

Steps Before Step Scanning

By Linda J. Burkhart

Scripting by Fio Quinn

Powered by Mind Express by Jabbla



About: Steps Before Step Scanning

This is a collection of activities that have been designed to help individuals with severe multiple and physical challenges to develop the motor/cognitive abilities to activate first a single switch, and then 2 switches, based upon the individual's own intent. There is no 'timing' aspect in any of these activities. This is because the brain needs to be able to slow down and process the motor and cognitive information to form new neurological connections.

This is the first set of activities in series that will be available for children learning to use two switch step scanning. All activities are based on the 'Stepping Stones to Switch Access' by Linda J. Burkhart. Some of these activities were previously available for IntelliTools Classroom Suite.

What is needed to run these activities?

These activities are designed to run in the software application: Mind Express by Jabbla. You will need to own a copy of either the full version of Mind Express, or the player version. The files will also work in the 60 day trial version of Mind Express. With the full version, you will be able to make customizations to photos, songs and videos. The player version will only play previously created files. Install Mind Express (full, player or demo) first and then install these activities.

A single license of these activities may be loaded on 2 computers.

***Please Note:** These activities are copy-protected. It will be necessary to have a license code to operate them after the first 7 day trial period. Once Stepping Stones to Switch Access is installed, a dialog box will appear when opening these activities. Type the license code included with your purchase of these activities. You will need to be online for this to work. (If you are not able to connect to the Internet, copy the hardware code displayed in the dialog box and email it to the person/company where these files were purchased, in order to receive an unlock code.)

You will also need **two switches** and some type of **switch interface** that is set to send the keyboard equivalents 1 and 2. Please see more information below.

Positioning and movement patterns

The discussion of proper positioning for the individual is beyond the scope of this software. However, positioning with good weight bearing on pelvis, and frequently feet and arms, is critical in learning new motor skills. Weight-bearing, stability and an active position against gravity are important elements to consider. Please consult physical and occupational therapists for positioning assistance.

Switches

Switches need to be selected and mounted according to the individual's specific abilities and needs. Again, this is beyond the scope of this software collection, but will also be critical for success. As an individual is learning new movement patterns and developing the ability to disassociate one body part to activate a switch, consider exploring sensor/proximity (non-mechanical) switches that do not require pressure to activate. Large body movements that require force to activate a mechanical switch can increase the difficulty of learning to disassociate individual body movements. Too large a movement often result in the individual having to use whole body movement patterns which can lead to fatigue and orthopedic issues for some individuals.

Switch Interfaces

Steps Before Step Scanning activities will work with most switch interfaces that are set to send the keyboard equivalents of 1 and 2.

For example: Plug the Don Johnston switch interface pro 6.0 into the USB port on your computer. Then plug switches into jacks 2 and 3 and then push the button until the light is red - indicating the red row which sends the keyboard equivalents 1 and 2.

Jabbla, the makers of Mind Express, sell a switch Interface called the Woodpecker that will work well, too.

If you are using an IntelliSwitch or IntelliKeys, set the Mode in the control panel, to switch presets #19 and use switches 1 and 2.



Activities

Steps Before Step Scanning is an initial set of activities based upon the work of Linda J. Burkhart in *Two Switches to Success: Stepping Stones to Switch Access**. These activities represent Stepping Stones 1-4 .

Step 1: Single Switch: Cause and Effect

Step 2: Single Switch: Multiple locations and multiple functions

Step 3: Two Switches Two Functions

Step 4: Learning to Two Switch Step Scan: Move, Move, Get

*More detail on the Stepping Stone process can be found on Lindaburkhart.com as well as in the book *Two Switches to Success* by Linda J. Burkhart - currently under revision. There is also a pdf file included with these activities that will provide an overview.

Cause and Effect Direct Activities:

The cause and effect direct level is for those individuals who do not yet understand that they can activate a switch to make something happen. It may also be used when introducing an individual to a new switch or new switch location. This step is only needed for short periods of time to help individuals make direct connections between their movements and the effect that they can have on the environment.

Understanding cause and effect is about learning to associate and initiate a movement with a perceivable, and hopefully desirable effect. These activities are designed to respond directly to movement on and off of the switch. The videos or songs play on contact with the switch and stop immediately upon release of the switch. This helps the individual's brain make a clear association between cause and effect. Once the individual understands that they can activate the switch to make something happen, they can move on to other activities that play for a short period of time (Single Switch: multiple functions / multiple locations) and then on to two switches two functions. Frequently, this step may take only 5- 10 minutes and the individual can move along within the same session. Then, on the next session the individual may start here again to help familiarize them with the location of the switch.

Frequently, these activities are used with support of a knowledgeable adult who can set up the activities and switches for the individual in such a way that the individual will be able to accidentally activate and release the switch using current movement patterns. (Positions and environmental conditions may be adjusted to increase the likelihood of the individual moving.) This enables the individual to play with cause and effect and discover that he/she has control over the activities. Typically, the adult selects and changes the activity based upon the interests of the individual. This is done with as much co-participation as possible. Once the activity is started, the adult's role is to quietly observe and occasionally provide feedback to the individual as to what they made happen, such as "You made it sing!", "You stopped it", etc. Hand over hand or any other types of physical prompts are typically not used, as they can get in the way of the individual understanding that they are causing the effect. The adult observes for when to end the activity and select another, since the individual will not have control to do this through the switches at this level.

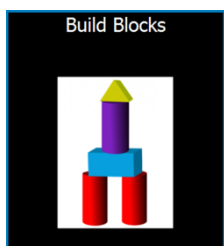
Launcher Activities:

The Launcher section provides access to the rest of the activities in this collection. The adult, or peers working with the individual may select the activities using the same switches that the individual will use to control the activity. This provides exposure to how two switch step scanning may be used to choose activities, before the individual is ready to do this by themselves. The launcher also scaffolds the learning for using 2 switch step scanning, because the individual has access to the same switches. The individual can then explore choosing and closing activities, in a failure-free manner. Each activity ends with the option to select 'more' (of the same activity) or 'stop' to go back to the choices.

One Switch Activities:

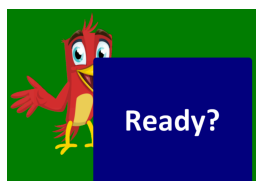
One Switch Activities help an individual expand upon their understanding of using a switch to make something happen (Stepping Stone 2 - Single Switch: Multiple Locations and Multiple Functions). They may be used with different switch locations, as the individual explores a variety of movements to activate a switch. For example, in different positions on a surface in front of them, or placed near either side of their head, either hand, arm, knee, etc. (Multiple Locations). These activities may also be used to expand the range of effects that the individual is able to control (Multiple Functions).

At this level, activities are typically set up and selected by a knowledgeable adult or peer as he/she interacts with the individual. The use of step scanning to select an activity with the same switches that the individual will be using can be modeled. Once the activity begins, the adult or peer focus more on providing feedback and enjoying the interaction with the individual than giving instructions. Sometimes it is most appropriate to quietly observe and allow the individual to explore the switch on their own. The adult or peer can also take turns with the individual to model the process. Telling the individual what to do or trying to hurry them is discouraged.



Build Blocks

This activity allows the individual to build a series of block towers and knock them down with a single switch.



Who's hiding?

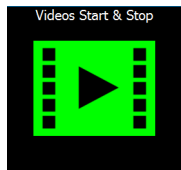
The switch activates movements of a character that peeks out from behind a box and after a count of 3 (or similar sequence) comes out and dances around the screen. If you own the full version of Mind Express, the pictures can be replaced. (Directions are included with these activities. Look for a pdf file.)



Hats

In this activity hats appear and the activation of the switch places it on the head of the photo on the screen. A second activation of the switch causes the photo and hat to dance around the screen. Finally, another randomly selected hat will appear.

If you own the full version of Mind Express, you can replace the photo with a picture of the individual or someone significant in their life. (Directions are included with these activities. Look for a pdf file.) If you have a working knowledge of Mind Express, you may create a series of these activities and save them with different names and then create a new launcher page, outside of this collection, to enable choice of which persons will be selected.

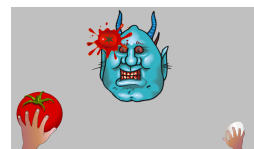
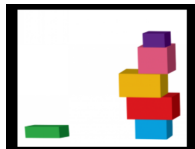


Videos and Songs: Start and Stop

In these two activities, the activation of either switch causes a video or song to play for about 10 seconds and then stop. Reactivating the switch will play the next 10 seconds.

If you own the full version of Mind Express, you can replace the videos or songs with ones that will be preferred by the individual. (Directions are included with these activities. Look for a pdf file.) If you have a working knowledge of Mind Express, you may create a series of these activities and save them with different names and then create a new launcher page, outside of this collection, to enable choice of which videos or songs may be selected.

Two Switch Activities

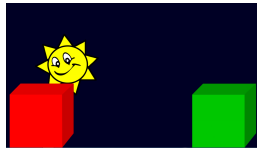
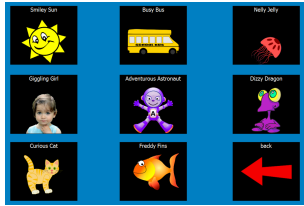


The activities in this section are based upon Stepping Stone 3: Two Switches Two Functions. Once an individual is able to locate and activate a single switch in multiple locations for multiple functions, they are ready to move on to two switches with different functions. At this level, the child is introduced to discrimination and problem solving. Each switch has a different function, and activating either switch provides specific feedback related to the activity. Prior to this level, the control that the child can take is to activate the switch or not. Now the individual has the option to explore each switch according to their own intent.

All activities at this level are accessed from a launcher. The launcher is scanned by the two switches that the child is learning to use, and provides a scaffold for learning to use two switch step scanning slowly over time. A knowledgeable adult or peer may use the individual's 2 switches in the launcher to model selecting activities. The use of self-talk relating to the step scanning process is an effective strategy while modeling. For example: While using the switches to select the bus in the hide and find activity, the person modeling might say "Hmmm... I want to hide the bus... Let's see... sun - no, girl - no, cat - no, bus - yes!, I'm going to

pick the bus”. The individual may also access the launcher in a ‘failure-free’ manner when an activity ends, because the launcher is presented once the individual selects stop at the end of the activity.

Many individuals are able to explore these activities mostly independently, which builds confidence and supports active learning. They may also be used socially with a peer, with each individual activating a single switch at the stepping stone level 2.

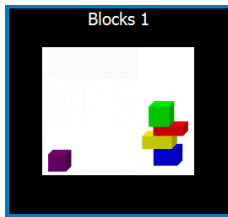


Hide and Find Activities

These activities are controlled via two switches that are associated with the two sides of the screen.

When the picture is on the same side of the screen as the activated switch, it travels across the screen, accompanied by music, and hides behind a box or other object. Both switches continue to work. On the side where the picture is hiding, activation will again send it across the screen. The other switch provides feedback such as: not there, nope, whoops, un ah, etc.

The pictures may be customized with the full version of Mind Express.



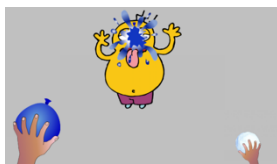
Build Blocks

One switch builds Blocks the second switch knocks them down.



Two Videos / Two Songs

Left switch plays left video/song for 10 seconds and then it stops. Reactivation plays next 10 seconds. Right switch does the same with right video/song. Switching to the other switch starts the video/song on that side from the beginning.



Whacky Toss

Use two switches to toss things at a monster or photo of your choosing. Select a pair of things to toss. Switch 1 tosses the item on left and Switch 2 tosses the item on right.

Move, Move, Get



These activities are designed to reflect Stepping Stone 4: Move, Move, Get. Use these activities once the individual has learned that different switches can have different functions and he or she has had some independent practice with two switches for two different functions in a variety of activities. In these activities, one switch becomes the mover and one becomes the selector.

Each of these activities work with switch 1 moving something incrementally across the screen with each activation of the switch. During this time, only switch 1 works. Once the item has moved all the way to the picture on the right of the screen, then switch 1 stops working and switch 2 will now start the animation. This helps the individual make a clear connection for the purpose of each switch and prepares them for learning two switch step scanning.

If you own the full version of Mind Express, you can change the pictures on the right of the screen in both the 'put on hats' and 'vehicles' activities. You can also change the moving picture and videos in the 'Drive to Video' and 'Move to Video' activity. See pdf directions included with these files.

Troubleshooting

These activities are intended to run as is with the free demo version of Mind Express. After the 60 day trial period, the files will only continue to work with the purchase of either the Player or full version of Mind Express. The full version of Mind Express will allow for customization of photos, songs, videos and more.

Mind Express is available from Jabbla: <http://www.mindexpress.be/index.php?lng=EN>

Problems with Video formats?

Mind Express supports the following video formats: Wmv, mpg, mpeg, avi, mp4, mov, mkv

Problems running these video formats can usually be solved by downloading this free mega pack of Codec files and installing them in your computer.

<http://fileforum.betanews.com/detail/KLite-Mega-Codec-Pack/1080441198/1>

Run the setup. Select: Simple Installation / Video and Audio Players: Something Else / Preferred Decoders: LAV / and Decline 'Install Adware Web Companion'. You should now be able to play mp4 files in Mind Express 4.

Phone videos: Please note that some videos taken in portrait format on a phone, may need to be rotated / converted in another editing software to be able to display in the correct orientation. One free media player that will work for this is MPC-HC.

Open source media player for Windows®: <http://MPC-HC.org>

Please note: the above media player will also allow you to take a picture from any frame in the video and save it to use in the activities. This will allow you to customize the activities so that the individual will be able to select the video by a visual.