SUNY Cortland

Therapeutic Recreation

Adapted Equipment Ideas

Volume VII

Adapted Equipment Inventors/Therapeutic Recreation Students:

Brianna Anderson
Kaylin Coe
Micaiah Humes
Lisa Mooney
Anthony Perez
Sydney Pluta
Sarah Robbiano
Kathy Schofield
Amanda Vessa

Edited by
Dr. Lynn Anderson, CTRS

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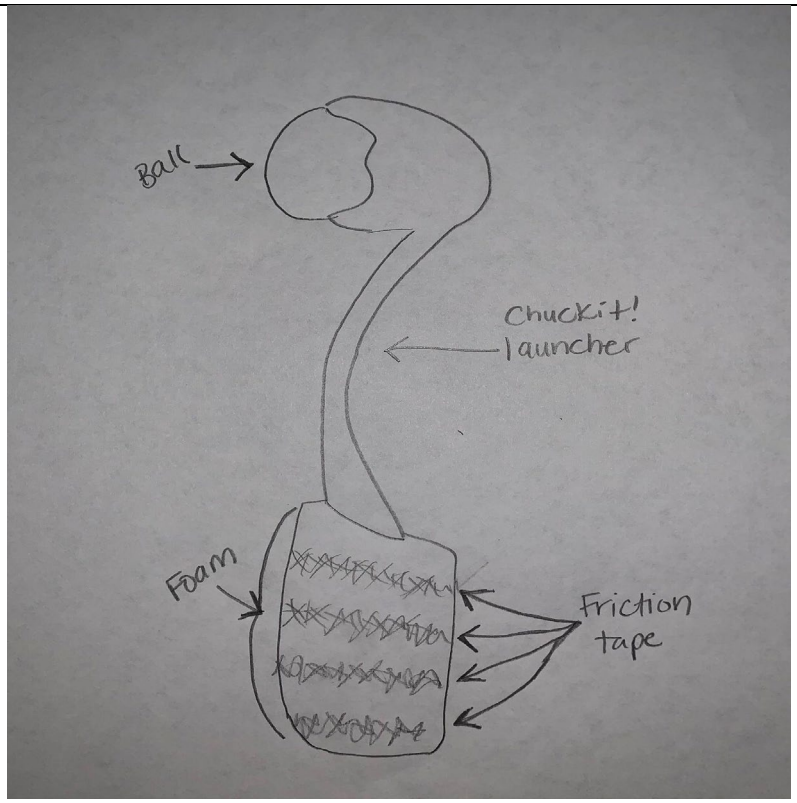
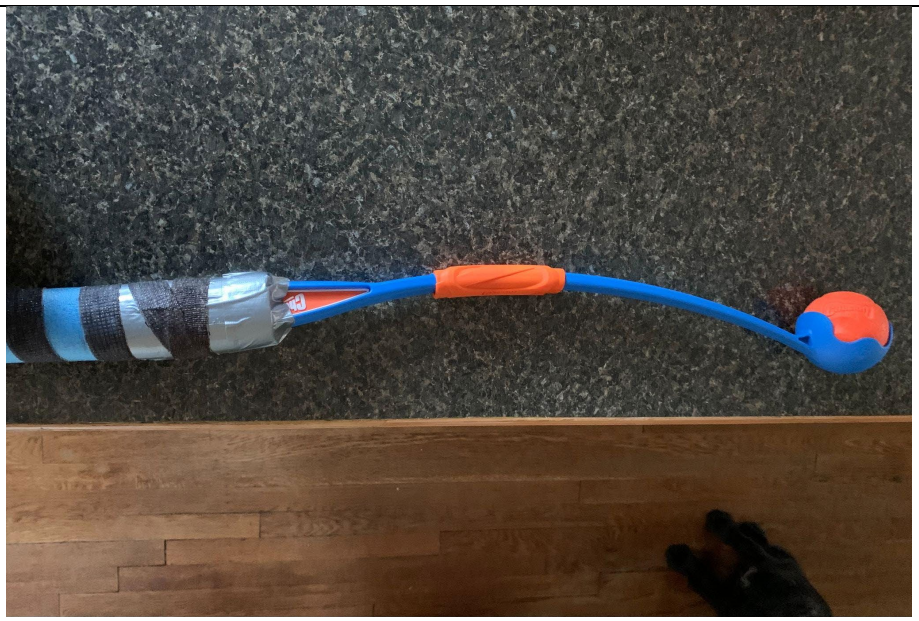
This book was developed by the
therapeutic recreation graduate students
in SUNY Cortland's
REC 533: Therapeutic Recreation Process II
online course in Spring 2022

Ball Launch Grip

Title of Invention:	Ball Launch Grip
Activity:	Playing Fetch with Pet
Adaptation Intent:	The Ball Launch Grip provides a larger surface for manipulating the handle of the launcher. It provides an effective way to throw a ball to your pet without having to grasp the ball. It also provides a sticky surface for added grip abilities. This invention would be beneficial to those who experience limited grip and grasping capabilities.
Materials:	● "Chuckit!" classic ball launcher ● Friction tape ● One foam noodle ● Duct tape ● Scissors
Construction:	1. Measure the handle of the launcher 2. Cut the length needed of the launcher from the foam noodle 3. Cut a slit in the length side of the noodle 4. Wrap the foam around the handle of the launcher 5. Use duct tape to secure 6. Wrap friction tape along the outside of the foam handle
Notes:	The "Chuckit!" ball launcher can be used to play fetch with your dog and can help with manipulation of the ball in a variety of ways. It allows you to throw the ball a far distance by holding the handle and moving it forwards. It doesn't require you to physically pick up, grasp or throw the ball to your pet itself. It is easy to pick up/retrieve the ball off of the ground as it places itself inside the holder.

Drawing of Invention:	
Photo of Invention:	
Youtube link to video of invention in use:	https://youtu.be/SlZXlJheTfc
Invented by:	Kaylin Coe TR/RT Student

Chutes and Ladders 3D

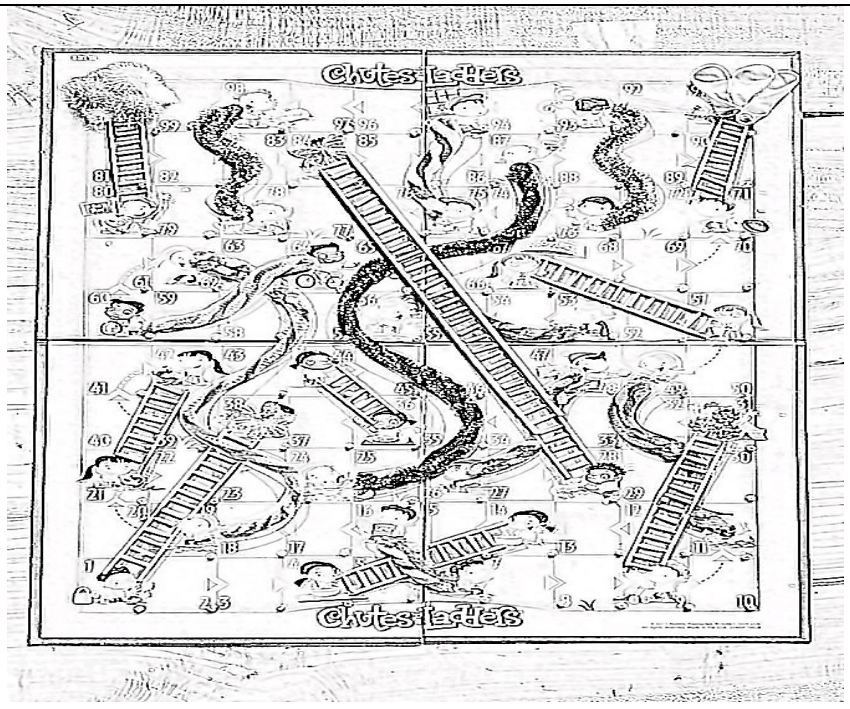
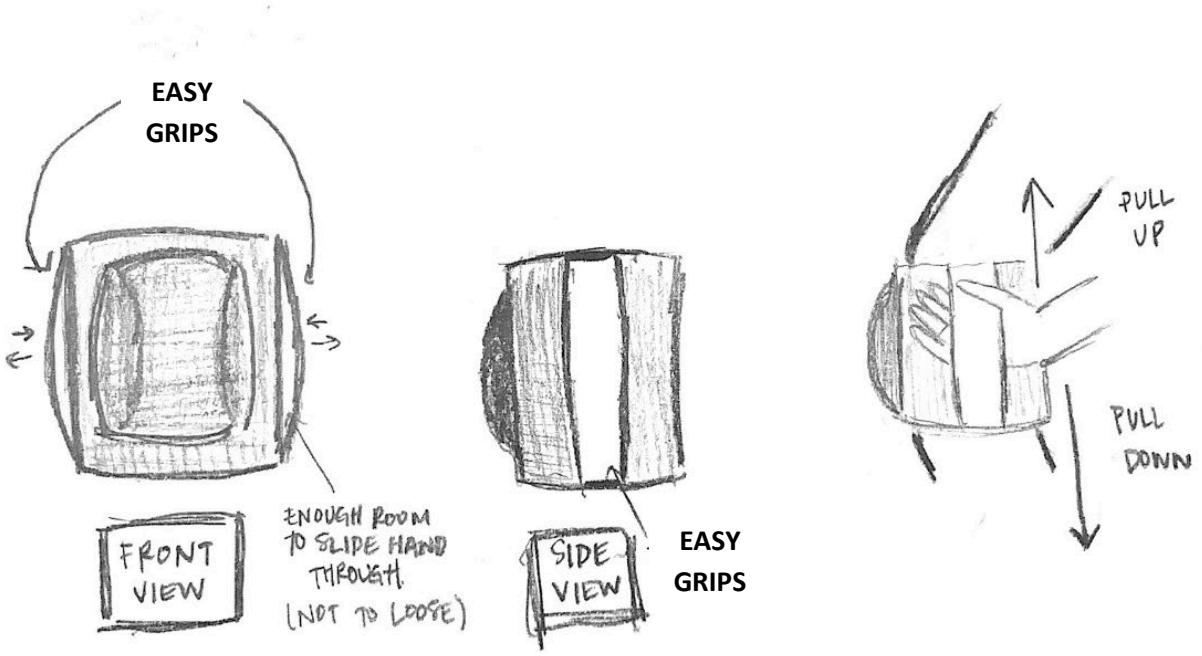
Title of Invention:	Chutes and Ladders 3D
Activity:	Board game
Adaptation Intent:	Visually impaired, those with developmental disabilities or tactile learners.
Materials:	Chutes and Ladders board game, foam paper stock, toothpicks, liquid glue, hot glue, pipe cleaners, beads, pom poms, balloons, different shaped sequins, and other fun shapes/craft materials, scissors/pruning shears
Construction:	Cut toothpicks to size and hot glued them to board, bent pipe cleaners to match slides and hot glued to board, cut foam paper stock into different shapes and glued to pawns, glued beads to spinner to create braille numbers and to board to mark spaces/counters, glued pom poms, balloons, and shaped sequins to board
Notes:	Materials can be substituted for items you have around the house. Thought about using spaghetti in place of toothpicks or yarn for the slides. Not enough room on the board to use all braille numbers so a counter bead was placed on each square.
Drawing of Invention:	

Photo of Invention:	
Youtube link to video of invention in use:	https://youtu.be/pKFU2fQpmMs
Invented by:	Lisa Mooney, TR Student

Easy Grip Knee Pads

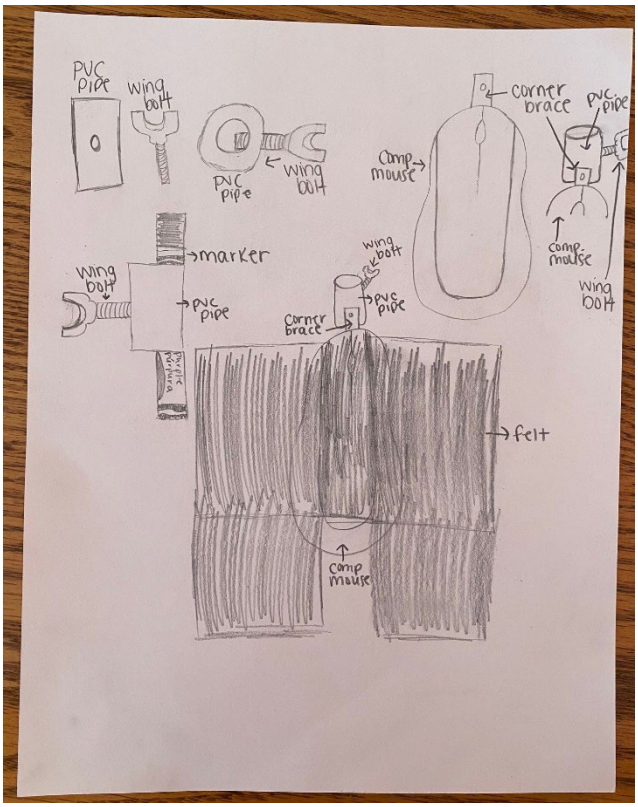
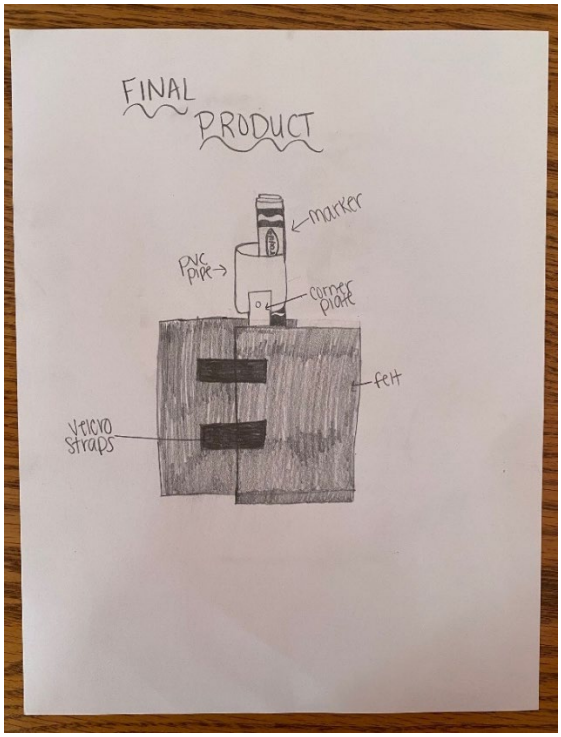
Title of Invention:	*Easy Grip Knee Pads*
Activity:	Volleyball and sitting volleyball
Adaptation Intent:	Volleyball and sitting volleyball are very fun, exciting, and action-filled sports. Tremendous effort is required with falls and dives here and there to keep the ball off the ground. With this sort of effort and sacrifice comes the necessary padding to prevent injury or bruising. The most common form of protection in volleyball are knee pads. This puffy, plush padding provides the extra protection anyone would need to play the sport. However, knee pads weren't designed with everyone in mind. To pull knee pads up and take them off, fine motor skills of the hand are required. *Easy Grip Knee Pads* were made to accommodate individuals with disabilities that affect the hand's ability grip, grasp, and form the precise movements it takes to pull up knee pads and take them off. The addition of a universal grip aid on *Easy Grip Knee Pads* makes taking knee pads on and off a simpler task.
Materials:	• Knee pads • Old t-shirt or a thicker cloth material • Scissors • Measuring tape • Pen/pencil for marking • Sewing kit
Construction:	1. Gather materials. 2. On the t-shirt, measure and mark four rectangles (two per knee pad) with the following dimensions: - At least 2 inches wide - 5-7 inches tall (or exact length of knee pads) 3. Cut cloth rectangles out. Set aside. 4. Take knee pad #1, place one cloth rectangle to the right side of the knee pad. 5. Securely sew the cloth rectangle on to the knee pad, only at the top and bottom portion of the rectangle. 6. Repeat steps 4 and 5 on the left side of the knee pad. 7. Repeat steps 4-6 on knee pad #2.
Notes:	• Do not sew the easy grips on too loose, or with too much room in between the grips and the knee pad. They should have enough room to slide a hand or fingers through, but close enough be to prevent them from getting caught on something or falling off. • Invention might be improved by using a sturdier, elastic fabric for the Easy Grips– one that is similar to the knee pads themselves (a combination of polyester, rayon, and elastic).

Drawing of Invention:	Knee Pads: 
Photo of Invention:	

	 
Youtube link to video of invention in use:	https://youtu.be/IEcX2vpQsgs
Invented by:	Brianna Anderson, Therapeutic Recreation Student, SUNY Cortland.

Glider

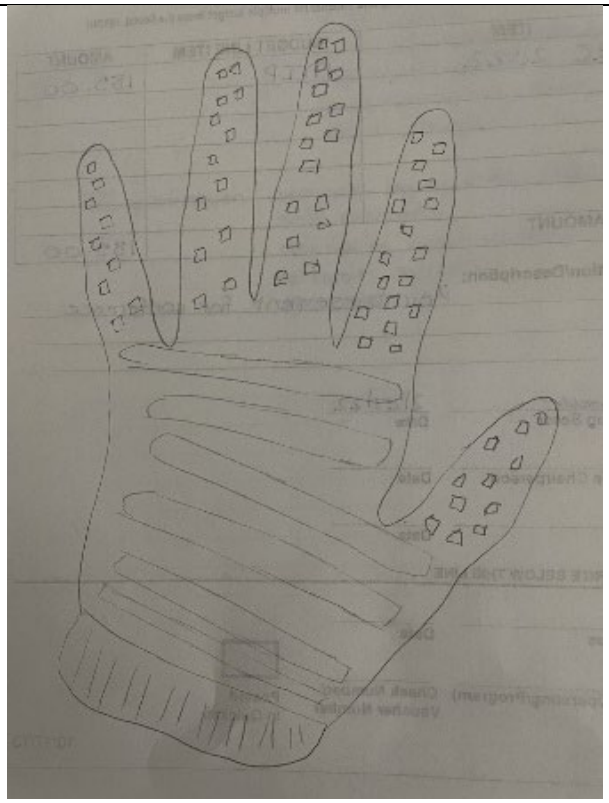
Title of Invention:	Glider
Activity:	This adaptive equipment is designed to assist people with writing, drawing, coloring, journaling, or painting.
Adaptation Intent:	The intent of this piece of adaptive equipment is to assist individuals with their ability to write, draw, color, and paint. This tool may be used by people who have poor or no dexterity, people with arthritis, people with an illness or disease which affected their writing such as Parkinson's, people with tremors, or anyone else who may benefit from it.
Materials:	• PVC pipe • computer mouse • 1 1" x 2.5" corner brace • 2 pieces of 9" x 12" felt • 1 Wing bolt 5/16-18" x 2" • 2 Velcro straps • hot glue gun • hot glue sticks • scissors • marker/pen
Construction:	Step 1: Take top off of mouse and pull out the scroll wheel in the middle. Step 2: Hot glue the corner brace directly in the middle and hold at a 90 degree angle while drying. Step 3: Place top of mouse back on and press down until you hear it click in place. Step 4: Drill a hole in the center of one of the sides of the PVC pipe big enough for the wing bolt to fit through. Step 5: Take the PVC pipe and hot glue the side without the hole to the corner brace. Line up the bottom of the PVC pipe with the bottom of the corner brace. Step 6: Take one of the pieces of felt and cut it in half. Step 7: Hot glue the felt to the side opening of the mouse. Step 8: Take the second piece of felt and cut out a piece to fit on top of the opening left on of top the mouse. Step 9: Cut two pieces of Velcro.

	Step 10: Put your hand on the mouse and wrap the felt on your hand. One piece over the other piece and Velcro in two spots where it overlaps. Step 11: Cut off the extra fabric around where it lies on your wrist. Step 12: Put a writing utensil in the holder and begin to work. Construction: https://www.youtube.com/watch?v=0gp0ReO_S6Y
Notes:	• can hold a pen, pencil, marker, crayon, paint brush and anything else a person would want to write, color, draw, or paint with due to the adjustable holder • can work with any size hand due to the adjustable straps • the person using the Glider will need help switching in and out the writing/painting utensil
Drawing of Invention:	 
Photo of Invention:	 

	
YouTube link to video of invention in use:	https://www.youtube.com/watch?v=07X16VhzAnw
Invented by:	Sydney Pluta

Gripsy

Title of Invention:	The Gripsy!
Activity:	• Playing football • Wine tasting • Painting • Playing catch • And more!
Adaptation Intent:	The Gripsy is a tool to assist with grasping specific items in various activities, only a few are listed above. Sometimes it is hard to grip a ball in a sport with your bare hand or maybe you are worried about your drinking glass slipping out of your hand. It can even help you hold your paint brush. The Gripsy is going to be there for you no matter what! Just like there are grip socks for our feet, now we can have them for our hands.
Materials:	• A glove • Super glue • Scissors • Plastic bag • Jewels, pearls, paint, glitter (optional) • Ducks Hold- it for rugs or rubber strips
Construction:	1. Get all material needed 2. Insulate glove with plastic bag 3. Cut small square pieces and long strip pieces of rubber or duck hold it (measure long strips to length of glove when cutting) 4. Laying them out on a flat surface and add glue 5. Adding the small pieces to the fingers and long strips to the palm portion of hand 6. Press down on flat surface to ensure rubber is sticking 7. Cut another 1 inch strip of rubber the length of about a pointer finger 8. Glue that into the shape of a circle, small enough to hug a pencil or paint brush 9. Once that side is dry, flip glove over and decorate (optional)
Notes:	• Decorations are optional • It might be better the insulate the glove with a plastic bag while gluing to prevent glove getting stuck together • Laying out rubber pieces in the shape of a glove on a flat surface will make the gluing process move a little quicker • For step 8, rubber nonslip side should be on the inside of the circle

Drawing of Invention:	
Photo of Invention:	 
Youtube link to video of invention in use:	https://youtu.be/nnGffx-39MY
Invented by:	Micaiah Humes

Handi Helper 22

Title of Invention:	Handi Helper 22
Activity:	Demonstrated for golf. Can also be used for tennis, pickleball and table tennis.
Adaptation Intent:	The Handi Helper is designed to help increase grip. Handi Helper 22 allows for client to thoroughly grasp the putter, racquet or paddle.
Materials:	• Batting glove, golf glove, racquet, or paddle handle • Peel and stick Velcro for fabrics
Construction:	• Measure velcro (soft side) on each finger for length and cut. • Place velcro on each specific finger. • Measure velcro across the width of the clients palm, in three consecutive spots. Place velcro. • Cut 3- 3in pieces of the opposite side (rough) of velcro and place on the handle.
Notes:	Ensure the length of the velcro strips fit to the client's finger length and hand width. Don't just assume the same length and width of the glove. For adaptations clients can use both gloves for a Handi Helper.
Drawing of Invention:	See Appendix 1 Attached
Photo of Invention:	See Appendix 2 Attached
Youtube link to video of invention in use:	https://youtu.be/Lbn8SNzYsjo
Invented by:	Laura "Kathy" Schofield

Appendix 1:

Appendix 2:

Helping Hand

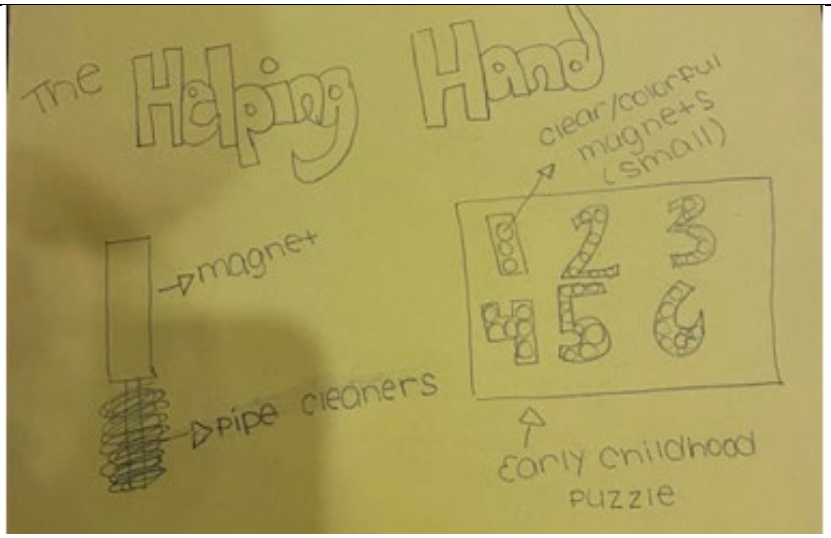
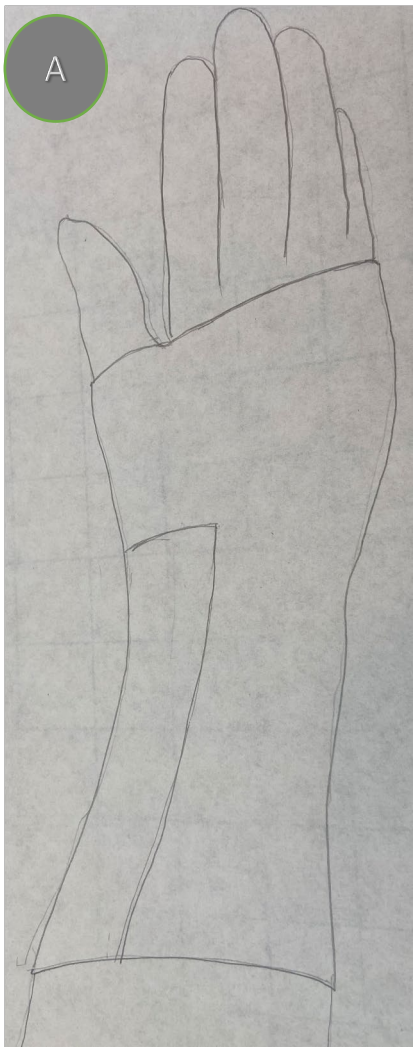
Title of Invention:	Helping Hand
Activity:	Early childhood puzzles increase brain function, problem solving skills, improve number and shape recognition. Puzzles are a great stress reliever and allow participants to help improve concentration and memory skills. The helping hand device supports participant who lacks the motor skills necessary to hold puzzle pieces. The participant will hold the magnet holder in their hand, which has a more manageable grip to move the puzzle pieces properly.
Adaptation Intent:	To facilitate independent use for participants who lack fine motor skills necessary to grasp puzzle pieces.
Materials:	• Magnet Holder • Magnets • Double-Sided Glue • Pipe Stems
Construction:	Wrap three pipe stems around the magnet holder to create a better grip for the participant. Use the double-sided tape to apply small magnets to the puzzle pieces. The magnets used in the example are colorful; feel free to mix and match or keep the same color of the puzzle pieces.
Notes:	The helping hand is geared toward being used for big puzzle pieces for early childhood learning.
Drawing of Invention:	

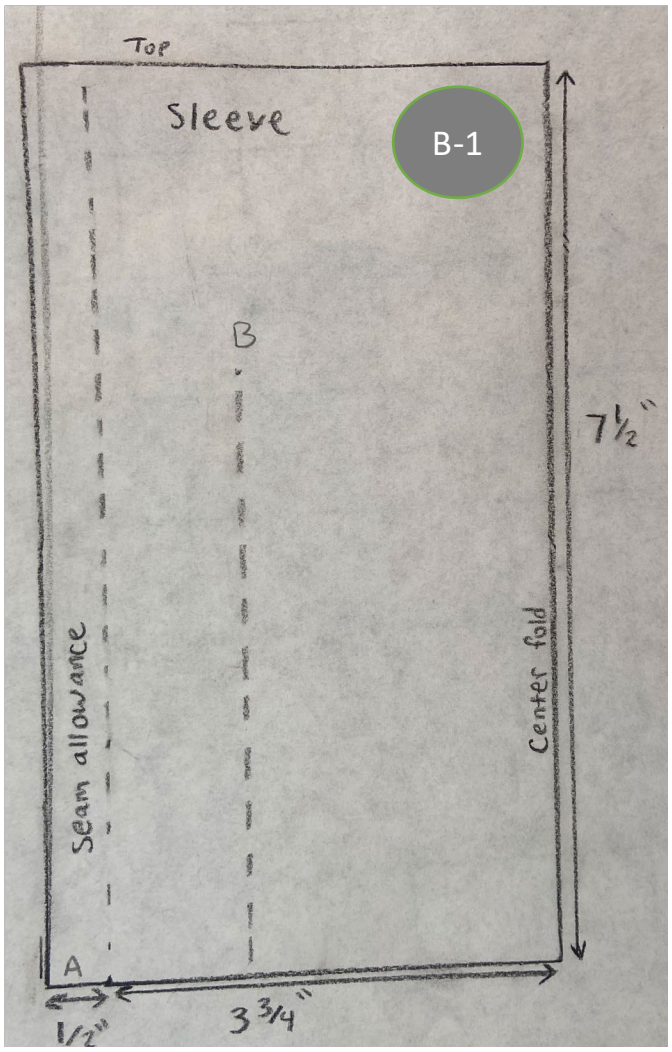
Photo of Invention:	
YouTube link to video of the invention in use:	https://www.youtube.com/watch?v=vShGLOftL6A
Invented by:	Amanda Vessa, TR Student

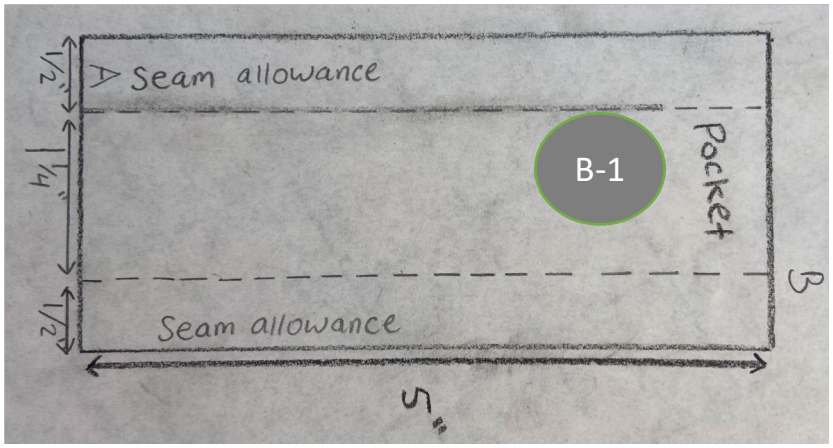
Paint Brush Arm Sleeve

Title of Invention:	Paint Brush Arm Sleeve
Activity:	Painting
Adaptation Intent:	For participants who have difficulty with gripping, arthritis, or amputation of the hand but still have functional movement of the wrist and/or arm
Materials:	Nylon/spandex 4-way stretch material (such as that use in dance or swimwear), sewing machine, and sewing tools
Construction:	1. Lay out the fabric and cut out the two separate patterns (using attached pattern) (Attachment B-1) 2. Place sleeve pattern on the table, and line up the pocket pattern "B" line with the "B" line of the sleeve (Attachment B-2) 3. Place pins along the "B" line and sew together 4. Fold the packet over the seam that was just created and line up the pocket "A" line with the sleeve "A" line 5. Sandwich the pocket in between the two ends of the sleeve piece and sew together (Attachment B-3) 6. Flip the sleeve right-side out and the basic sleeve will be present (Attachment B-4) 7. To create a thumb hole for the sleeve, place the sleeve on the participant and pinch the fabric together and mark. Then make a tacking stich at the mark to create the thumb hole
Notes:	▪ The current pattern was designed to allow for wrist dexterity, the patterns can be adapted to accommodate individual participants and their mobility and extremity needs ▪ For participants with hand, wrist, or forearm amputations the top portion of the sleeve can be sewn closed for the residual limb to rest in at various limb points as needed ▪ The length and placement of the pocket and sleeve can be adjusted to meet individual dexterity and functionality ▪ Compression socks or Opera gloves can be used as a base or a less sewing intensive method
Drawing of Invention:	See Attachment A and B
Photo of Invention:	See Attachment C
YouTube link to video of invention in use:	https://youtu.be/RJVu6eQcHV0
Invented by:	Anthony M. Perez

Paint Brush Arm Sleeve Drawing and Patterns





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B-3


B-4

Photo of Paint Brush Arm Sleeve

Pulse Ox Bag

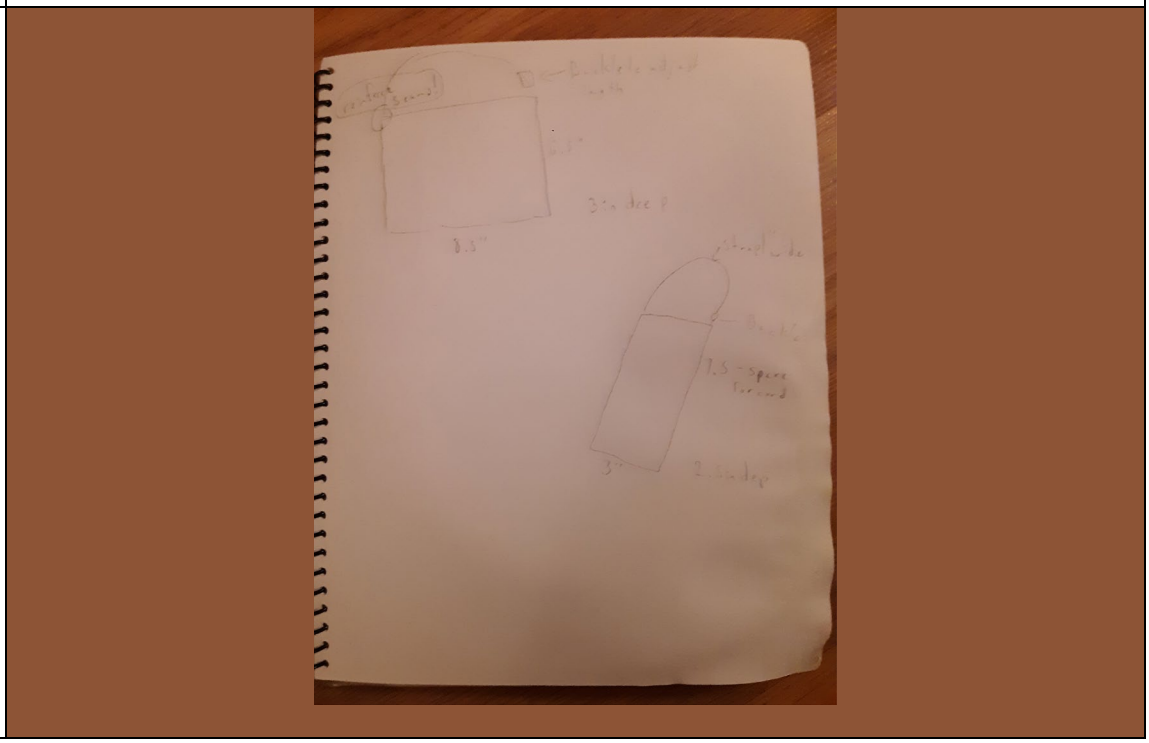
Title of Invention:	Pulse Ox Bag
Activity:	Going for walks outside or around the building
Adaptation Intent:	Prevent pulse oximeters from falling or being dropped when residents using wheelchairs (power, self propelled, or attendant propelled) to facilitate easier walks outside. Bag is designed to hang securely on the back of a wheelchair or stroller, providing a convenient place for pulse ox to hang while cords from the pulse ox remain easy to access.
Materials:	Cotton fabric
Construction:	2 separate patterns designed based on dimensions of 2 pulse oximeters used at facility. Fabric was cut to pattern and sewn using a machine, with reinforced stitching on weight bearing seams.
Notes:	Current solutions for holding a pulse ox were backpacks or reusable tote bags, both of which were generally the wrong size and would not hang securely. A properly sized back with a long handle that can be looped through something was needed. These bags have been tested at our facility and found very useful for outdoor activities.
Drawing of Invention:	

Photo of Invention:	
Youtube link to video of invention in use:	https://youtu.be/gymRJN6TYjY
Invented by:	Sarah Robbiano

SUNY Cortland

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PO Box 2000

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