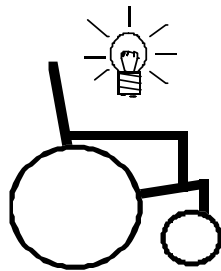


# Smart Moves



Ideas for activities with  
the Smart Wheelchair

## **Introduction**

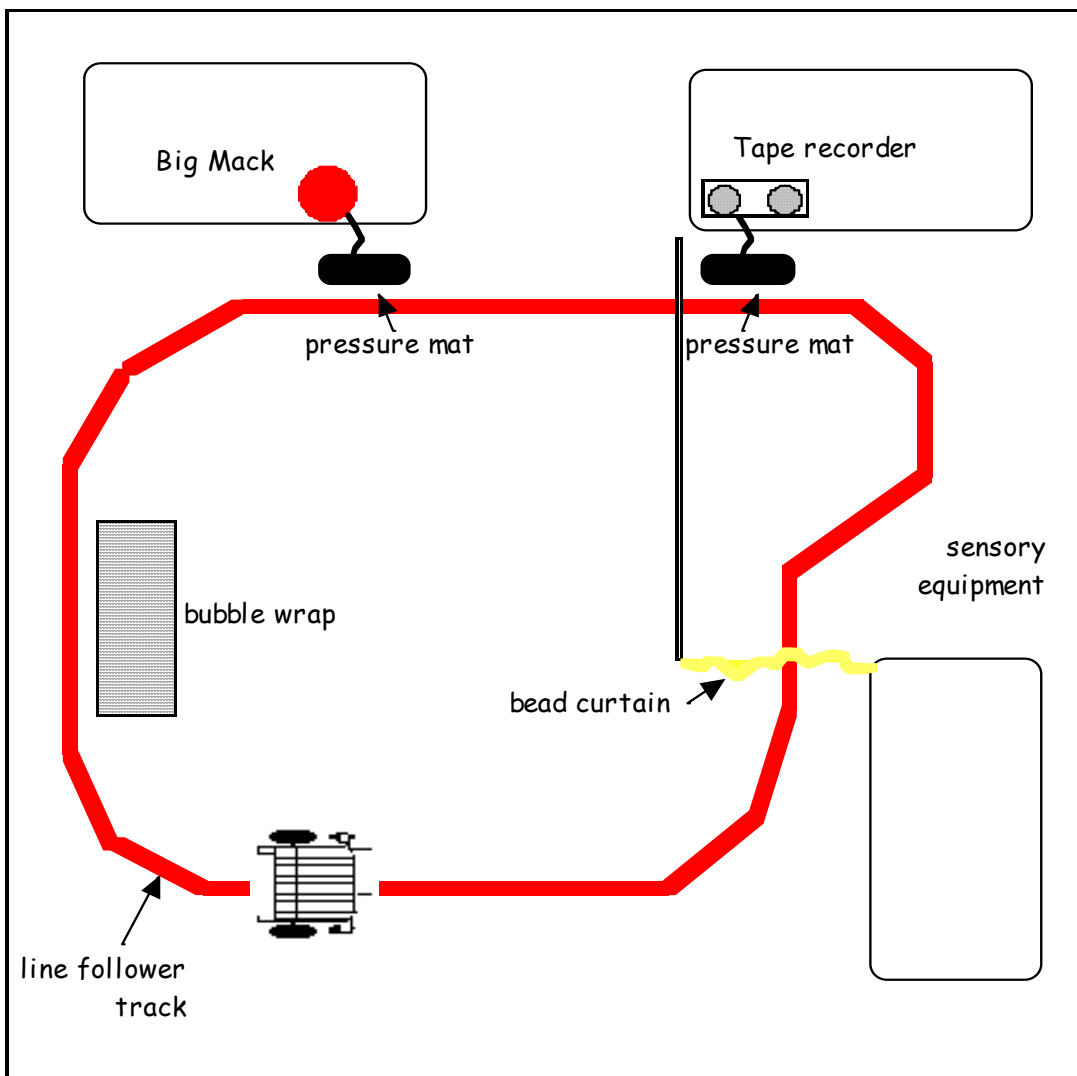
This booklet adds more ideas and activities to those given in the Smart Wheelchair Playbook. Over time, we'll add more activities to both - if you have invented games and activities that work well, please tell us about them so we can share them with other Smart Wheelchair users.

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## 1. Setting up a Smart 'Exploratorium'

Set up areas around the room (classroom, or room in a home) with different things to do and explore. Children who can drive with switches or the scanner can explore the activities directly. For single switch users, lay a track around the room that goes past each station.

For example:



- 1.1 Bubble wrap  
Put bubble wrap on the floor, so that when the chair goes over it, it pops the bubble wrap - very satisfying! (Place it either side of the line follower track so that the chair can still see the track.)
- 1.2 Bead curtains & ribbons  
Hang bead curtains and ribbons from the ceiling so that the pilot brushes through them.
- 1.3 Ceiling objects  
Hang balls, mobiles or other light objects from the ceiling for the children to bat as they pass.
- 1.4 Sensory and activity corners  
Create different areas of light and shade around the room. Screen off a 'sensory corner' with heavy curtains and put coloured lamps, fans, music etc inside. Use pressure switches to control them (see below).
- 1.5 Mirrors  
Put large mirrors up around the room so pilots can see themselves as they pass.
- 1.6 Pressure mats and switch operated devices  
Put pressure mat switches on the floor, connected to switch operated devices like battery powered toys, mains switchers controlling tape recorders, lamps or fans, or single message communication aids (Big Mack / Chipper / Talking Buddy Button).

Pressure mats are flat black pads designed for burglar alarm systems - usually they go under carpets or rugs. You can buy them cheaply from various electronics suppliers, but you have to solder on a mini jack plug, or ready adapted from TFH. TFH also sell a brightly coloured mat with six pressure pads arranged in a row.

Attach the mat to the floor with velcro, or put it under a rag with non-slip backing.

When the chair goes over a mat, it will operate the device. You could set pressure mat switches to:

- play some music on the tape recorder;
- operate the lamp or fan;

- operate a battery powered water pistol, bubble column, tape recorder, toy etc;
- speak a message from the communicator. Use a Step-by-Step communicator to get different messages each time you drive over the mat.

Use a Latching/Timer box to activate the device for some time after the wheelchair has travelled over it.

If you are using the line follower, don't put the pressure mat over the track otherwise the chair will not be able to see it!

If the pilot keeps missing the mat, put down several and plug them all together with a few 'Y' adapters.

If you have a sensory room with devices that can be controlled by switches, use the pressure mats to operate the bubble lamps, fans, coloured lights etc

#### 1.7 Wall mounted switches and devices

Velcro or attach switches or Big Macks to the wall with messages, or to operate devices. Rather than driving over a pressure mat, the pilot has to drive close enough to press the switch/device.

#### 1.8 Soundbeam

Set up a Soundbeam and use the wheelchair to 'play' it. Lay line follower tracks so that the chair plays different sounds as it moves in front of the beam.

#### 1.9 Beam break detector

Buy a beam break detector and connect it to a device so that the smart chair breaks the beam the device operates. Beam Break detectors are available from electronics suppliers or DIY shops. They are more expensive than pressure mats, and need a mains power adapter.

## 2. Activities with the Smart Wheelchair Exploratorium

Fun and exploration

'Nuff said. Let the pilot explore and play.

Stopping practice

Use the Pressure mats to motivate pilots to practice stopping at the correct place.

Traffic games

Play traffic games with wall mounted switches and lights - the pilot presses the switch to turn on a green light to go.

Shopping list game

Play games with other members of the class, where the Smart pilot has to drive around (single switch pilots can use the line follower) to ask for and collect collect items. Use a Big Mack or other communicator so he or she can ask for items. E.g. "Please get a book from John", "Please get three toys and take them to Susan.

Give verbal requests, or a shopping list written as text or as symbols. Other children or staff are the shop keepers.

Use this activity to collect or give out drinks and food at snack time.

Lots of opportunities for interaction and communication!

Listening

Stick pictures, symbol or object to the wall around the room. Play a noise to match a picture or object and the pilot has to drive to it and find it. Use the line follower for single switch drivers.

Hide and seek / hunt the ????

The pilot has to find a person hiding in the room, or objects. Either:

- a) The pilot drives round a track and stops beside the hiding people or the objects.
- b) The pilot uses a switch to turn the chair, until pointing at the hiders, and then a Go switch to drive forward (or a helper unplugs the switch from the turn socket and plugs it into the Go socket).
- c) A pilot with full control can drive around themselves.

Hide and seek is good for assessing vision: the things hidden can be large people, or small objects.

### Colour Matching Game

Put tables laid out in the area, each labelled with a different colour, and displaying objects of the same colour. The adult or a child uses a spinner divided into four colours to choose a colour, and then the pilot drives to the appropriate table to get an object of that colour. Instead of the spinner, stick pictures, words or symbols on a cube and roll the cube like a dice.

### One-touch Football

Use a large gym ball to play one touch football. This is usually for two players, both in wheelchairs. Each player takes turns to push the ball with their chair. If they lose it and the ball runs away, the other player gets a shot.

### Train

Tie the manual chairs and buggies of other children to the Smart Wheelchair in a convoy. The Smart pilot drags them around either freely, or by driving on the track. (You can only have a couple of chairs in the train otherwise people get stuck going round corners.)

Give Big Macks to the other children so they can give 'advice' about moving (e.g. "Let's go!", "Stop now", "Chase Mrs. Jones").

### Postman Pat

Use symbols or speech to ask a pilot to deliver messages, or items around the classroom or school. Use line follower track for pupils who cannot drive independently. The pilot uses a communicator or symbols to deliver the message.

### Plays and presentations

The Smart Wheelchair pilot can take part in plays and presentations - if there is concern about driving skills, use the line follower and timed control make sure the pilot drives and stops at the correct point.

### Races

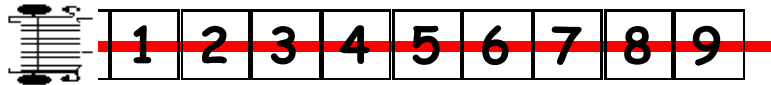
Have races with several wheelchair users - be careful to set the speeds and distances the same for all pilots! Make the race more difficult by putting down pressure mats attached to devices, and saying that the pilots get extra points for driving over the mat.

### Giving assistance

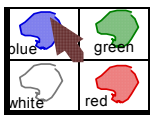
For single switch users off the track, plug switches into left, right and back and velcro them to the back of the seat. Then you can help the pilot back away or avoid obstacles. Don't take over control, and ask or say when you are about to help - it's important the pilot experiences control as much as possible.

### 3. Smart Wheelchair Number games

The Smart Wheelchair gives lots of opportunities for numeracy activities. The main tools needed are some large floor tiles or squares with numbers, cards with numbers, and line follower tape if necessary. Timed control is used to move in 'smart chair steps'. The number tiles are placed one 'smart chair step' apart. (Be consistent from session to session about the step size you set with the Distance control otherwise the activities won't work!)



#### Number matching



Lay number tiles on the floor in a straight line. One child chooses a number (by picking up or eye pointing to a card, or with a communication aid). The group talk about where the chair will end up. The pilot moves X smart chair steps, with the class group counting each step. The same activity can be done for turning.

#### Add two numbers

Two children pick two cards with numbers, say '2' and '4'. The group agree where the chair will stop: perhaps one child waits beside the number. Then the driver moves the chair 2 steps, then 4 steps. Repeat with 4 steps then 2 steps. Repeat with a different driver.

#### Subtract numbers

Do the same activity as above, but this time go backwards from a big number to a small one. (Don't use the track because the chair does not follow the track when reversing very well.)

#### Estimation

Do activity 1 again, but this time without the numbers on the floor - the children have to estimate where the chair will stop if it moves 5 steps, say. Estimate forwards moves, and also turns.

#### Measurement

Measure different objects or routes around the class or school in terms of 'smart chair steps'.

#### 4. Equipment and suppliers

TFH sell lots of switch adapted toys and devices and switches. QED and Techcess have a very wide range of switches and communication aids. Inclusive distribute software and some switches and communication aids. Liberator supply communication aids, switches and switch controlled devices.

Contact the suppliers and get hold of their catalogues to see what's available.

Item	Cost	Supplier
Pressure Mat switches	~6.00	TFH
Big Mack / Talking Buddy Button / Chipper	£65 to £99	Liberator, Inclusive, Techcess, QED
Switch adapted battery toys	from £11	TFH, Liberator
Mains switcher / Powerlink / Yellow Box	£150 to £177	TFH, Inclusive, QED, Techcess
Switch latching/timer box	£65 to £97	TFH, Inclusive, QED, Techcess
3.5 mm Jack plug 'Y' adapter	£1	QED, Maplin

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