

Charting the Cs
Conference 2025:
*To Literacy and
Beyond*

Cooperation
Communication
Collaboration

From Creation to Implementation

Part 1: Using AT Switches in the Classroom

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Region 5 & 7 Assistive Technology Community of Practice (AT CoP): Our Journey 2020-2021

- Small work group adapting toy from ATIA (Assistive Technology Industry Association) 2021 Presentation.
- Presented to our region and did a Make and Take of a Minion.
 - Pre-purchased toy.
 - Included making tool kits for adapting toys for each district/cooperative.
- A lot of real time troubleshooting, sharing of ideas and learning what we still need to know!



Region 5 & 7 AT CoP: Our Journey 2022-2023

1. Set Regional Goal to increase knowledge of adapting toys within our own AT CoP group.
2. Regional Make-n-Take session
3. Made battery interrupters, switches, and adapted a toy that we pre-ordered.
4. Immersive Learning Format. No Death by Powerpoint! Event was a huge success!



Region 5 & 7 AT CoP: Our Journey 2023-2024

1. Set AT CoP Goal to “Build Capacity” in adapting toys within our region.
2. “Invite a Friend” Make-n-Take
3. Made battery interrupters, switches, dice roller, and paint spinners.
Could also bring additional toys.
4. Feedback from session was very positive! What is next?!



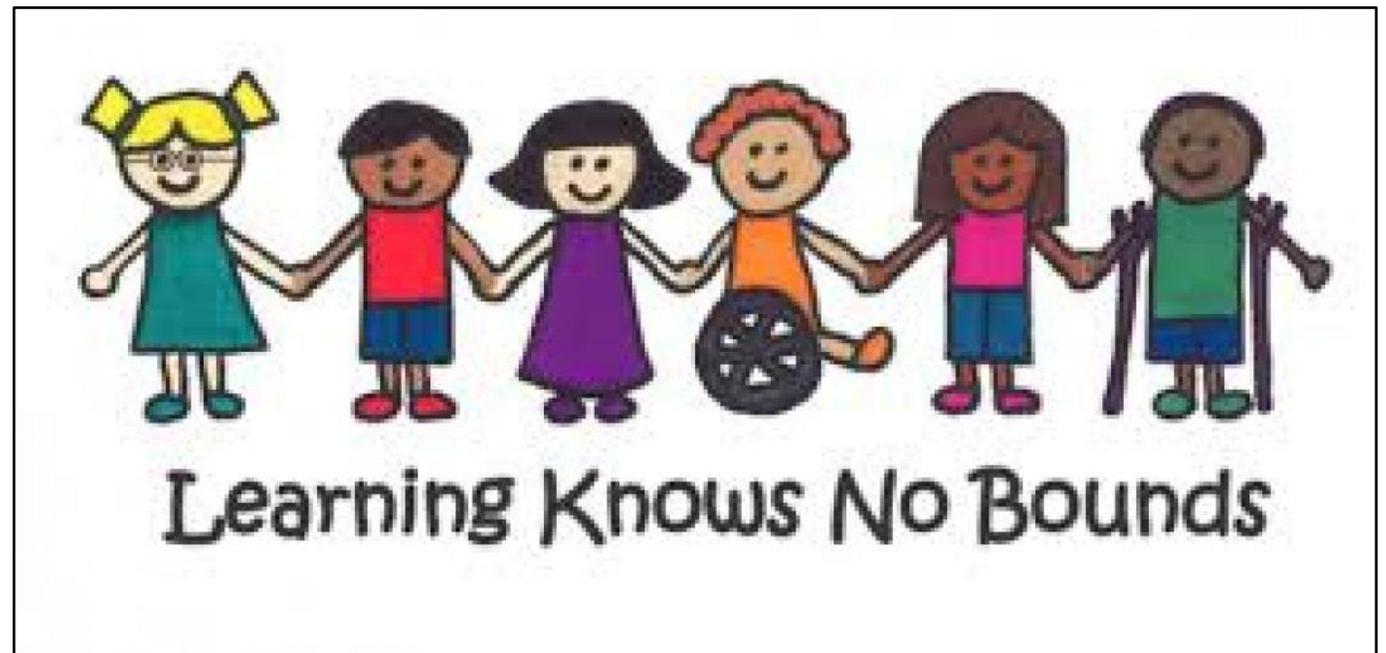
Region 5 & 7 AT CoP: Our Journey 2024-2025

1. Goal to continue to “Build Capacity”.
2. Make-n-Take: AT CoP, “Friend” from last year, Invite a “New Friend”.
3. Similar structure to past years, but bring your own toys.
4. This session was a great learning experience for everyone.



Inclusion: Everyone can Participate

1. Equity and Access
2. Diversity
3. Collaboration
4. Social Development
5. Academic Achievement
6. Legal Framework



Universal Design for Learning (UDL): Planning Ahead

- Set Clear Learning Goals
- Provide Multiple Means of Engagement
- Offer Multiple Means of Representation
- Allow Multiple Means of Action and Expression
- Create a Flexible Learning Environment
- Plan for Assessment and Feedback
- Reflect and Adjust



Switches

Why consider using switches?

- All people use switches daily such as remote control for the television, a light switch, a game controller, water dispenser for refrigerator, or a garage door opener.
- Adaptive switches allow access to electronic and other switch adapted battery-operated devices in the environment for people with disabilities.

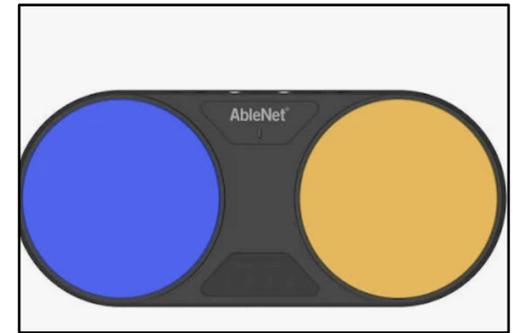
Types of Adapted Switches

Many kinds and categories of switches

- Hand, finger, body switches: small movements needed to activate
- Sound activated switches
- Reward switches: visual, auditory, sensory.
- Movement or Sound activated switches
- Other: sip-puff, grab-pull, saucer, plate, pillow, and more

Switch Connecting Tools:

1. Switchbox or Power link
2. Bluetooth (wireless switch)
3. Hitch (USB computer interface)
4. Hook (I-device wired switch interface)



Switch Progressions

Roadmap that outlines the stages of learning how to use a switch to access environments, communication, learning, and leisure.

- Helps teachers set learner goals
- Helps plan instruction through switch skill hierarchy
- Helps track learner progress
- Multiple Switch Progression Creators and Roadmaps available

Free Roadmap available at website: www.Helpkidslearn.com/resources

Switch Progressions- Brief Overview

- Experiential Learning: Look, listen, respond
- Cause and effect: Make something happen
 - Press and hold
 - Press and let go
 - Press it again
 - Turn on and off
- Multiple switch play
- Sequential learning, attention-timing, targeting
- Visual and/or auditory scanning, independent choice making

Literacy Activities with Switches 1:

1. Give spelling tests to peers using a Step by Step recordable switch/tape recorder with switchbox.
2. Read aloud, student uses recordable switch to say “turn the page”.
3. Run Language Master with a Switch with a peer loading cards.
4. Move through pages of an adapted book being read aloud on a computer.
5. Rhyme: two recordable switches (yes or no) the student hits yes or no in response to words rhyming.



Literacy Activities with Switches 2:

Literacy dice activities kids with disabilities can include rolling dice with letters, sight words, or picture prompts to build vocabulary, sentence structure, and reading comprehension. Remember to incorporate adaptations like:

- large print,
- tactile elements,
- and assistive technology for accessibility like adapted dice roller.



Literacy Activities Using the Dice Roller

Vocabulary Builder (any age, great for a reading center activity)

Needed:

- One 6-sided number or dot dice and roller
- List of Vocabulary words
- Direction sheet template

How it works:

- Roll dice
- Match the dice number to activity with vocabulary words
- Complete the task
- Repeat with next vocabulary word

Vocabulary Builder Dice Activity	
Dice Number	Task
	Define the word
	Use the word in a sentence
	Write or share an antonym for the word
	Write or share a synonym for the word
	Draw a picture of the word

More Literacy Activities with Switches and Dice Roller 1:

1. Roll an Oral Reading Emotion: (oral fluency with expressive voice) can include sad, excited, angry, surprised, sad, bored. (Characters as well)
2. 5w Roll: Read a short story or passage from book roll the dice to identify who, what happened, when, where and why. (partner, basic comprehension activity, write or ay answers)



More Literacy Activities with Switches and Dice Roller 2:

1. Roll a story (story starter for writing)
2. Roll a word (build and read words to read)
3. Roll a Reading partner: fold a paper into 6 sections. Put a number 1-6 on each section. Kids go find partners for each partners' write own name on partners same number. Roll the dice and kids pair up to read together, and change partners every 5 mins.
4. Teachers Pay Teachers search free reading dice games.



Math Activities with a Dice Roller 1

Dice Addition

Instructions:

- Students roll dice and add numbers together
- Keep a running total or write down each sum.
- Roll 3 or more dice, place in order, find greatest or smallest, etc.

Dice Multiplication

Instructions:

- Similar to addition, but student multiply.
- Create a multiplication table.
- roll 3 or more and find the least or greatest product.

Math Activities Continued 2

Dice Race

Instructions:

- Create a simple game board with numbered spaces
- Students take turns rolling dice and moving forward the total number
- The first to reach the end wins

Dice Fractions

Instructions:

- Roll two dice to create a fraction
- Students can simplify, convert to a decimal, use manipulative to represent, find the largest fraction, smallest fraction over a number of rolls

Math Activities Continued 3

Dice Patterns

Instructions:

- Roll dice and create a pattern based on the numbers rolled (odd/even, increasing/decreasing).
- Could also use shape dice or color dice for patterns
- Create a visual representation of dice rolls

Dice Probability

Instructions:

- Using 1 dice, students the probability of rolling a specific number, color, etc.
- Roll several times, students record outcomes and data to find experimental probability

Math Activities Continued 4

Dice Word Problems

Instructions:

- Students roll dice to create numbers for a word problem
- For example, if a 4 and 6 are rolled they could create problem of I have 4 apples and buy 6 more, how many apples do I have in total?

Dice Geometry

Instructions:

- Students roll a die to determine lengths of sides of geometric shapes and find perimeter.
- Roll a die and choose the correct geometric shape with that many sides from a visual representation.

Social Skills Activities Using the Dice Roller

Promotes Turn-Taking, Communication, and Collaboration

How it works

- Press the switch to roll the dice
- Match the dice number to a task or choice
- Complete the task or discuss the outcome
- Examples: Turn-Taking Games, Conversation Starters, Emotional Exploration, Build Group Art Project



Social Skills Switch Activities

Switch-activated devices provides accessible and engaging ways to develop social skills. These tools engage participation in activities that promote interaction, turn-taking, and teamwork.

- All-Turn-It Spinner
- AAC Buttons (Big Mack, Step by Step)
- Cause-and-Effect Activities



Life Skills Activities Using the Dice Roller

Builds Independence and decision-making skills through engaging activities

How it works

- Press the switch to roll the dice
- Match the dice number to a task or choice
- Complete the task or discuss the outcome
- Examples: Chore Selection, Safety Scenarios, Community Outings, Exercise Routine, Hygiene Routine Builder, Meal Planning



Life Skills Switch Activities

Switch-activated devices empower individuals to practice and master essential life skills. These tools foster independence, participation, and confidence in daily tasks.

- Cooking and Kitchen Skills
- Cleaning and Household Skills
- Personal Care
- Recreation Skills
- Work-Related Skills
- Outdoor Skills



Key Takeaways & Questions:

Building Capacity:

- Empowering educators to use switches in diverse ways
- Enhancing knowledge of AT tools and strategies for inclusion

Inclusive Practices:

- Utilizing switches to engage students of all abilities
- Promoting active participation in classroom activities

Questions and Discussion:



From Creation to Implementation Part 2: Making AT Switches for the Classroom (Make and Take)

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Toy Adapting: Types of Toys

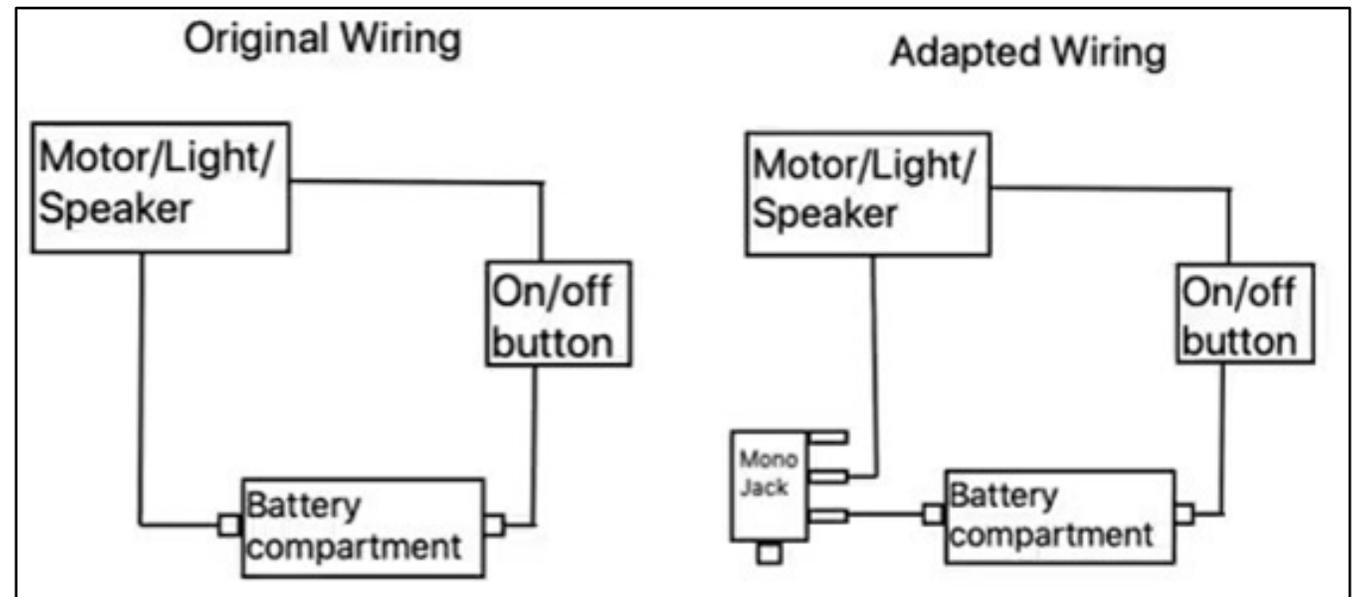
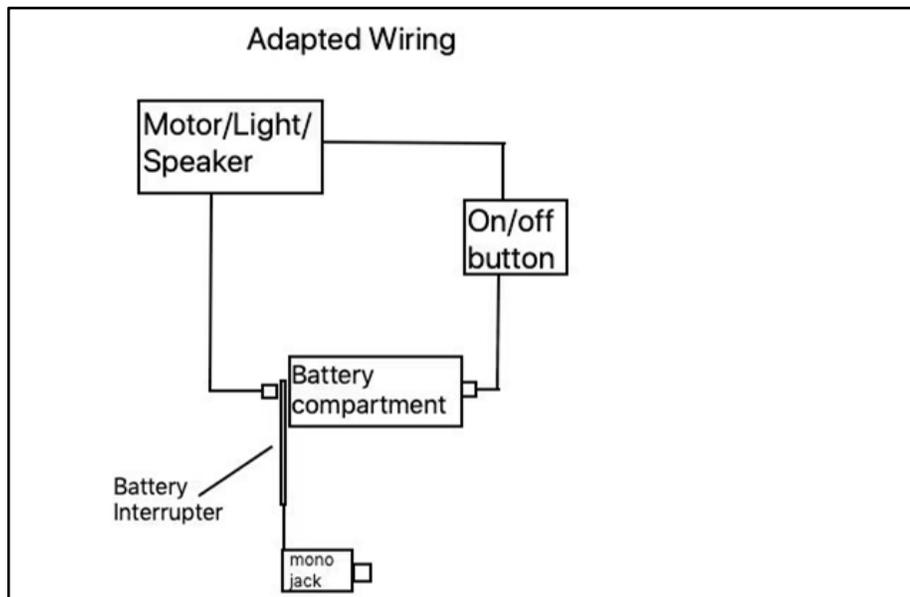
3 general types of toys:

- On/Off Switch only
- Switch activated toy with or without and on/off switch
- Switch activated toy with switch directly on circuit board.



On/Off Switch Only

1. Going to use a battery interrupter
2. Could also solder a battery interrupter directly to toy.



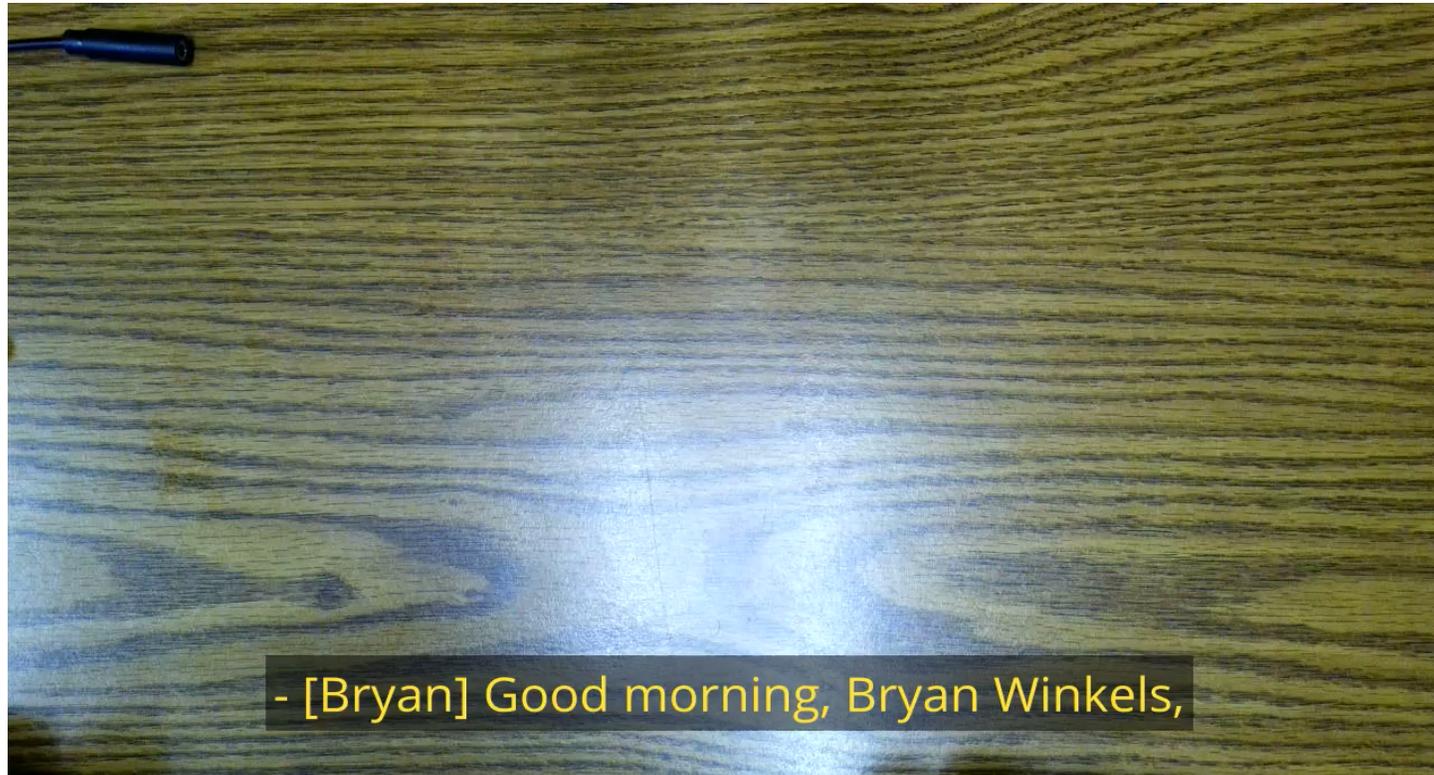
Toy Adapting: Battery Interrupters

This is used to interrupt the current flow between the toy and the adaptive switch. This is the easiest adaptation that can be made to a toy.

(How to make a battery interrupter video on next slide...)

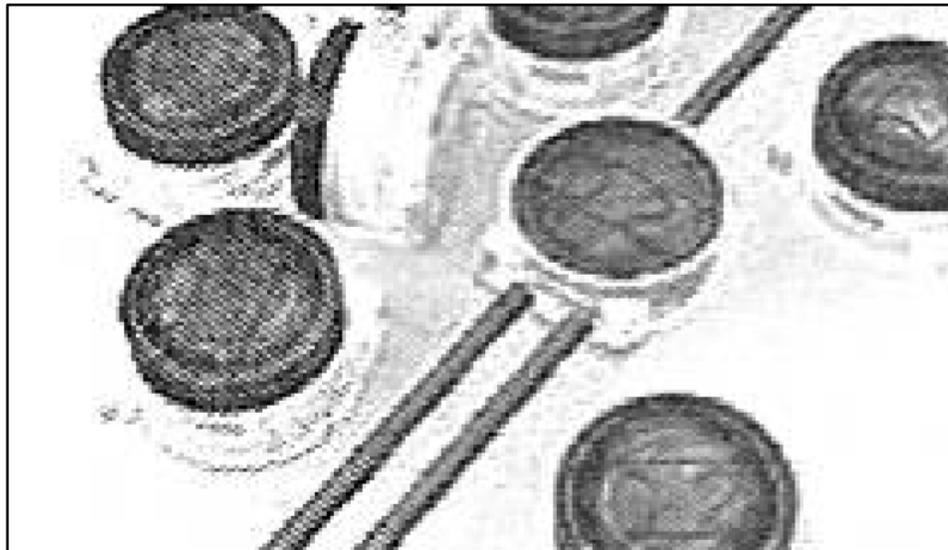


Toy Adapting: Battery Interrupters - Video



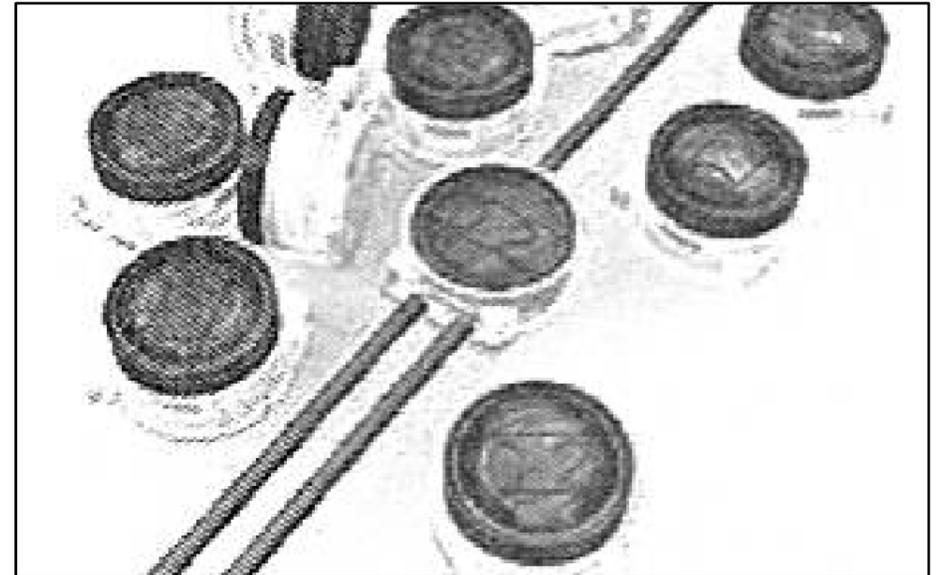
Switch Activated Toy with or without on/off switch

Use either “butt connector” or “T type connector” to make toy switch enabled.



Toy Adapting: Wire Connectors

Wire connectors are placed on wires running to the activation switches. This allows the toy to be used with or without an adaptive switch.



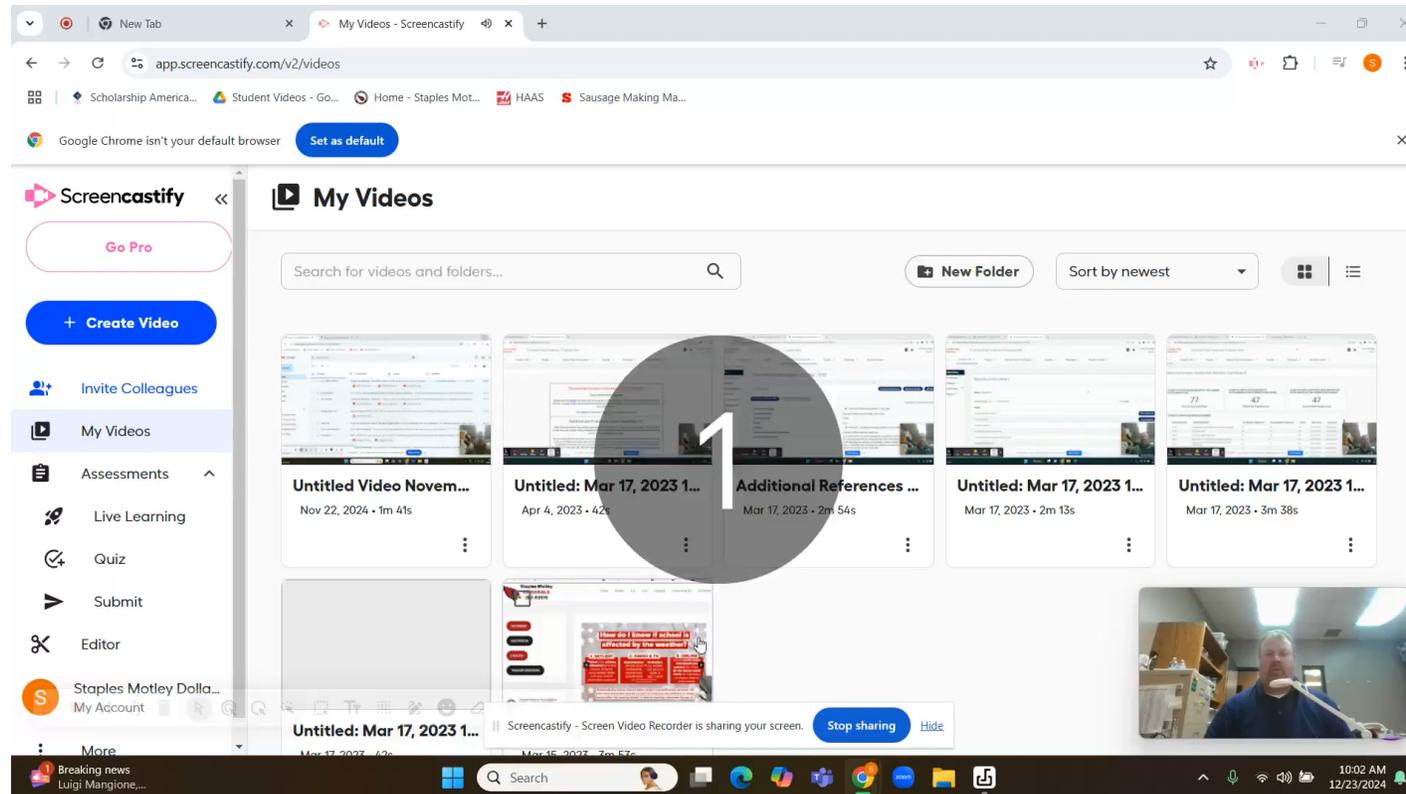
Toy Adapting: Automatic Dice Roller

Here is a video on how to switch enable an automatic dice roller.

(Switch Enabling a Dice Roller video on next slide...)

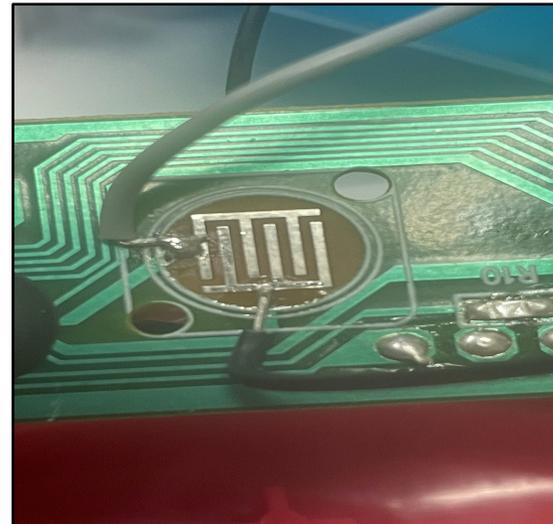


Toy Adapting: Automatic Dice Roller - Video



Switch activated toy with switch directly on circuit board

1. This type of modification requires a bit more skill as you need to be comfortable with soldering.
2. Also need to be careful not to “fry” circuit board when soldering the jack plugs into place.



Toy Adapting: Soldering on Circuit Boards

This is used when the activation switch is located directly on a circuit board.



Toy Adapting: Making your own switch

Here is a video on how to make your own switches.

- [PDF Instructions on Switch Assembly and 3D Printing](#)

(Assembling Your Own Switch video on next slide...)



Toy Adapting: Assembling your own switch – Video



Resources

- [Link to resources Google Document](#)