Solutions For Switch Users

WIN

Introduction

Switches and scanning provide access to the computer and learning for people with severe motor impairments. Switches provide input to the computer when a more direct access method such as a standard keyboard or mouse is not physically or cognitively possible.

Learning is an active process, however, students with severe disabilities have often had to sit by passively while others interacted with materials. The switch changes all that. Switch access to software can maximize cognitive development as well as foster independence allowing the student to work to his/her full potential.

Switch users need a range of software to motivate them to develop their ability to use a switch effectively as well as work on concept development. This tutorial will introduce you to the:

- SwitchIt! suite of software programs developed by Inclusive Technology for switch users
- Number Concepts 1 and MathPad: accessible software programs taking your switch users beyond cause and effect
- ClickIt!® developed by IntelliTools to allow you to create switch access to your favorite software programs

Goals

This tutorial was designed with several goals in mind:

- To provide hands-on experience with pre-programmed, switch accessible software programs.
- To introduce the utility ClickIt! which can be used to make popular software switch accessible.
- To view a range of scanning methods and their appropriateness for various types of learners.

IntelliKeys as a Switch Interface

As you work through this tutorial, you'll be using the IntelliKeys primarily as a switch interface. Unlike dedicated switch interfaces, IntelliKeys can be used with a variety of learners. A switch user can work alongside an IntelliKeys or mouse user. Also, the switch user can gradually make the transition from switch to IntelliKeys as he/she is ready for a new level of challenge.

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SwitchIt!

The SwitchIt! line of products is designed to motivate the young switch user to use a switch, improve their switch skills and increase concept acquisition. Programs follow a cognitive learning sequence from cause and effect to more complex tasks and provide many custom options to meet the needs of different users. Available in both Mac and Win platforms, programs are accessible through IntelliKeys, switch, and mouse. SwitchIt! programs can be used with any switch interface.

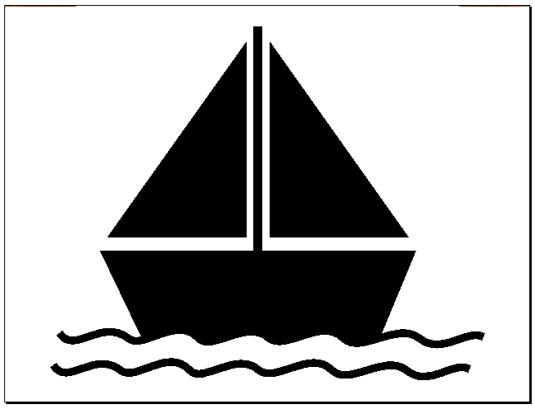
Four SwitchIt! products: Pictures, Patterns, Scenes, and Opposites, are bundled together on one Mac/Win CD-ROM. These represent a developmental sequence for the switch user and come with many customizable options so you can determine the right level of challenge and complexity for each student. In addition to the bundle, a game-like program, Arcade Adventure, and a beginning math program, Early Math with Spider and Friends, are also part of the line.

SwitchIt! Software was the Winner of the Technology and Learning Software of the Year Award for 1998.

SwitchIt! Pictures

SwitchIt! Pictures is designed for students who need to reinforce visual stimulation and visual discrimination skills. The program operates in a cause and effect mode. Each click of the switch adds a new element to a picture. When the picture is completed, the program provides an animated reward. SwitchIt! Patterns is identical to Pictures but with geometrical shapes rather than objects.

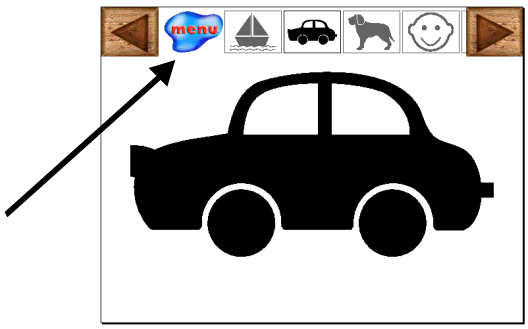
- Check that two switches are connected to Switch ports 1 & 2 of your IntelliKeys. Place the SwitchIt! Overlay on the IntelliKeys.
- From the **Start** menu choose **Programs, IntelliTools Software, SwitchIt! Pictures.**
- Click on the **Initial Screen** to access the program.
- Use your switch to build the pictures.
- Once a picture is completed the user receives a reward.



Teacher Menu Options

All SwitchIt software programs include a screen of Teacher Menu Options. Using these options you can customize the screen and switches to meet the needs of the user.

- Slide your cursor to the top of the screen. A Menu Bar will appear showing the different scenes and a Menu button.
- Click on the **Arrows** on the right or left to scroll through the scenes.
- Click on the **Menu** button to move to the **Teacher Menu Options.**



- The Menu Screen includes many different options for customizing the activity. These options include:

Complexity - shows the 10 pictures included with the program. By moving the slider bar the user can vary the complexity of the pictures.

Colors - you can change the background and pattern colors.

Reward - you can disable animation for a user that is prone to seizures. You can change or disable the color cycle (disabling leaves you with a simple black and white pattern reward).

Access – you can control the switch response with the slider bar. The higher the number, the longer the user has to hold down the switch before there is a response. If you have a student that perseverates on the switch (just bangs away without attending to the response), change the access and the student will have to hold down the switch before getting a response.

Activities - currently set to 5 steps. If you choose 1 step the user moves directly to the completed picture with the first hit of the switch.

Sound – you can disable. Important in a classroom situation where sound may be distracting to others.

- Once options are set for a specific child, these setting can be saved and reloaded at any time.

SwitchIt! Scenes

In this program, students work on concept development and acquisition of language. A student can use two switches or practice turn-taking with a second student. In the two switch mode, the left switch must be pressed before the right switch can become active. The program includes an auditory prompt if a student does not press his/her switch and a prompt for an incorrect switch choice.

- From the **Start** menu choose **Programs, IntelliTools Software, SwitchIt! Scenes.**
- Click the **Left Switch** to begin to build the scene.
- Click the **Right Switch** to add the next component.
- Notice that once the left or right switch are pressed they become inactive until the other is pressed.
- Take a look at the **Teacher Menu Options**. Note that you can set this program up so that it can be used with only one switch. You can also change the color of the switches to match the switches being used.

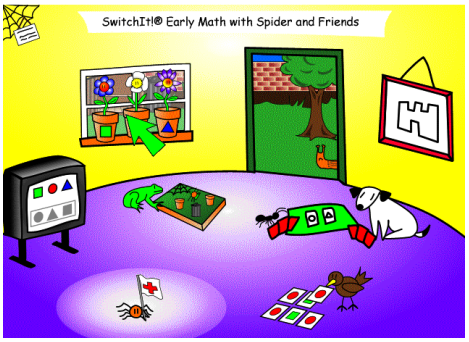
SwitchIt! Early Math with Spider and Friends

Early Math provides a broad base of multimedia early learning activities that focus on mathematics. Students get to practice sorting, matching, copying, drawing, counting, and more. Students first choose a category from icons on the main menu and then, choose one of six activities.

Sort

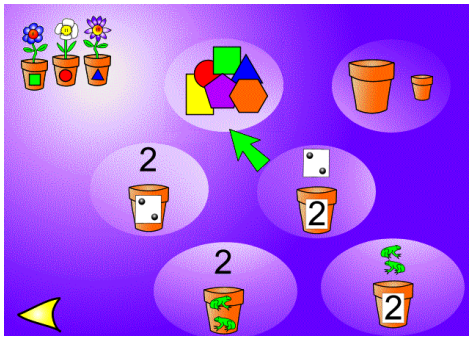
This activity teaches sorting plain shapes: a set of 2D shapes composed of a square, a circle, a triangle, a rectangle, a pentagon, and a hexagon. At the bottom of the screen are plant pots – between two and five. The pots have a shape label relating to the shape being sorted. The learner needs to select the flowerpot that matches the shape at the top of the screen.

- Insert the **Early Math with Spider and Friends CD** into the CD ROM drive of your computer.



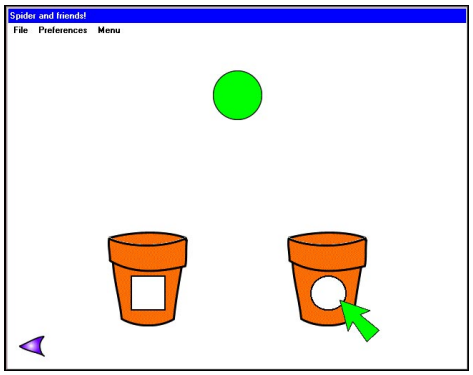
- From the **Start** menu choose **Programs, IntelliTools Software, Early Math.**

- Place the **Two Switch Scanning Overlay** on the IntelliKeys. Check that two switches are connected to the switch ports on the left-hand side of the IntelliKeys.



- Use your mouse to select the **Flowerpots** on the windowsill. You can also activate scanning by pressing the key on the overlay or pressing switch #1.

- Select the **Colored Shapes Activity.**

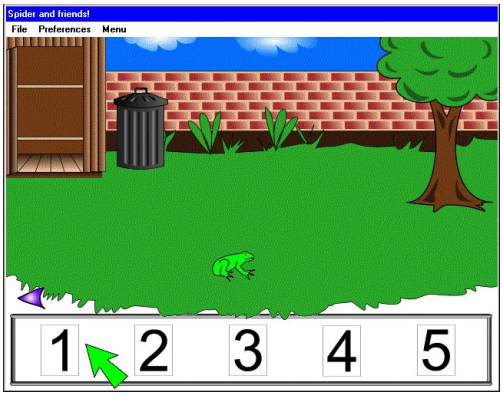


- After each correct answer a small, on-screen reward is shown. There is no response for an incorrect answer. After completing four correct answers a full-screen reward is shown before moving on to the next level.

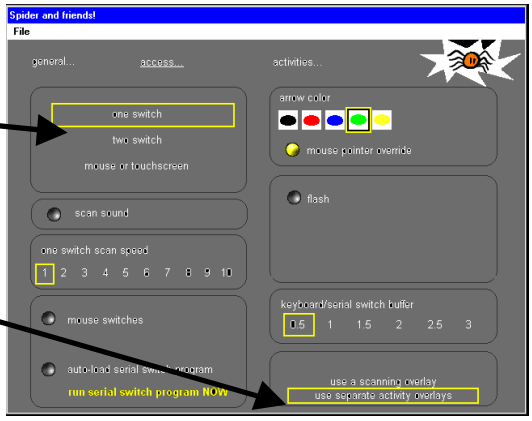
- To move back to the previous screen, select the arrow in the bottom left-hand corner.

Count

This activity teaches counting and number recognition. A number of objects, between one and five, appear on the screen. When they have all appeared the numerals 1 to 5 appear at the bottom of the screen. The learner has to count how many objects appeared and select the appropriate numeral. The challenge is not only in being able to count the objects but also in being able to distinguish between objects that are always present and those that have recently appeared. As an aid, each object is accompanied by a sound. These sounds rise in pitch as the number of objects increases.



- Navigate back to the main screen.
- Click on the **Doorway to the Yard**.
- Try out this activity.
- To change some of the settings in this activity, go to the **Preferences** menu in the top left-hand corner.
- Select **General** to change the number of games in each level (the number of times before an all-screen reward is shown)
- Select **Access** to change scanning settings or use the custom overlays with each activity. Select **One Switch** to activate automatic scanning. Place the **One Switch Scanning Overlay** on the IntelliKeys. Click on the **Spider** in the upper right-hand corner to return to the activity. Try out the scanning.
- Navigate back to the **Preferences** menu. Select **Access** and select **Use Separate Activity Overlays.** You also have a choice of Single Switch or Two Switch access with the overlay.
- Place the **Count** overlay on the IntelliKeys. Select the **Spider** to go back to the activity. Try out the overlay and switches.



Note: This program includes a set of fifteen overlay files that can be printed and used on the IntelliKeys.

Number Concepts 1

IntelliTools has developed many curriculum products that go beyond simple cause and effect and address the need for accessible software designed to teach concept acquisition. One of these products is Number Concepts 1 with Oshi the Otter; an interactive math program designed for students whose academic level is kindergarten through second grade. This program supports the NCTM (National Council of Teachers of Mathematics) Math Standards. It has built in scanning for switch users, includes overlays for direct selection from the IntelliKeys, and is accessible to a standard keyboard user. Number Concepts 1 focuses on the concepts of whole numbers and whole number computation. The three modules of the program include experiences in counting and numeration, greater than/less than number relationships, and addition and subtraction.

Scanning Options

Number Concepts 1 is designed to work with automatic scanning, as well as step scanning, so that all items available via the overlays and the mouse are accessible to switch users. The default setting is **Automatic Scanning**. The user just presses their switch to begin scanning and once the desired area is highlighted, presses again to select. In **Step Scanning** each press of Switch 1 moves the user through the selection options. Once the desired area is reached the user presses Switch 2 to select. The Teacher Options allow you to customize different aspects of scanning.

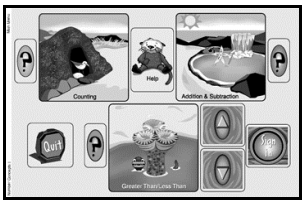
Also available is **Dedicated Mouse Scanning**. Select [Shift]m to begin Dedicated Mouse Scanning. Your mouse now acts as a switch. Click to begin scanning and click to select. To return to normal operation press [esc].

Signing In

Signing in enables the program to log a student's work so that the resulting portfolio can be used to track each student's progress. If you enter as a visitor, no record keeping features are available. Signing in is also important as all switch settings are saved under that student's name. By signing in the student's type of scanning and scan speed settings are ready to go, eliminating the need to enter the Teacher's Options to change settings each time.

- Insert the **Number Concepts 1 CD** into the CD ROM drive of your computer.
- On Macintosh, open the **Number Concepts** Folder and double-click on the application. On Windows choose Programs from the **Start** Menu. Choose **IntelliTools Software** folder, select **Number Concepts 1**.
- Check that both switches are connected. Place the **Main Menu Overlay** on the IntelliKeys.
- Select **New Student** from the Sign-In List. Use the standard computer keyboard to type your name. This screen does not scan when you open the program. If you go back to this screen it will scan allowing you to use your switches to access the sign-in process.
- Now you are ready to take a look at the program. Press **Switch 1** to activate **Automatic scanning**. Notice that each of the three modules is highlighted as it scans. Select the **Counting Cave** by pressing Switch 1 again.

Sign In List



Main Menu Overlay

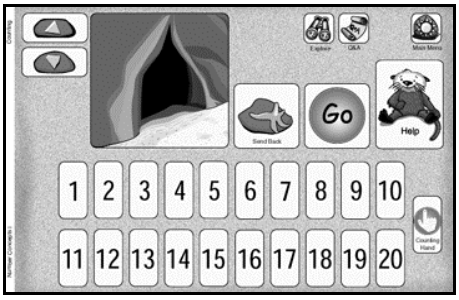
Counting Module: Q & A Mode

The Counting activity takes place on a beach where seashore animals scurry in and out of a cave. This provides an environment in which students develop skills in counting and numeration using the numbers ranging from 1 to 20. Within Q & A Mode, two types of questions can be asked, Show Me and How Many.

Q & A: *Show Me*

"**Show Me**" requires that the student use the number cave to bring out the correct number of animals to match the visual and auditory instructions.

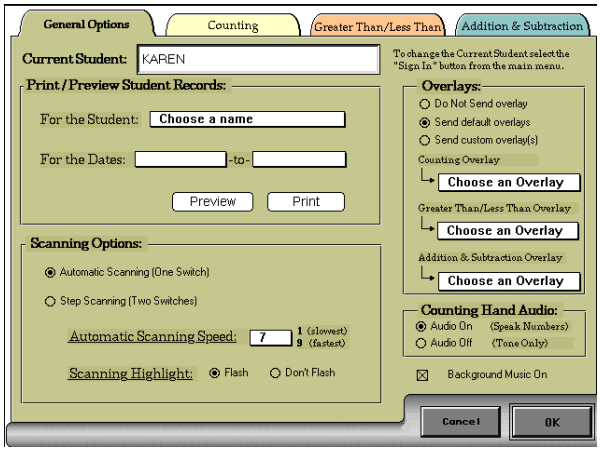
- Place the Counting Overlay on the IntelliKeys. Verify that the Q&A scroll is highlighted in the lower left corner and there is no numberline. This is the Show Me menu.
- To activate scanning press **Switch 1**. **Automatic scanning** will begin. Select the Cave one time for each animal you wish to bring out. Try out direct selection through the overlay by pressing the Cave key to bring out animals.
- If you bring out too many animals, select the **Starfish** to send some of them back into the cave. If you're not sure how many animals you've brought out, press the counting hand to count them.
- If you forget what you are supposed to do, select Oshi for a reminder.
- When you are ready to check your answer, press Go. (Make a mistake to view the cueing options available.)



Counting Overlay

Counting Activity Q & A Show Me

- To change to **Step scanning** press **[Shift]T** to access the Teacher Options. Step Scanning gives the student more control over the progress of the scanning.
- Select the **General Options** tab.
- Under **Scanning Options** there are several changes you can make. You can select **Step Scanning**, you can change the **Automatic Scanning Speed**, and you can change the **Scanning Highlight**.
- Select the **Counting** tab to look at changes you can make to the Counting Activity.
- Select **OK** to go back to the Counting Activity.



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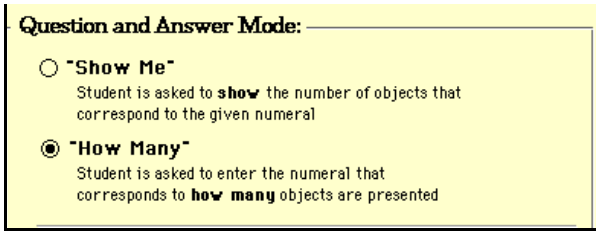
Q & A: *How Many*

"**How Many**" requires that the student use the number line on the screen or overlay to enter the numeral that corresponds to how many objects are presented.

- To change to Q & A: **How Many**, enter the Teacher Options by typing **[Shift]T.** Under Question and Answer Mode. Select **"How Many"** and click OK.
- After the animals stop coming out of the Cave, choose a number from the Number Line using your **mouse**, by touching the correct number on the **Counting Overlay** or by pressing **Switch 1** to begin scanning.
- You can use the Counting hand if you need help counting the animals.
- The number you choose appears on the number rock. Before you press Go, you can change your answer as many times as you wish.
- When you are ready to check your answer, press Go.
- You can go to the Teacher Options **[Shift]T** and customize the number range for each student from the **Counting** tab.

Counting Activity Q & A How Many



Counting Activity: Explore Mode

Explore Mode provides an opportunity for students to work with counting and numeration concepts in an environment that is less structured than Q & A Mode. Teachers can choose one of two options: Solution Given or Solve Your Own.

Counting Explore: *Solution Given*

"**Solution Given**" is designed for students who can benefit from a bit of coaching. Students use the number line or the Cave to bring animals onto the beach and Oshi counts for them for the students.

- Press the binoculars in the lower left corner of the screen to enter Explore mode. Press **[Shift]T** to enter the Teachers Options and select Solution Given, on the right side of the screen. Select **OK.**
- Press Switch 1 to begin scanning.
- Use the Animal Selector to choose a sea creature.
- Bring animals onto the beach by selecting the Cave or Number Line to bring out animals. Oshi will count them for you. Press the Starfish to send some back if you add too many.
- Use the Counting Hand to help you.
- Press **Go** to see the animals scurry off.
- Try again!

Animal Selector

Counting Activity Explore : Solution Given

Counting Hand with audio on

Counting Explore: *Solve Your Own*

"**Solve Your Own**" is designed for students who can benefit from the opportunity to create their own problems and check their work. Students are asked to bring animals out of the Cave, then choose a number from the Number Line to show how many there are.

- Press **[Shift]T** to enter the Teachers Options and select Solve Your Own, on the right side of the screen.
- Bring animals onto the beach by touching the Cave.
- Use the Number Line to select the number of animals you brought out. Press **Go** to check your work.
- Sometimes students need to count the items one by one but you do not want the computer say the numbers out loud. You can still have the one to one correspondence but the student will need to monitor the count to themselves.
- Press **[Shift]T**. Go to the General Options tab. Select Counting Hand Audio off in the lower right corner. Try the counting hand.

Counting : Explore Mode
Counting Hand with audio off

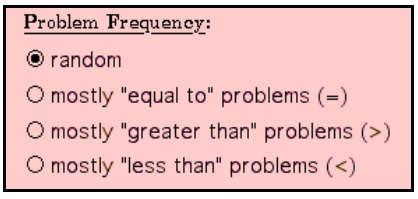
Greater Than/Less Than Activity

Q & A Mode

The Greater Than/Less Than activity provides students with the opportunity to practice 'greater than', 'less than' and 'equal to' using numbers ranging from 1-20. This activity takes place at the Coral Reef. Mary the Moray Eel is hungry and looking for the side with more fish to eat!

- Press the sun in the lower right corner to return to the Main Menu. Select **Greater Than/Less Than.**
- Place the Greater Than/Less Than Overlay on the IntelliKeys. Q&A should be highlighted.
- Look at the number of fish on each side of the reef and decide which side has more or if they are equal.
- Press the eel head that has the symbol you wish to use. If you wish to use the counting hand, you must press it one time for each animal. When you are finished, select Go.
- Use the Teacher Options **[Shift]T** to select the number range and problem frequency.

Greater Than/Less Than: Q & A



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Addition & Subtraction Mode

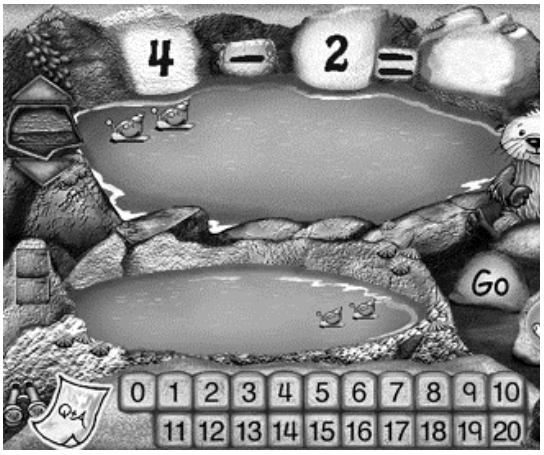
Addition & Subtraction: *Q & A Mode*

The Addition & Subtraction activity is set in a tide pool where groups of sea animals are washed in or out with each breaking wave. The tide pool provides an environment where students develop skills in addition and subtraction using numbers ranging from 0 to 20. The default is both addition and subtraction problems using the numbers from 1-10. The number range and type of problems can be customized through the Teacher Options **[Shift]T**.

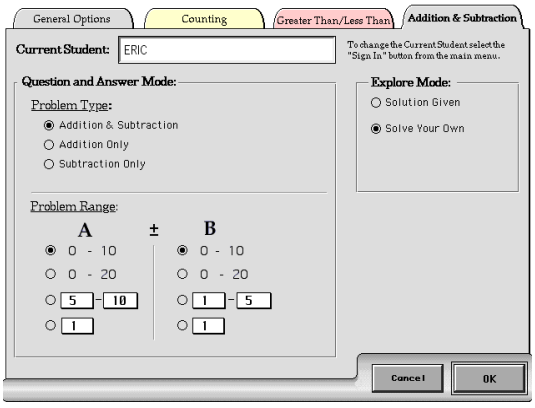
Addition problems place a group of sea creatures in the top tide pool with a wave. A second wave deposits the next group. The second group is a different color to show the difference between the first group and the second group to be added. The numbers are also displayed on the Number Rocks.

Subtraction problems begin with a wave depositing a group of sea creatures to the top tide pool. A second wave takes away sea creatures to the lower tide pool. All numbers are also viewed on the number rocks.

- Press the sun to return to the Main Menu and select Addition & Subtraction.
- Place the Addition/Subtraction overlay on the IntelliKeys. Press Q&A.
- Look at the number of animals placed in the tide pool with the first wave. Notice that the corresponding number appears on the left number rock.
- After the second wave, look at the number of animals and the second number rock.
- Press a number on the number line to show the correct answer and press **Go**.
- You will have up to four chances to get the correct answer. After the fourth incorrect response, Oshi will show you the correct number and read the number statement. You will then be presented with a new problem.
- Use the Teacher Options **[Shift]T** to select the Problem Types and Problem Ranges.
- Note that "B" can be set to one for students who are learning the concept of adding one or taking away just one. This features is also used when adding a family



Addition & Subtraction: Q & A



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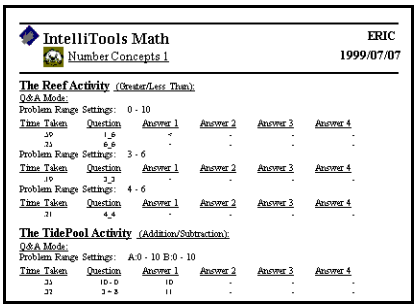
Portfolio Assessment

- The General Options Tab located in Teachers Options allows teachers to review each student's work. This file can be printed and placed in the student's permanent record.
- Data is collected daily, each time the student signs on to the program. The file includes the time it took for the student to complete the equation as well as the problem and each answer entered.



IntelliTools Math — ERIC
Number Concepts 1 — 1999/07/07

The Reef Activity (Greater/Less Than):
Q&A Mode:
Problem Range Settings: 0 - 10

Time Taken	Question	Answer 1	Answer 2	Answer 3	Answer 4
39	1_6	-	-	-	-
33	6_6	-	-	-	-

Problem Range Settings: 3 - 6

Time Taken	Question	Answer 1	Answer 2	Answer 3	Answer 4
19	3_3	-	-	-	-

Problem Range Settings: 4 - 6

Time Taken	Question	Answer 1	Answer 2	Answer 3	Answer 4
21	4_4	-	-	-	-

The TidePool Activity (Addition/Subtraction):
Q&A Mode:
Problem Range Settings: A:0 - 10 B:0 - 10

Time Taken	Question	Answer 1	Answer 2	Answer 3	Answer 4
33	10 - 0	10	-	-	-
32	3 + 8	11	-	-	-

Portfolio Report

Teacher's Guide

- The supplemental Teacher's Guide contains introductory activities, extension activities, and strategies for inclusion and adaptations.
- There are three skill matrices and scoring rubrics that can be used as documentation for a student's Individual Educational Plan. The Matrices address the skills and mastery level for objectives presented in the Number Concepts modules.

B	D	S	Skill	Comments
			1. Student can use tools and symbols on the Greater Than/ Less Than Overlay.	
			2. Student can count objects correctly.	
			3. Student can identify quantity with the correct number.	
			4. Student can identify which of two groups has the greater number of objects.	
			5. Student can identify which of two groups has the lesser number of objects.	
			6. Student can identify when two groups have an equal number of objects.	
			7. Student can place the appropriate symbol <, >, or = in a number statement.	
			8. Student can read number statements that use the symbols <, >, and =.	

Sample Skill Matrix

Number Concepts 1 : Curriculum Correlations

Number Concepts 1 correlates with most elementary math programs, including: *Math Trailblazers, Kendall Hunt Publishing; Investigations in Number, Data and Space, TERC, Dale Seymour Publications; Everyday Mathematics, Everyday Learning Corporation; Quest 2000: Exploring Mathematics, Addison-Wesley; Mathland: Journeys Through Mathematics, Creative Publications; Houghton Mifflin Math, Houghton Mifflin Company; Anytime Math, Harcourt Brace & Company.*

MathPad®

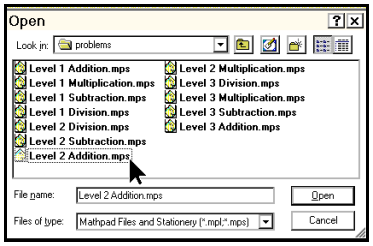
MathPad is an ideal tool for students who have difficulty writing math computations with pencil and paper. Students use MathPad to solve basic addition, subtraction, multiplication and division problems directly on the computer. The National Council of Teachers of Mathematics (NCTM) promotes math computation as a way of understanding how to construct number meanings from real life situations. MathPad allows students to practice math computations, enter math algorithms and solve them independently. Only one problem is presented at a time to avoid distractions. Using this tutorial you will explore the features that allow students to successfully access MathPad to enter math problems check their work using the regular keyboard, mouse, IntelliKeys or a switch.

Getting Started

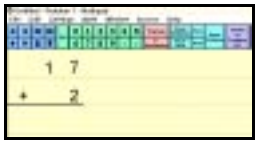
MathPad ships with 12 sample Problem Lists organized according to the level of difficulty. You will start by exploring the sample files and then create your own problem list.

Opening a Sample Problem List

- Open MathPad from the **Start** menu. The path is: **Start Menu/Programs/ IntelliTools/MathPad.**
- Close the **Problem List** window if it appears.



- Go to the **File menu** and select **Open Problem List**. Choose **Level 2 Addition**.
- Using the mouse and regular keyboard enter the answer to the problem. Notice that the cursor automatically moves to the left after a number is entered. This is due to the setting called Auto-navigation.

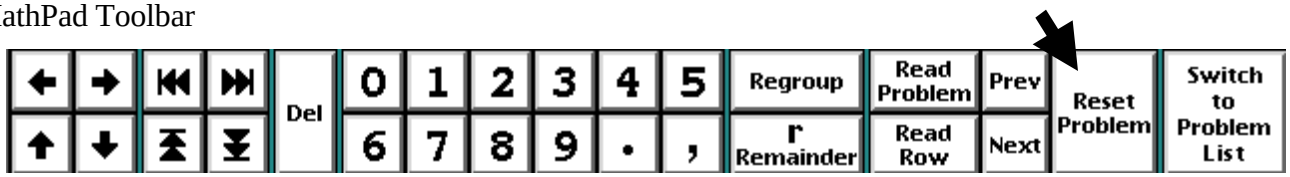


- Note the Toolbar on the top of the screen.
- Select **Next** to go answer another problem. Answer the next 5 problems. Be sure to answer some problems correctly and some problems incorrectly.
- To check your answers select **Switch to Problem List** from the Toolbar. You can review right away which problems have been done correctly. Correct problems have a ✓ and incorrect problems have a dash -.
- Close the **Problem List** window when you are finished.

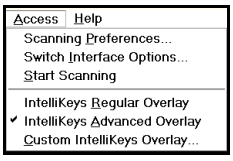
Using MathPad with a Switch

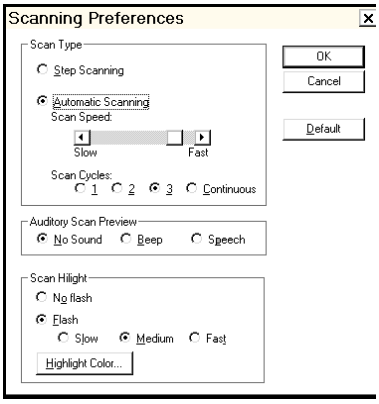
MathPad is designed to work with automatic scanning, as well as with Step Scanning. A keyboard key or mouse button can be used as a switch or an external switch interface can be utilized. This allows students to work collaboratively in an inclusive setting.

MathPad Toolbar



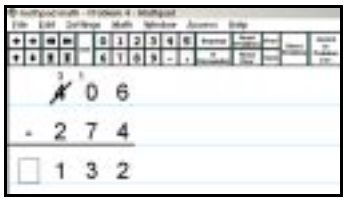
- Select the **Access** menu. Explore the **Scanning Preferences** and **Switch Interface Options**.
- Select **OK** when you are finished.
- Select the **Reset Problem** button on the **Toolbar**.
- Press a switch attached to the IntelliKeys and solve the problem using the switch. Change the speed of the scan by pressing a number from 1(slowest) to 9(fastest) on the standard computer keyboard. The default is about 6. Hit Escape (esc) on the standard keyboard to stop scanning.

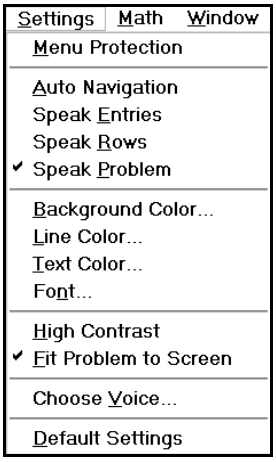




Looking at Additional Problem Lists

- Go to **File** and select **Open Problem List**. Choose Level 3 Subtraction and click on **Open**. This list has problems that require students to regroup.
- Go to the **Problem List** and choose problem number 8. Use the overlay to solve this equation. After you put in the '2' for the ones column the highlight box moves to the left.
- Since you can not subtract from 7 you will need to regroup. Press the **Regroup** key on your overlay or use your switches to scan to Regroup.
- Notice that the student is prompted through the regrouping process. Press 3 and complete the problem..
- Select the **Settings Menu**. Explore the options available for customizing the visual and auditory feedback. Auditory feedback ranges from speaking the entire problem to no feedback at all. Try each of the options as you work on the next few problems.





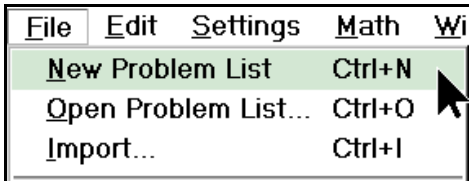
Creating Your Own Problems in MathPad

Students often are asked to create equations to solve word problems. Teachers and Parents may also want to create a set of word problems for a MathPad user that replicates what the other students are doing or allows the student to complete their homework. MathPad provides the work environment for creating and solving custom math equations.

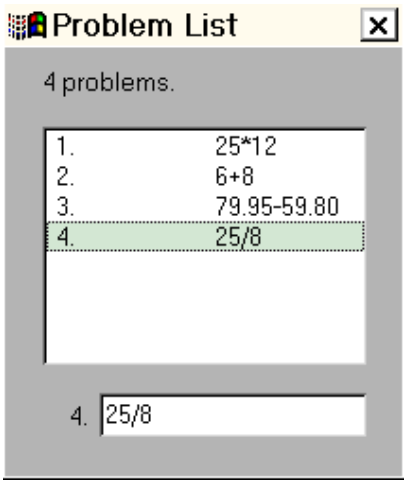
Using MathPad, create the equations and answer the following questions.

- *MathPad includes 12 Sample Problem lists. Each list has 25 problems. How many sample problems are there all together?*
- *IntelliTools has keyguards for each of the six standard IntelliKeys overlays. The regular MathPad overlay is designed to work with the Numbers Keyguard and the MathPad Advanced Overlay can be used with the Alphabet Keyguard. There are also 8 keyguards for custom designed overlays. How many keyguards are available all together?*
- *MathPad sells for $79.95 a single copy. A Five Pac is $299 or $59.80 per copy. How much money do you save on each copy of MathPad when purchased in the Five Pac?*
- *Only one problem is viewed at a time. You can print from 1 to 8 problems per page, corrected with all work shown. If you choose 8 problems per page, how many pages will it take to print 25 problems?*

- Go to the **File** Menu and select **New Problem List**. This will open a new file for entering these math equations.



- Use the number pad on your computer or the numbers on the Toolbar to enter **25x12**. After you input the numbers for this equation, select **Enter**.
- Repeat the above steps for the other three equations.
- If you make a mistake use delete or press the **Delete Problem** key to delete the currently selected problem on the Problem List.
- To complete the computations, select the first equation. **Press Switch to Worksheet** on the toolbar.
- Complete the computations and check your work.



Note: The double arrows on the Toolbar and overlay allow you to quickly go to the top or bottom of the page.

- Students can complete their computation and then use IntelliTalk to write their findings in their daily Math Journal.

ClickIt!®

Many over-the-counter software programs are educational and enjoyable for all students but often not accessible to switch users. Using ClickIt!, you can create scanning set-ups for students with severe physical or cognitive disabilities. ClickIt! allows you to create Hot Spots that can be positioned precisely on the screen to click on key parts of a program. These Hot Spots are then linked through scanning. Hot Spots can be set-up to dynamically change as the screen changes. Sound can be added to provide auditory feedback as they scan

Using this tutorial, you will create Hot Spots to make the Attainment software program, First Money, accessible to a switch user.. You will create a **Set** of **Hot Spots** for each screen. You will learn to create a **WatchSpot** to allow ClickIt! to recognize when a screen has changed and load a new set of Hot Spots You will learn to attach different **Scanning Options** to best meet the needs and level of your user. . You will create **Auditory Scanning,** beneficial to both visually and cognitively impaired users.

First Money is an excellent program to set-up for scanning as it meets many of the requirements for being easily adaptable with ClickIt!. These requirements are:

- **Each screen of the program has to be relatively static.** The areas that the user clicks with his/her mouse need to remain in the same place. Once Hot Spots are created, they remain stationary. Hot Spots cannot scan buttons or objects that move on the screen.
- **A placement for the WatchSpot can be easily found.** The WatchSpot is a special feature of ClickIt! that allows it to recognize when a screen has changed and to automatically bring up the next set of Hot Spots. Any time you want to create Hot Spots for more than one screen, you must assign a WatchSpot to every screen you adapt. The location of the WatchSpot must be the same on every screen, however, the content of the WatchSpot must be different (Page numbers, for example, are an excellent WatchSpot because they are unique to each page but remain in the same location.)
- **Each screen should have only a few active areas.** This makes it easy to identify and create appropriate Hot Spots.
- **Screens should all have a similar layout.** Once you've created one set of Hot Spots, you can copy them onto other screens with minor modifications.

Before beginning this tutorial, take some time to familiarize yourself with the First Money program.

Creating Hot Spots for First Money

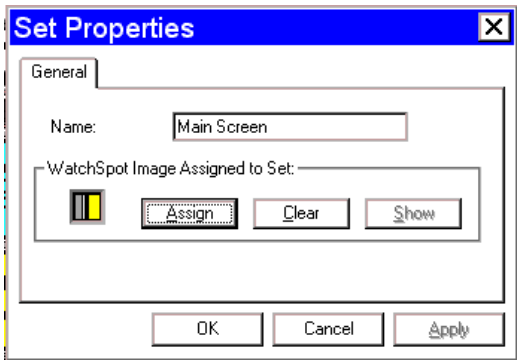
Reposition Your First WatchSpot and Name Your Set

The WatchSpot is a small part of the screen that is continually "watched" by ClickIt!. Using the WatchSpot and creating a Set of Hot Spots for each screen you can ensure that when the screen changes a new image appears in the WatchSpot and ClickIt! automatically switches to the correct Set of Hot Spots for that screen.

- Press **Control-Space** to bring up the ClickIt! window.

- Notice the small, gray, square on your screen. The area inside the gray frame is called the **WatchSpot**.
- The area in the upper left-hand corner of the Equal Value button is a good spot for the WatchSpot in this program. Drag the **WatchSpot** to this area of the **Equal Value** button.

- Click on the **Sets** icon.
- Select **Properties.**
- Change the name of the Main Set to **Main Screen.** Click on **Assign.** The WatchSpot image will appear.



- Click on **OK.** Click on **Done** to close the Sets dialog box.

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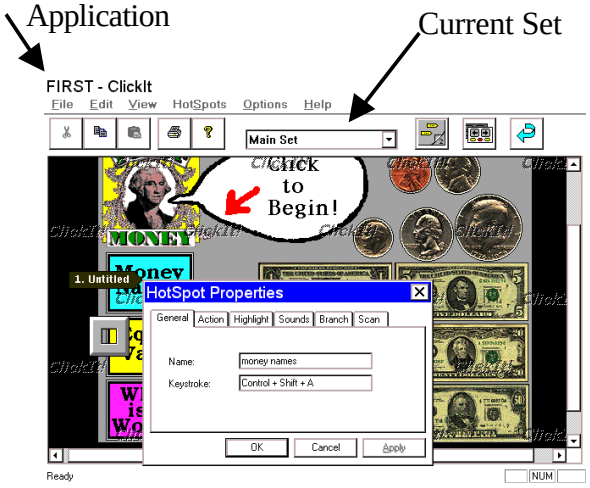
Create the first Hot Spot for the Main Screen

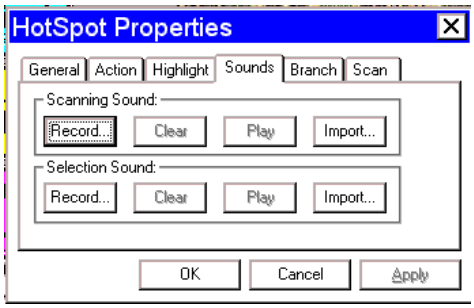
The first set of Hot Spots you are creating are for the main screen. In this tutorial we will only be creating access to Money Names but will start with the main screen to give you an idea how you could extend this tutorial and create access for all three activities.

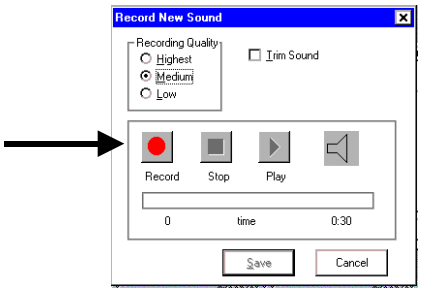
- Note that the Application is **First Money** and the Current Set is **"Main Screen".** It is important when creating multiple sets to make sure you are in the correct set and that the correct application is indicated.
- To create your first Hot Spot, hold down the **Control** key and **Click** on the center of the **Money Names** button. The **Hot Spots Properties** window opens. Rename this Hot Spot **money names.**

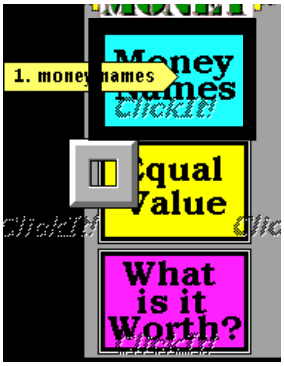
  The order of your Hot Spots is important because ClickIt! scans numerically.
- Note that ClickIt! automatically defines a keystroke for each Hot Spot. In this case, the keystroke is **Control-Shift-A.**
- Select the **Sounds** tab. You will record a **Scanning Sound** (what the computer says as it highlights each object).
- Click on **Record** and say **money names.** Then click on **Stop**. Click **Play** to listen to your sound. If you are satisfied, click **Save.**
- Select **OK.**
- With your first Hot Spot selected, hold down the **Control** and **Shift** keys at the same time to view the **Hightlight** that the viewer sees when the Hot Spot is being scanned.
- Change the highlight from an oval to a rectangle by holding down the **Control** and **Shift** keys and tapping the **Tab** key once.
- To adjust the highlight area so that is surrounds the money names button, hold down the **Control** and **Shift** keys and tap the **arrow keys** on the standard keyboard.

  Hint: *The point of the Hot Spot arrow is the center of the highlight. Click on the Hot Spot and drag it to recenter the highlight.*









Create the remaining Hot Spots for the Main Screen

- Follow the above steps to create a Hot Spot for the **Equal Value** button. Change the name to **equal value**. Note that the keystroke has changed from the previous Hot Spot.

  Hint: *Do not place your Hot Spot directly on top of the Watch Spot.*

- Add a **Scanning Sound.** Select **OK.**

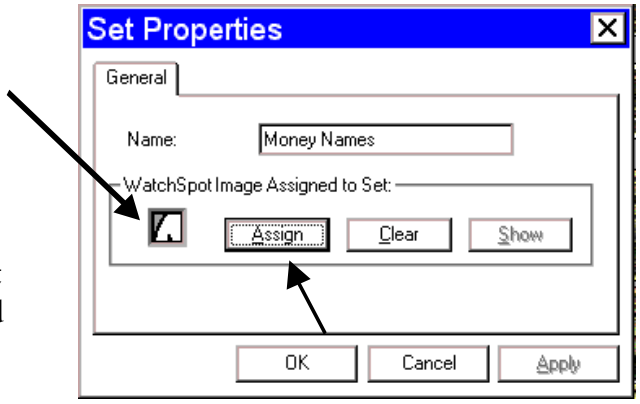
- Check your **Highlight**. Notice that it retains the shape of the previous Hot Spot. You may need to recenter your Hot Spot.

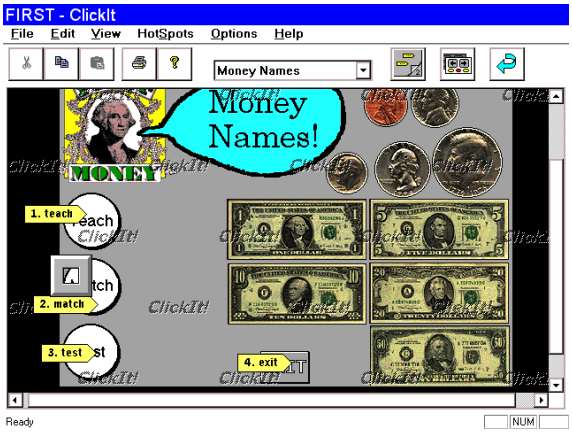
- Create a Hot Spot for the **What is it Worth** button. Adjust the **Highlight** and record a **Scanning Sound.**

Create Your Next Set of Hot Spots

Now you will create a Set of Hot Spots for the next screen.

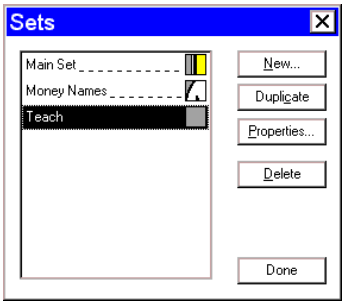
- Click on the **Money Names** button to move to the next screen.
- Press **Control-Space** to open ClickIt!
- Click on the **Sets** button. Select **New.**
- Name your new set **Money Names.**
- Select **Assign.** Notice there is a new **WatchSpot** assigned to this set. You have already positioned the Watch Spot from the Main Screen set.
- Select **OK.**
- Select **Done.**
- Hold down the **Control** key and create a Hot Spot on the **Teach** button. Rename it **teach.**
- Repeat the steps used in creating your Hot Spots for the Main Screen to add a **Scanning Sound** and set the **Highlight** area**.**
- Create three more Hot Spots. One for **Match, Test,** and **Exit.** By creating a Hot Spot on the **Exit** key you give your user the power to leave this activity and move back to the **Main Screen.** For some students you may not want access to the Exit option.
- Click **Done.**

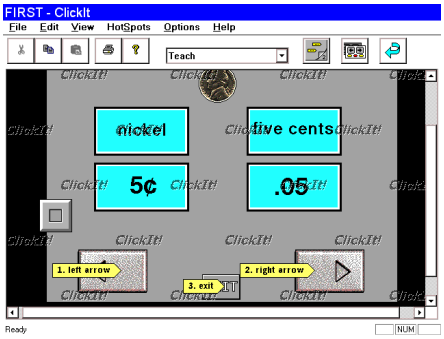




Create Your Last Set of Hot Spot

In the interest of time, the last screen you will be making accessible is the Teach Screen. Using ClickIt!, you can make all screens accessible if you so choose.





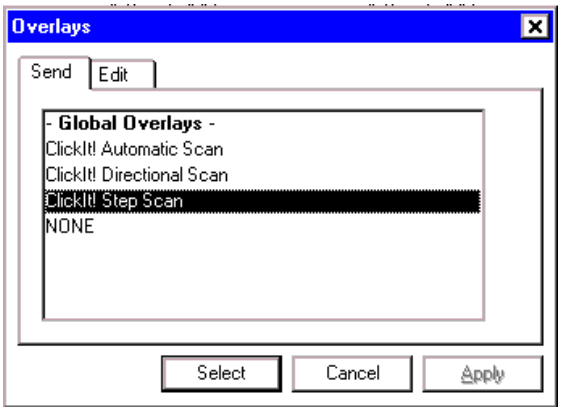
- Select the **Teach** button to move to the next screen.
- Click on the **Right Arrow** to navigate to the next screen so both the Left and Right arrow keys are available.
- Press **Control-Space** to open ClickIt!
- Select the **Sets** button. Create a new set named **Teach**. Select **Assign.**
- Select **OK** and **Done.**
- Create Hot Spots for the **Left Arrow, Right Arrow** and **Exit.** As you are naming your Hot Spots think about the scanning sequence. Do you want it to scan linear: left arrow, exit, right arrow.? Or, do you want the sequence to be: left arrow, right arrow, exit? You can determine the sequence with the order you create your Hot Spots.

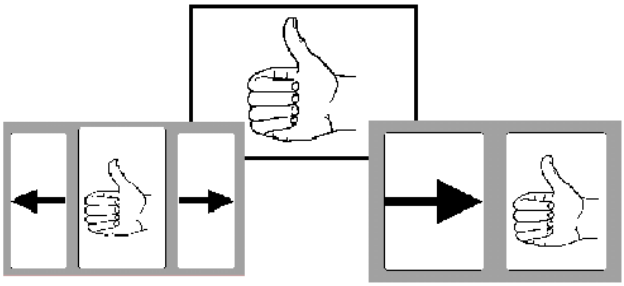
Use ClickIt!® to Attach Overlays for Switch Access

There are three different scanning overlays that ship with ClickIt!. They give you flexibility in types of scanning you choose for your switch user. These overlays also serve to program the switches. You will attach these overlays to First Money to program the switches ensuring that the switches work correctly with the type of scanning you select. Your scanning choices are Automatic, Directional and Step Scanning.

- Press **Control-Space** to bring up the ClickIt! menu**.** Choose the **Overlays** icon.
- Make sure you are in the **Send** menu. Three ClickIt! scanning overlays are listed. Select the **ClickIt! Automatic Scan** overlay. Click on **Select.**
- Press **Escape** to leave ClickIt! The Automatic Scan overlay will be sent to the IntelliKeys.
- Place the **ClickIt! Automatic Scan** overlay on the IntelliKeys. Check that two switches are connected.
- Try out your switches and the overlay. Press either switch to begin scanning. Press again to select. Press anywhere on the overlay to start scanning. Press again to select.

- To change the type of scanning, press **Control-Space** again and the **Overlay** icon. Choose **ClickIt! Step Scan**.
- Press **Escape** to leave ClickIt!. The Step Scan overlay will automatically be sent to the IntelliKeys.
- Place the **Step Scan Overlay** on the IntelliKeys. Try out the overlay and switches. Press Switch 1 to move forward in the scan order. Press Switch 2 to select.
- Finally, follow the above steps and select **ClickIt! Directional Scan.** Place the overlay on the IntelliKeys. The switch options are the same as Directional Scan, only the overlay changes.





Three ClickIt! Access Options

You have created all Hot Spots needed to access the Teach mode of Money Names. As you play with other areas of the program such as Equal Value and What Is It Worth, you will notice that many of the screen look the same. Having created access to three screens has also given you access to many more areas of the program.

Extension Activity: Navigate to the Teach screen of Equal Value. Open ClickIt! and choose the Hot Spots button. Notice the Hot Spots from the Teach screen of Money Names match this screen. By creating access to three screens you have actually created access to many of the screens in the program.

ClickIt! can be just as useful when adapting a single screen of a program as when adapting multiple screens. Access to a single screen may be all the student needs. It's easy to adapt a single as you don't have to worry about postitioning a WatchSpot. As a beginning user this may be a good strategy with which to start.

Congratulations!

You have successfully completed the Solutions for Switch Users Tutorial. The programs used in this tutorial can be purchased through IntelliTools. SwitchIt! can be found in the Curriculum Resources section of our catalog. First Money is part of the Dollars and Cents IntelliKeys Bundle by Attainment and found in the Other Publishers section of our catalog. ClickIt! can be found in the Creativity Tools section of our catalog.

For a more complete ClickIt! tutorial refer to the Printed Materials folder of the IntelliTools Web CD. The Web CD contains both a Mac and Win ClickIt! tutorial.