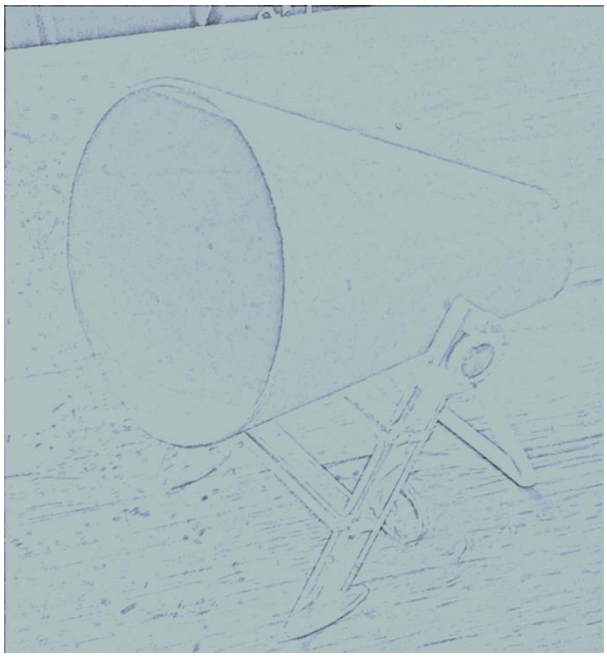

Photo of Invention:

Youtube link: https://www.youtube.com/watch?v=MvTD3foariw

Invented by: Anthony Rose, Therapeutic Recreation Student

Easy Grip Scissors

Activity: Cutting various materials during arts and crafts projects or other recreational activities

Adaptation Intent: Provide users with an easier grip form of the traditional scissors

Materials: Roll of duct tape, 2 pairs of scissors (1 to adapt and one to cut the duct tape with))

Construction:
Step 1: cut an 8-10 inch piece of duct tape and fold it in half
Step 2: wrap 2-4 layers of duct tape around the folded piece until it becomes sturdy
Step 3: once the half folded piece has become sturdy enough, anchor the ends to the handles of the scissors
Step 4: check to make sure the scissors are functional with the adapted piece

Notes: Great tool to use for participants that:

- Are using scissors for the first time
- Have limited grip
- Hand control or coordination difficulties

Drawing of Invention:

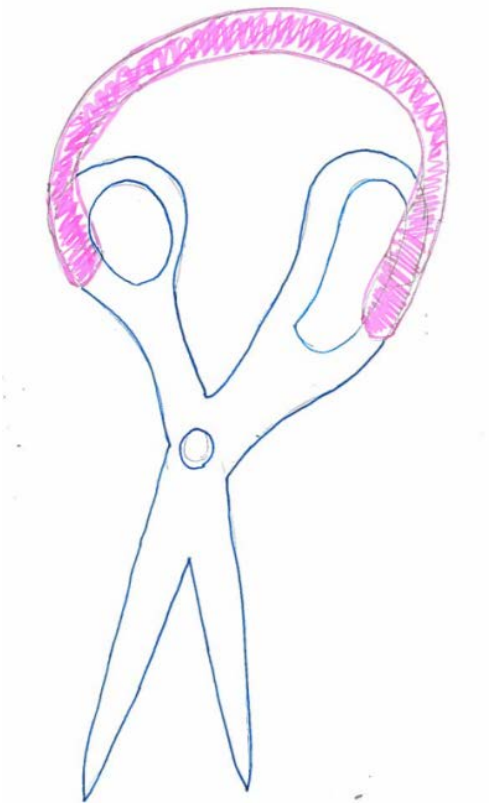

Photo of Invention:

Youtube link: https://youtu.be/hP9VugtSiaU

Invented by: Tamika Jones

Hook-em and Hold-em

Activity: Crocheting/ Knitting

Adaptation Intent: To assist persons with limited physical functioning such as low grasp strength, upper limb amputations and/or impaired fine motor skills grasp the tools needed for crocheting.

Materials: To assist persons with limited physical functioning such as low grasp strength, upper limb amputations and/or impaired fine motor skills grasp the tools needed for crocheting.

Construction: Hook- em: Cut elastic band to width of finger. Secure in shape of cylinder using adhesive or staples. Cut rugged side of Velcro to length of cylinder. Attach using adhesive or self-sticky back.

Hold-em: Cut foam rod to desired length (horizontal length of palm preferably). Cut 2 inch length of elastic. Attach the elastic to the foam rod using one thumb tack. Insert "working yarn" between the elastic and foam and secure tightly with second thumbtack.

Notes: Hook-em can be adapted for use on finger or wrist, as per participant's level of comfort.

Drawing of Invention:

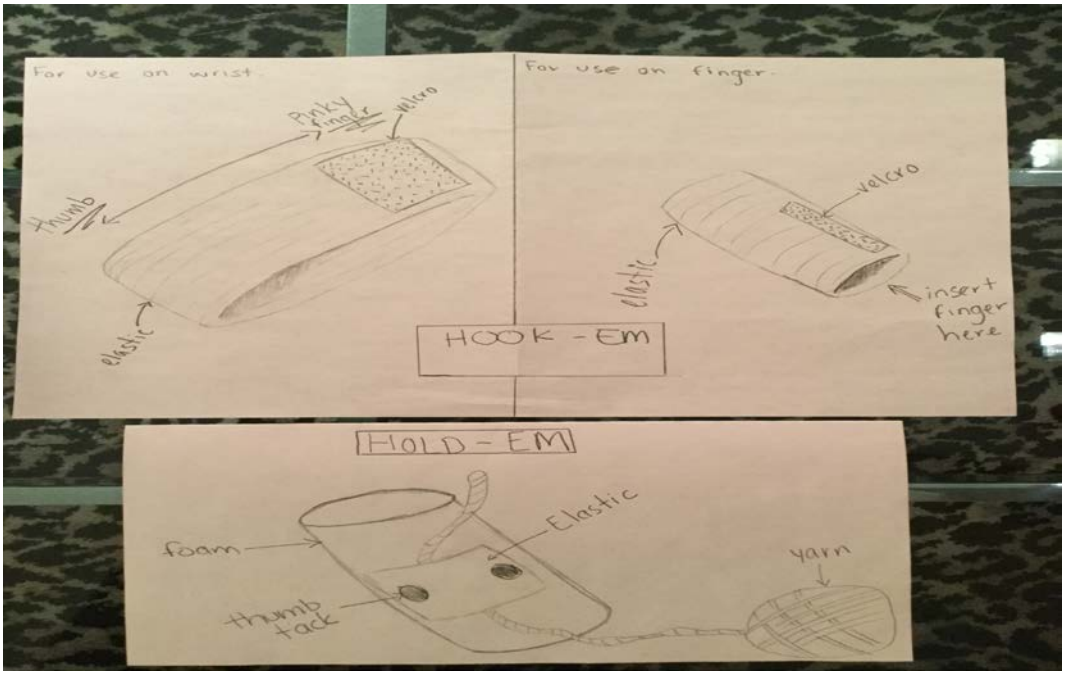

Photo of Invention:

Youtube link: https://youtu.be/D8o1YW6bxt0

Invented by: Kassandra Sandiford, Therapeutic Recreation student

Loofa Bozo Buckets

Activity: Loofa Bozo Buckets is an adapted version of Bozo Buckets, in which the player attempts to toss a ball into progressively more distant buckets. Points are scored when the ball lands in the bucket. At first, the player attempts to sink the ball into the first bucket. If they succeed, they can attempt to sink the ball into the second bucket. Play proceeds like this until the final bucket is reached or the player misses a bucket. In Loofa Bozo Buckets, a ball is substituted with a loofa for ease of grip, lack of bounce, and sensory benefits. The loofa is attached to the game in a way that does not allow it to leave the reach of the participant, allowing the participant to play independently.

Adaptation Intent: This game was adapted with a specific participant (D.M.) in mind. D.M. loves to hold and touch loofas and will move them from one location to another if asked, which makes her smile and laugh. The ball from Bozo Buckets has been replaced with a loofa for this reason; additionally, the size and softness of the loofa will help D.M. with grasping and releasing the game piece. The loofa has been affixed to the game board so that it cannot get to a place where D.M. is unable to pursue it, while still providing her the challenge of picking it up and tossing it with severely limited range of motion. Affixing the buckets to the board is an appropriate adaptation for her frequent arm spasms.

Materials:

- Long board (wood, plastic, thick poster-board)
- 1-2 nails
- Hammer
- String
- 3 or more low buckets, bowls, or pieces of Tupperware
- 1 loofa
- Duct tape
- Scotch/masking tape

Construction:

1. Place the board flat on a surface.
2. Drive a nail three quarters of the way into the board. The nail should be placed parallel to the table, driven into the side of the board. This can be done in two orientations:
    a. Such that the game when complete will face the participant and the buckets will extend left and right, ideal for extremely limited flexibility
    b. Such that the game when complete will stretch out in front of the participant, with the buckets getting further from the participant. Ideal for greater flexibility and cognitive function.
3. Affix one end of the string to the nail.
4. Affix the other end of the string to the loofa.
5. Affix the bowls to the board with duct tape.
6. Tape the board to the table with the scotch/masking tape.

Notes: This equipment is targeted to a specific participant based on her strengths and interests, but it is highly adaptable. The distance between the buckets, the height/depth of the buckets, the length of the string, and the orientation of the game board can be adjusted to suit a specific individual. It is intended to be an independent recreation activity that will also build flexibility, hand-eye coordination, and grasp.

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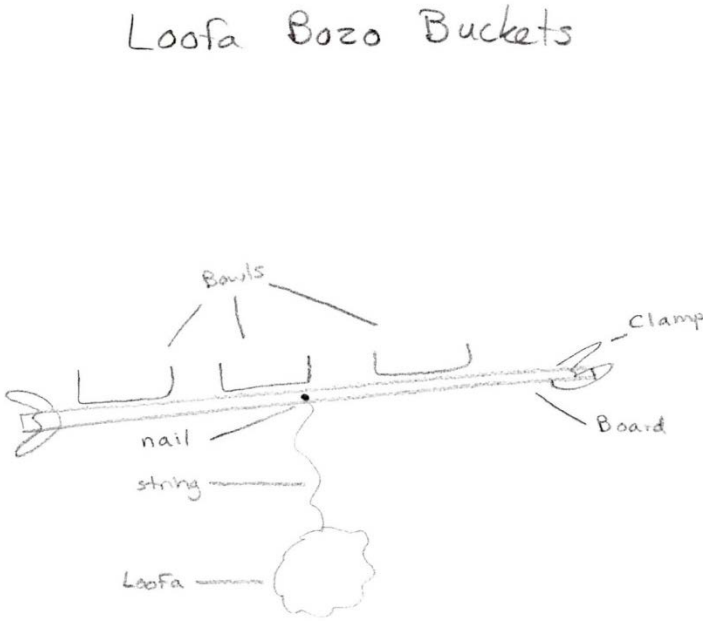


Photo of Invention:

Youtube link: https://youtu.be/qBkLZj_Ap9w

Invented by: Deanna VanOyen, CTRS Student

Loom Knitting Devices: Hook and Threader

Activity: Loom Knitting

Adaptation Intent: For individuals who have limited dexterity, and cannot pinch to hold yarn.

Materials:

- Coat hanger
- Wire cutter
- Cardboard about 9 inches by 11 inches
- Duct tape
- Click pen
- Yarn
- Knitting loom
- Pipe cleaner

Construction:

For Threader:

- Remove the tip and end of a clicking pen, discard ink and spring
- Pull yarn through pen case with pipe cleaner

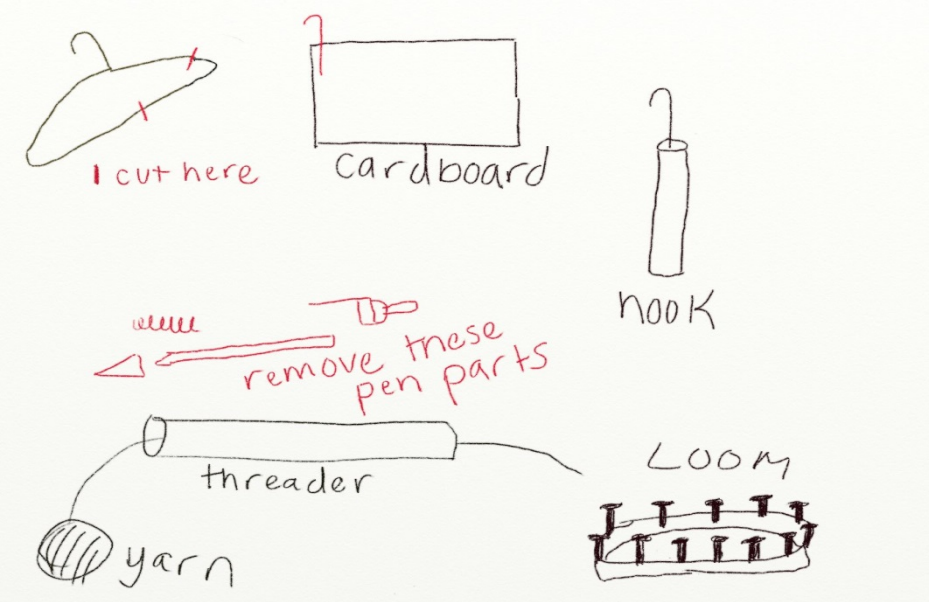
For Hook

- Use wire cutter to cut coat hanger from the bend to about 4 inches on the straight side so one end has a hook
- You may need to bend hook to have a greater angle about 30 degrees
- Tape straight side of hook to the 9 in side of a strip of cardboard so the 11 inches spreads out to the right

Roll card board around hook and tape to secure – this is the handle

Notes: None

Drawing of Invention:



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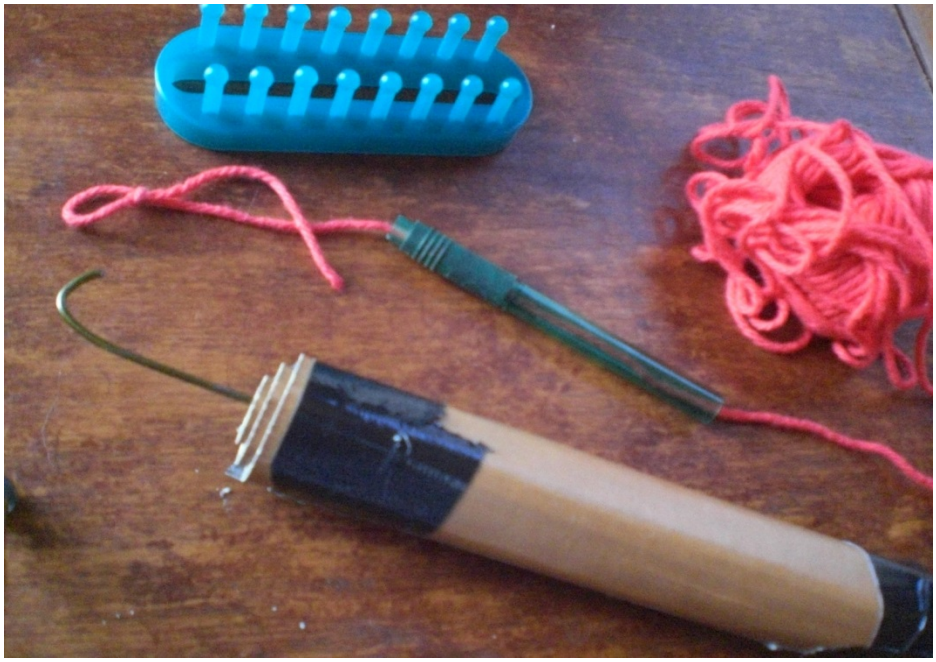


Youtube link: https://youtu.be/ZnJyH45drCk

Invented by: Alyse Dawson

Magnetic Scrabble

Activity: Scrabble is a word game in which two to four players score points by placing tiles, each bearing a single letter, onto a gameboard which is divided into a 15×15 grid of squares. The tiles must form words which, in crossword fashion, flow left to right in rows or downwards in columns. This game is fun, interactive, and a great way to use your brain!

Adaptation Intent: To facilitate independent play of the game Scrabble for people who suffer from tremors of the hands. Can also be used by individuals with decreased fine moor skills. This device being magnetic allows participants to place letter tiles more easily on the game board. Another benefit is that the magnetism allows for title to stay in place while game continues.

Materials:

- Scrabble board
- Magnetic paint or adhesive magnets
- Paint brush

Construction: If using magnetic paint - Paint surface of scrabble board as well as tile holders and backs of tiles. This will take several coats of paint.
If using adhesive magnet – Adhere the sticky part to scrabble board as well as tile holder and backs of tiles.

Notes: I came up with this invention after watching a participant struggle with placing titles on the board, and other titles moving around on the board. This allows for more accuracy and less struggle.

Drawing of Invention:

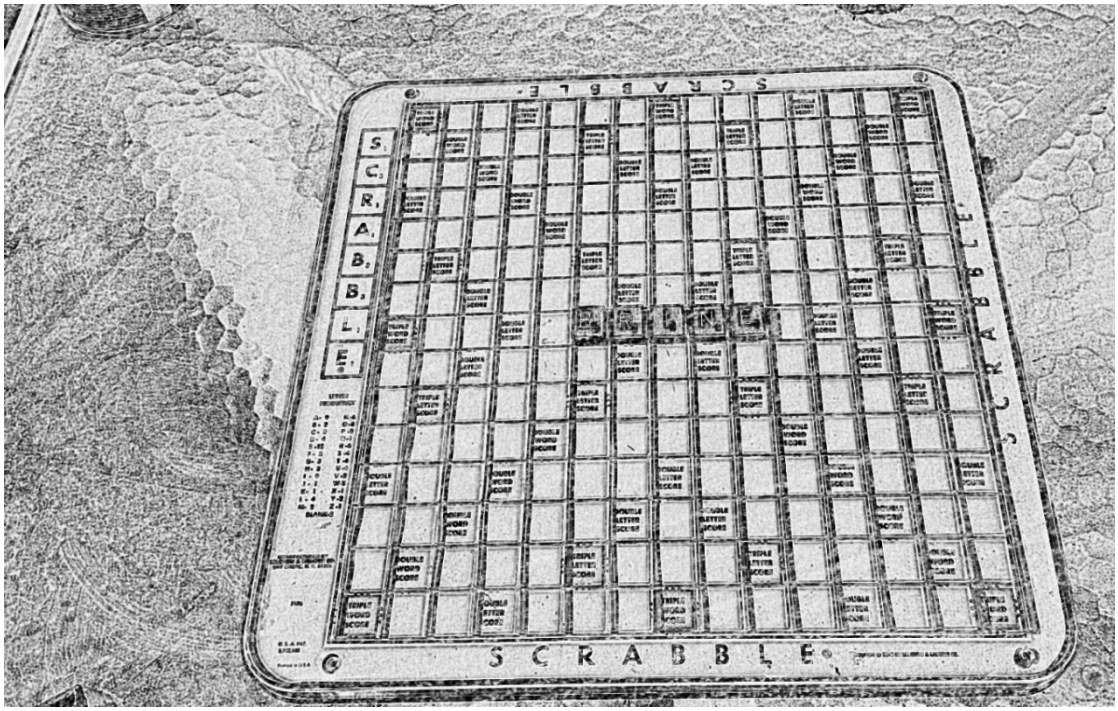
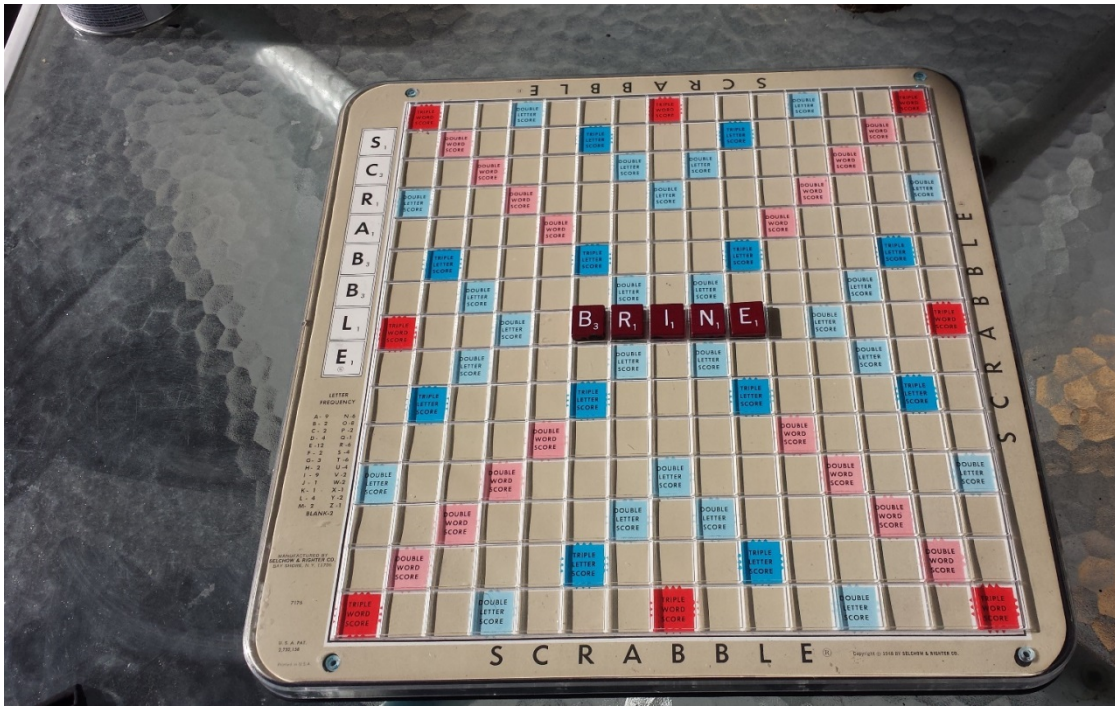


Photo of Invention:



Youtube link: https://youtu.be/Dda8lnULzLE

Invented by: Bethany Austin, Therapeutic Recreation Student

Paint Assister

Activity: Painting

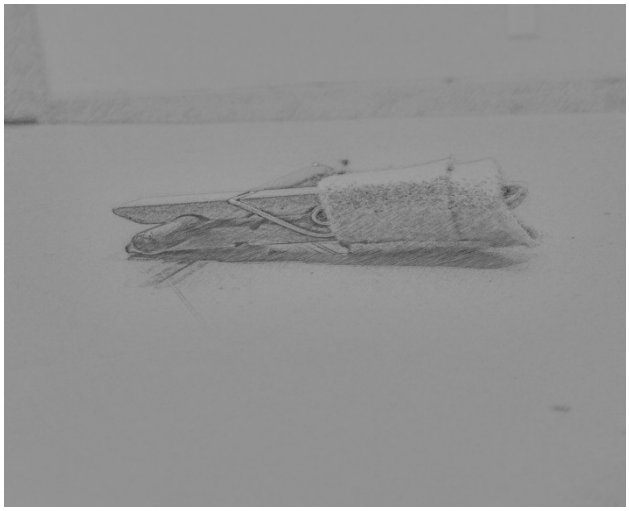
Adaptation Intent: To provide comfort and stability for those who are physically unable to paint with their hands.

Materials: Clothespin (12mm x 45mm), basic sheet of felt (9x12in), fabric glue or hot glue gun with glue

Construction: Cut a sheet of felt an inch in width, wrap it around the clothespin and glue it closed. You can use craft glue or hot glue. Attach the brush to the clamp at the end of the clothes pin

Notes: I was talking with a friend who is an occupational therapist who told me he had a client in the army who recently lost both his arms. I love to paint, so I wanted to create something that would make it more comfortable and easier to paint with the feet. When I tried painting with just the brush, not only was it painful, it was really hard to grasp and not easy to maneuver or apply pressure. This adaption is cost effective, cheap, and easy to make. It works great. I was able to paint with my feet with no pain and a lot more capability in maneuvering.

Drawing of Invention:



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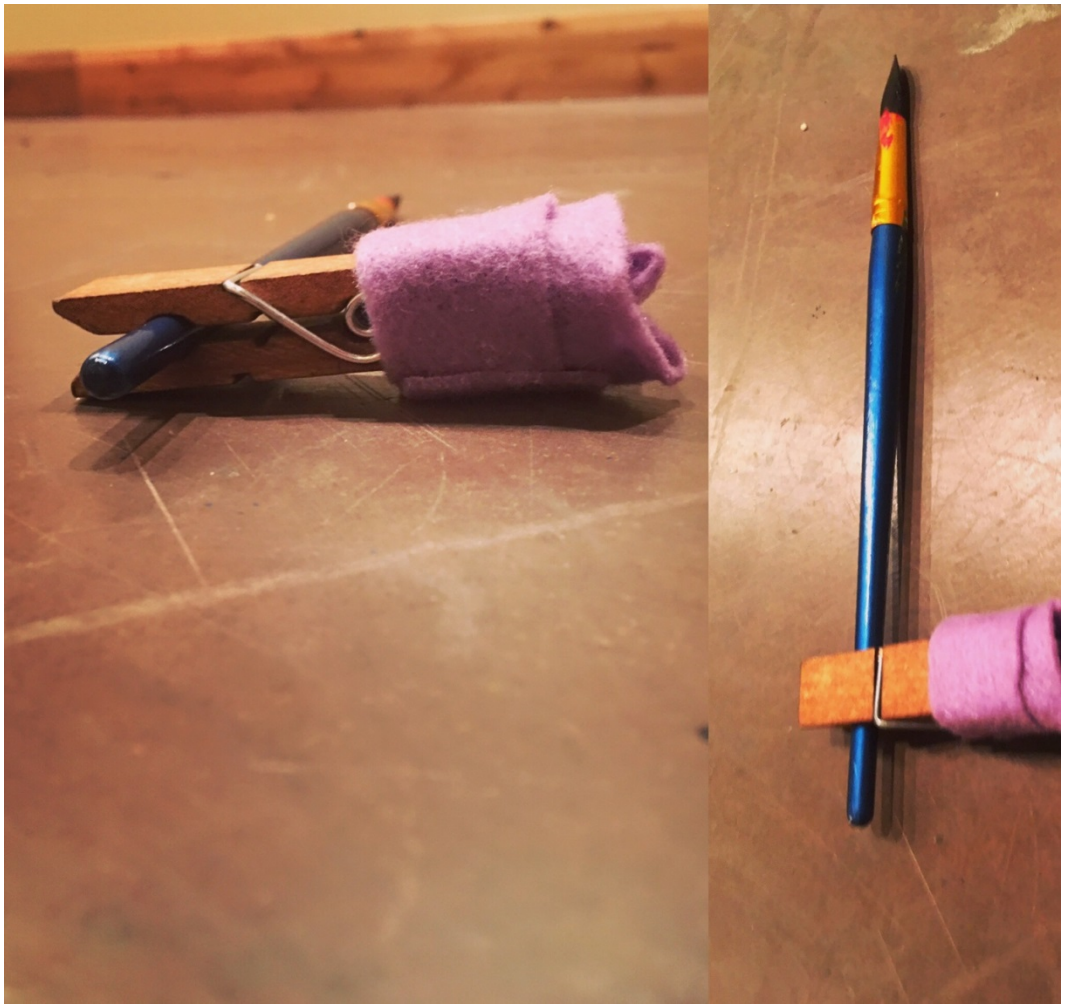


Youtube link: https://youtu.be/ui-5rHm7rGI

Invented by: Holly Nisson

Painting in Place- Magnetic Tape

Activity: For individuals who enjoy painting drawing, magnetic tape (inexpensive) can be easily applied to the back of the drawing/painting material and can stick to any type of surface (wood, glass) to prevent it from moving around on the individual

Adaptation Intent: Used for individuals who may full use of only one hand or the elderly who may not be able to hold an object in place while painting to prevent the object from sliding all over the table.

Materials:

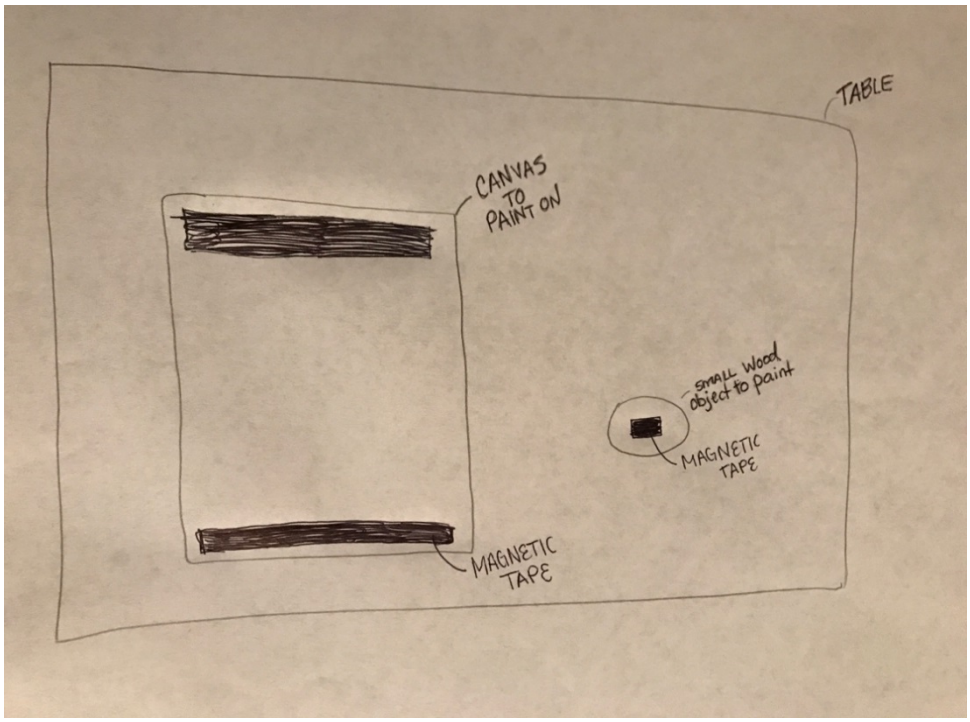
- Magnetic Tape
- Blank Canvas
- Wood object to paint
- Paint brush/paint
- Table (wood, glass)

Construction:

1. Cut magnetic tape and peel sticky side to fit on the back of the canvas or wooden object
2. Place the magnet side down on the table in front of participant who will be painting

Notes: In many nursing homes, painting or crafts are activities that many residents enjoy participating in. Some residents may only have full use of one hand/arm, so painting can become difficult as the leader of the activity may have to spend time with the individual to keep the object in place while managing to run the program. This does not only apply to nursing homes, but other people who may have a difficult time using both of their arms/hands during an art project. The magnetic tape will allow the participant independent access to enjoy their painting/drawing without having the object move around on them.

Drawing of Invention:



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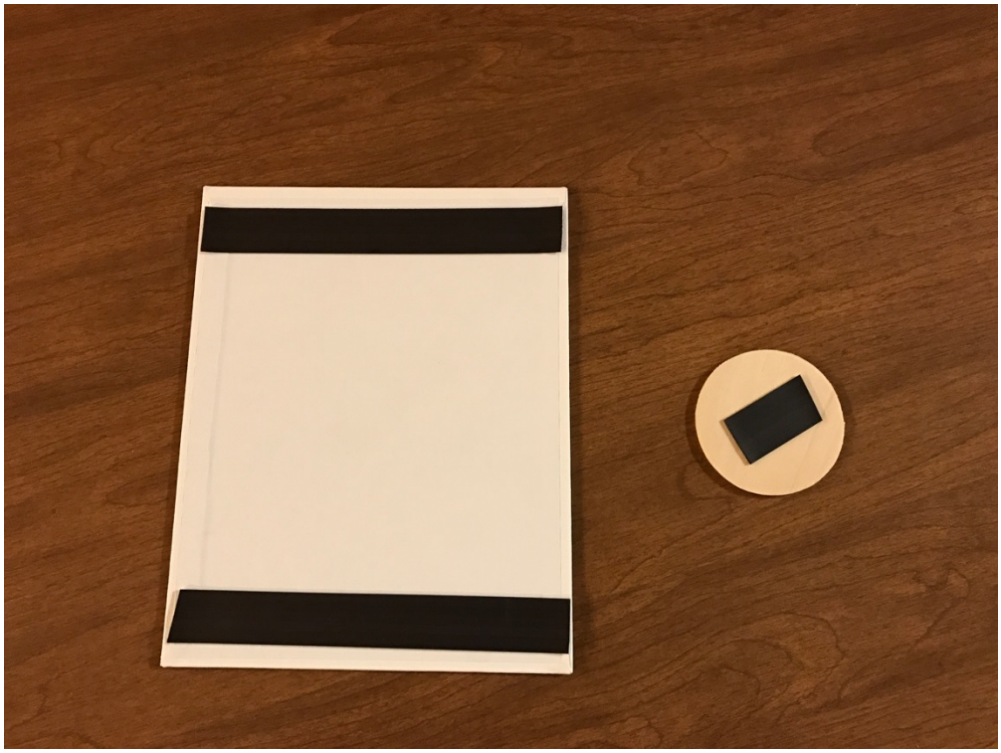


Youtube link: https://www.youtube.com/watch?v=1u6ahmxaF9Q

Invented by: Alyssa Rioux

Playing Cards Buddy

Activity: The Playing Cards Buddy is meant to be used while playing various card games.

Adaptation Intent: The purpose of the Buddy is to assist an individual of any age who has an upper-body impairment or the use of only one arm and/or hand due to a stroke, amputation, or other reason. The Buddy is designed to help the person hold and organize their cards, allowing them the ease and enjoyment of this recreation activity with others, free from any stress or frustration. It includes a base for additional stabilization while in use.

Materials:

- 2 pieces of scrap wood (one piece approximately 1 ½" wide x 9" long x 1 ½" deep, and one larger piece approximately 3 ½" wide x 11 ½" long, for the base).
- Circular saw
- Drill and 2 screws
- 3 spare checker pieces
- Hot glue gun and glue stick
- Optional: Magnifying sheet (approximately 4" wide x 8 ½" long).

Construction

1. Cut three grooves into the top of the wooden card holder with the circular saw.
2. Make the cuts on an angle, ranging from 1 ¼" deep (in front), to 1" deep (in middle), to ½" deep (in rear).
3. Attach the wooden holder piece to the base using the drill and two screws.
4. Hot-glue the three checker pieces to the front of the card holder, making sure the pieces are supported by the base as well.

Notes: The Playing Cards Buddy includes an optional magnifying sheet, should the participant have a visual impairment and would benefit from using this added adaptation. If so, simply place the sheet in front of the cards in the holder (supported by the checkers) for a magnified view.

Drawing of Invention:

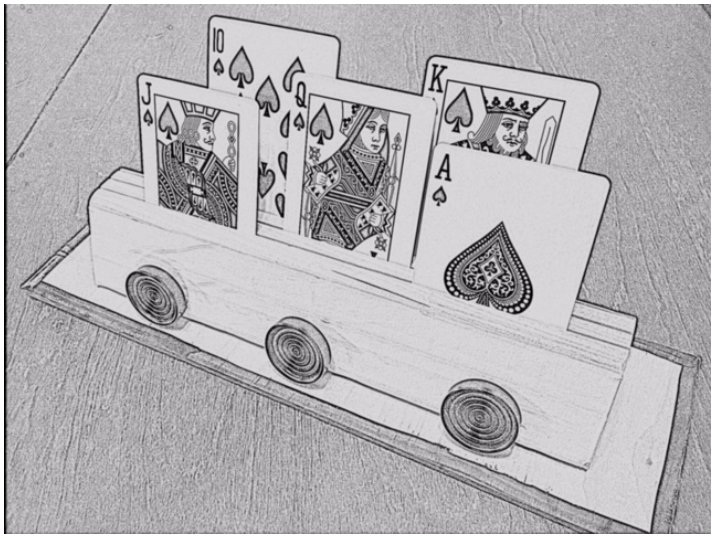


Photo of Invention:

Youtube link: https://youtu.be/oO4evah99Sk

Invented by: Alaina Sherman, Recreation Therapist/Student

Sculpter

Activity: Sculpting

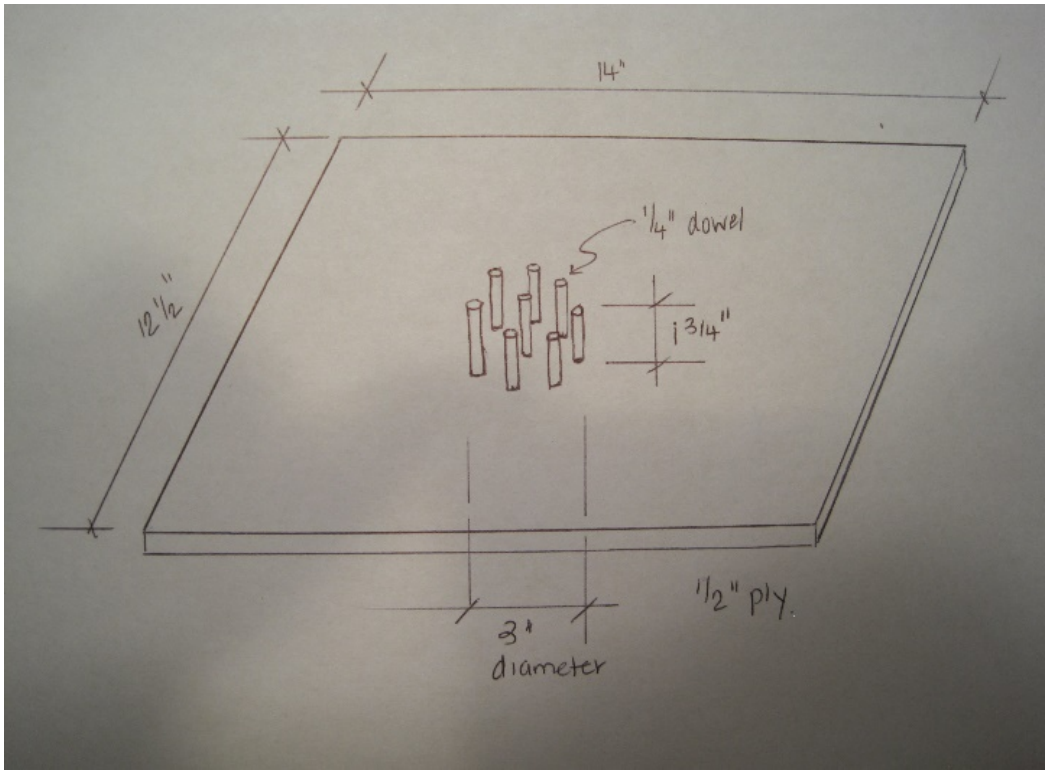
Adaptation Intent: The Sculpter assists individuals with hemiplegia to be able to sculpt. The Sculpter holds the clay in place, leaving the hands free to sculpt. Individuals with neuropathy, Parkinson's disease, and upper body weakness may also find the Sculpter helpful.

Materials: 12.5 x 14" ½" plywood, (9) ¼"x 2" wood dowels, 12 x 14" rubber shelf liner.

Construction: Draw an "X" from corner to corner on the plywood to find the center. Using a compass, draw a 2.5" diameter circle from the center point. Drill (8) ¼" deep holes equidistant around the diameter of the circle and (1) hole in the center point. Using wood glue, glue the dowels into the holes. When glue is dry, staple rubber shelf liner to underside of board.

Notes: Optional clamps can be used to attach Sculpter to table while working for additional stabilization.

Drawing of Invention:



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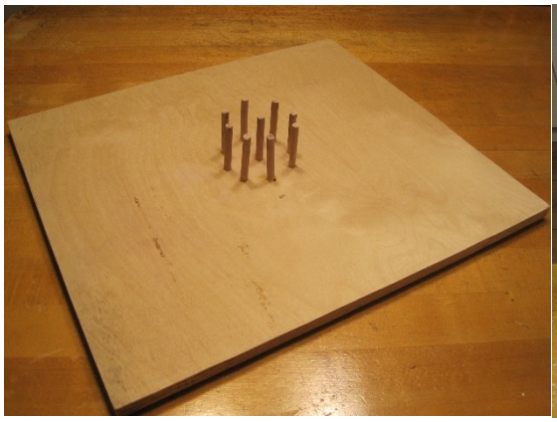
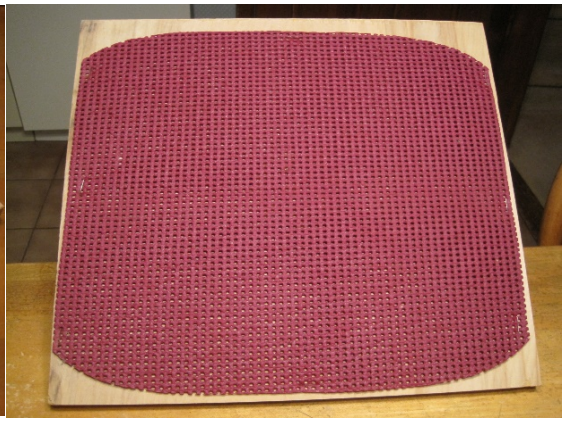




Youtube link: https://youtu.be/SbBCKt1KBvM

Invented by: Lori Marabella

Shape Marked Indoor Climbing Course

Activity: Indoor Rock Climbing

Adaptation Intent: Rock climbing gyms typically have routes marked with different color tapes which makes it difficult for climbers who cannot differentiate colors to climb. Instead of having courses marked with single pieces of colored tapes to show the difficult of the climb, the different level of courses is marked with shapes. The shapes indicate to climbers the difficulty of the climb and allows them to climb independently without their belayer screaming up to them or having to depend on a laser pointer beam.

Materials:

- Duct Tape
- Cardboard or wood
- Scissors
- Screws
- Screw driver

Construction:

Preparation:

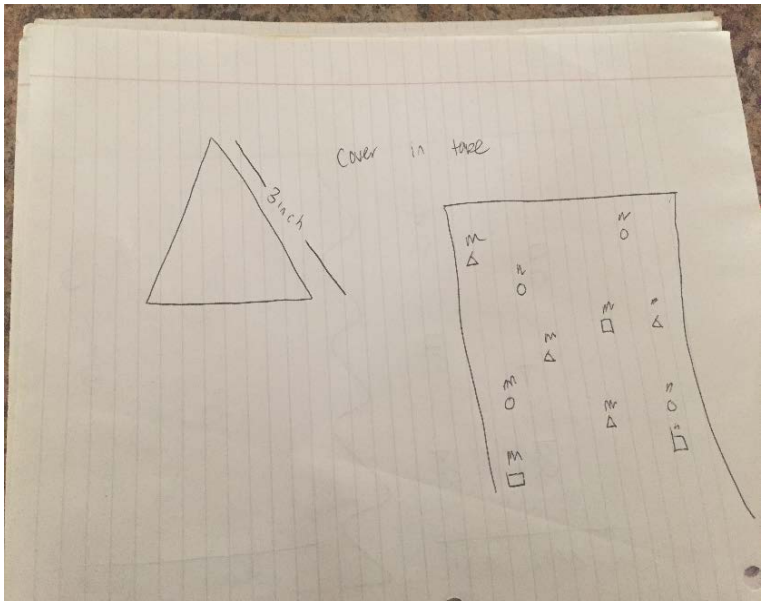
1. Count number of existing climbing route markers
2. Pick a shape for that difficulty of the course
3. Cut out the correct number of one shape for the entirety of the course from cardboard or cut from wood
4. Wrap the shapes with duct tape

Marking the Course:

1. Screw the correct shapes onto the course

Notes: Creating a cardboard/ wood cut out may be unnecessary, but is for a more permanent route. If the courses are constantly changing and being upgraded it may be useful to just use different tapes to create the shapes on the wall, especially if drilling holes into your course is not ideal. Just marking the courses with shapes and different patterns can greatly impact the ability of a person who is color blind to complete a course independently.

Drawing of Invention:



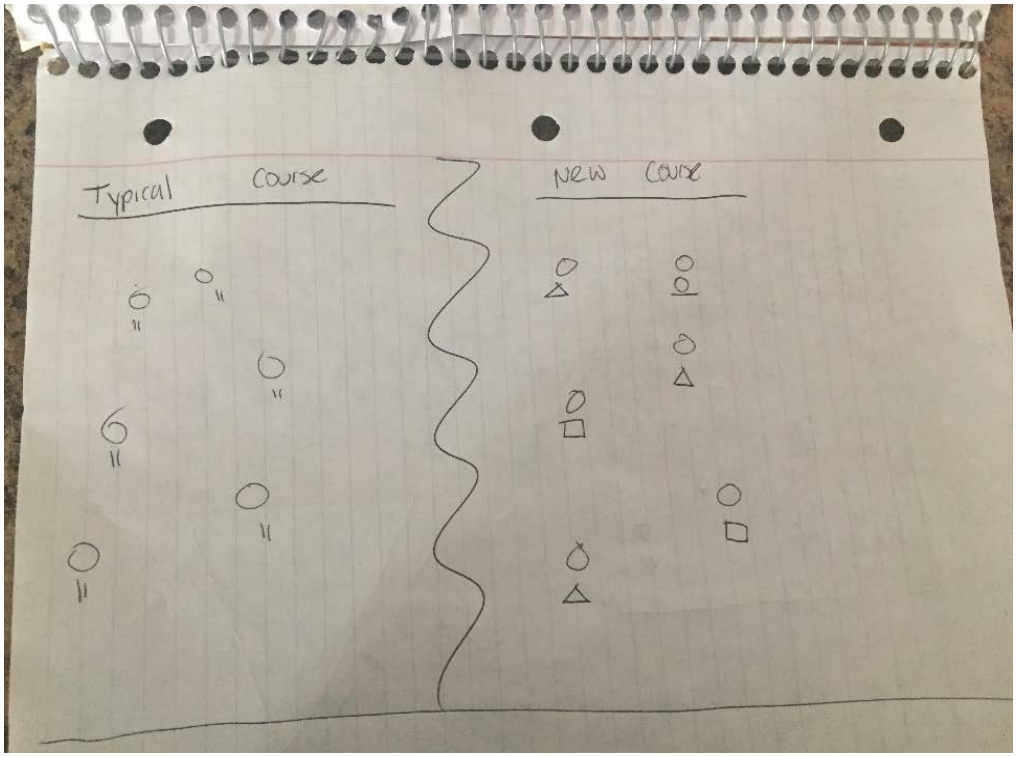


Photo of Invention:

Youtube link: https://www.youtube.com/watch?v=3ARQ2-VyRlY

Invented by: Molly Bernhardsen

Skating Walker with Blasting Stick Power

Activity: This adaptation can be used to carry out most hockey stick functions. The skating walker with Blasting Stick Power can be used for street or ice hockey.

Adaptation Intent: The intent of this adaptation is for an individual to get on skates and be able to use various hockey stick "functions or maneuvers." The functions and maneuvers can include: carrying a puck(on the ice), stick handling, passing, wrist shots and snap shots. The stick is positioned so it can be used with: one hand, both hands or no hands are on the walker. Ideally, the walker is intended to be used for skating and the player will stop if and when they want to shoot.

Materials:

- Ice skating walker (or one from an area pharmacy, without wheels)
- Cable ties (2 8 inch cable ties and 1 14-inch tie were used)
- Duct or hockey tape
- Hockey stick
- Hockey puck

Construction: To build barriers on stick:

1. Twist two pieces of two feet of tape (sticky side out) then wrap around the stick a few times, about shoulder width apart, but down six inches down from the top of the stick
2. "Secure" the boulder with another layer of tape

To attach stick:

1. Fix 8 inch cable tie loosely between the barrier just made in the previous step. Tighten the tie so it will not go over the barrier
2. Fix the other 8 inch cable tie loosely on a cross bar of the walker, I chose the upper one because of the "barriers" and most sticks don't get momentum near the blade of the stick.
3. thread the 14 inch cable to through the cable tie on the cross bar of the walker, then thread it through the cable tie on the hockey stick.
4. For added support, have the upper end of the stick go 'under' the handle of the walker
5. Get out and enjoy some time on the ice.

Notes: The tape can be any form of tape; masking, duct, clear, hockey, etc.
Unfortunately, if just the walker is wanted for skating, the cable tie on the walker will need to be cut.
This is a design for a left handed stick, but can easily be adapted for a right stick, go about the steps above, and in the photos below, just have the stick go through the opposite handle of the walker.
If the participant wants to shoot "backhand," they can use the same instructions for a right handed stick, turning the stick around and placing under the right handle.

Drawing of Invention:

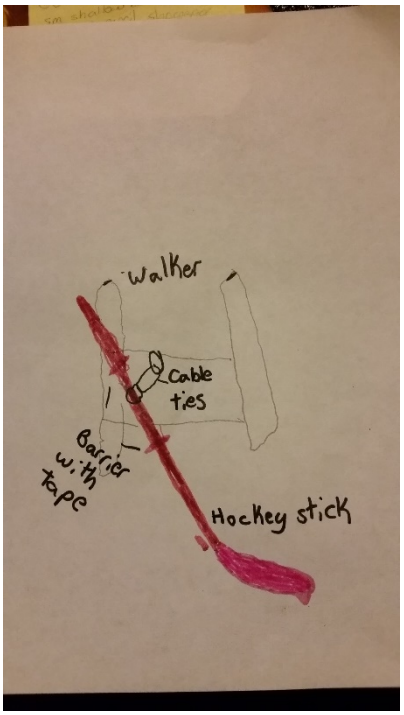


Photo of Invention:

Youtube link: https://youtu.be/2keqos8zUEM

Invented by: Stephanie Crance

Table Top Book Holder

Activity: Reading a book

Adaptation Intent: Reading a book could be a difficult task for someone who has limited use of one hand or no use of one of their hands. The Table Top Book Holder holds a book in place in order to allow a participant to read a book without having to hold the book.

Materials:

- 3 pieces of 2 foot ¾ inch width PVC pipe
- PVC connector Tee
- 6- PVC 90 degree elbows
- 1-12”x24” plexi glass
- 2-12” silicone bands
- Gorilla Glue or similar adhesive
- Hacksaw

Construction:

Preparation:

1. Using a hacksaw, cut the first PVC pipe into two pieces, measuring 16 inches and 8 inches.
2. Cut the other two PVC pipe into three 8 inch pieces.
3. Cut 4 inches off of the plexi glass using the hacksaw

Putting the stand part together:

1. Take one of the 16 inch pieces of PVC and put elbow connectors on both ends with the open end pointing back
2. Connect two eight inch pieces to the two elbow connectors
3. Connect elbow connector to each open end of the PVC pipe, open side pointing upward
4. Connect two eight inch pieces of PVC to the two elbow connectors
5. Connect elbow connector to each PVC pipe, with the open end facing inwards
6. Connect two eight inch pieces of PVC pipe to the two elbow connectors
7. Use a Tee connector, connect the final two open eight inch PVC pipes
8. Face the Tee connector towards the front of the stand

Final Steps:

1. Place plexi glass on the stand, using Gorilla Glue or similar adhesive on stand
2. Attach the silicone bands to the plexi glass

Notes: This was originally designed to hold the book open, and can still be used to do this. After the final construction it was noted to be easier to use as a book holder to hold the book in place, with no need to have it open to a specific page. This may also be adjusted to be used to hold an I-Pad or e-reader.

Drawing of Invention:

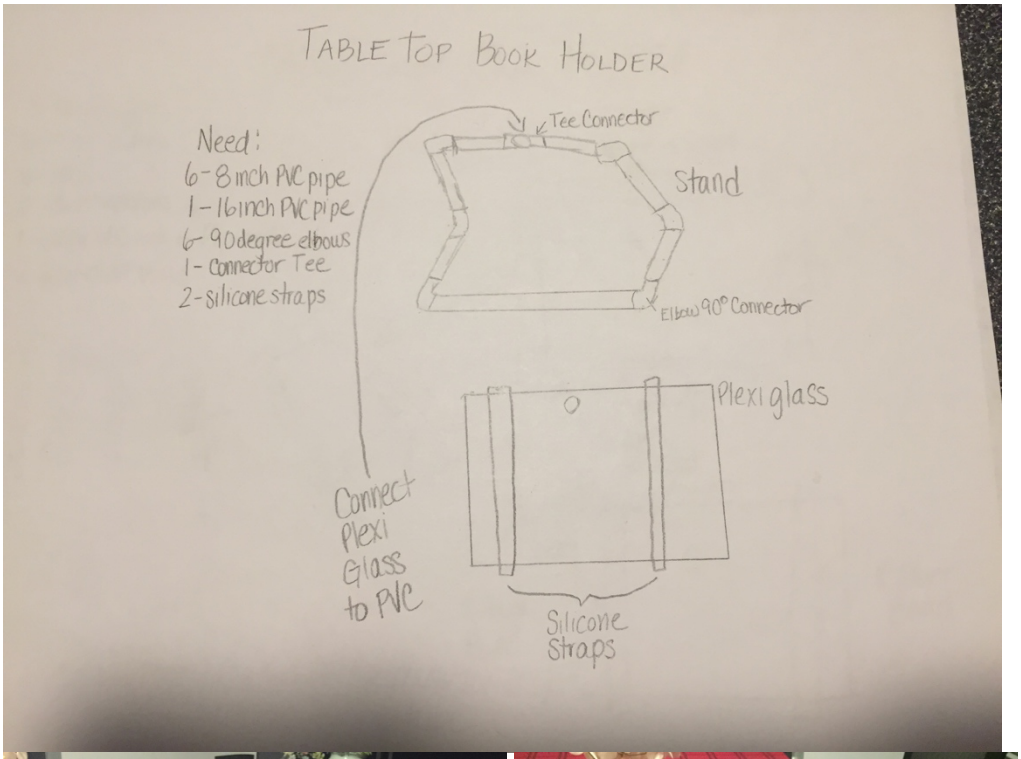


Photo of Invention:

Youtube link: https://youtu.be/dxMYN4F0HpE

Invented by: Nicole LiVigni

Water Stool

Activity: The Water Stool would be used in Aqua Aerobics classes for participants that cannot suspend themselves in the water due to obesity, for those who are wheelchair users on land or do not have good balance in single leg exercises.

Adaptation Intent: The Water Stool would allow for a seated position to be obtained for suspended water exercises, as well as a stable base for wheelchair users to sit on and participate in class.

Materials:

- Molded Plastic Stool 2 feet in height
- Foam
- Super glue

Construction: Molded Plastic Bench. To make at home, use any strong plastic stool, cut legs to 2 or 3 feet depending on depth of water. Super glue foam in moon shape to the top of the stool.

Notes: Many participants who attend water aerobics classes are seniors, people recovering from previous injury or joint damage, people who have lost balance and or flexibility. Some movements in Aqua Aerobics require you to suspend yourself in the water. Participants who are wheelchair users, obese, or do not have strength or balance during single leg exercises would benefit from a seated position in the water.

Drawing of Invention:

Photo of Invention:

Youtube link: http://www.youtube.com/watch?v=BbELu8kfNfA

Invented by: Kate Durant

SUNY Cortland

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