

# Modifying the Home to Promote Independence and Healthy Lifestyles for Children on the Autism Spectrum

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# Learning Objectives

1

List 3 modifications that can be made to the home to address auditory, visual and proprioceptive sensitivities.

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2

List 3 ways the home can be modified to improve safety.

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3

List 5 AT devices that can be used to enhance communication, cognition, sensory input and recreation at home.

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# Areas addressed in this presentation

Space to eat,  
sleep, work and  
play

Color

Flooring,  
furnishings and  
lighting

Visual/auditory/  
sensory input

Safety

Attitude

Assistive  
technology devices  
that support day  
to day living

# Considerations for modifications

Modify the most important areas first:

Bedroom, bathroom, leisure areas, kitchen and yards are the primary areas for children in a home . Think about where the most amount of time is spent.

- Consider the behaviors to be modified and the relationship they have with the environment.
- Remember that behaviors serve a purpose and you must understand the behavior before trying to alter it. For example: If a child puts things in the toilet then safety elements in the bathroom must be priority.

1

Having a place to cool down is extremely important for people on the spectrum. When life is overwhelming having a safe place to go to calm will prevent hours of a melt down.

2

It should not be the bedroom though, as associating the bedroom for sleep only is crucial for good sleep patterns.

3

If there is no alternate room then a small area will work.....use a tent, a teepee, a corner with blankets, pillows, bean bags, soft toys and soft music.

Cool Down

# Advice for parents and caregivers

- Is your home a happy home? Is there a high level of daily stress in your home? Is the tone of your home one of ease, security, warmth and comfort?
- If you answer no to the first and third questions you may want to focus on attitude as the first step for modifying your home for your children.
- Getting caught up in everything you need to do can cause tension and stress that is evident in your face, your posture and your voice.
- Never neglect yourself and your feelings as they set the tone for the atmosphere of the household.



# Suggestions for decreasing stress

Prioritize	Prioritize and put your feelings first: consider your physical, mental and emotional well being.
Find	Find quiet time for yourself
Enjoy	Enjoy time outside: sunshine , fresh air, water, colors and textures will provide relaxation and inspiration
Minimize	Minimize contact with people who cause you stress and cause insecurity
Clear Clutter	Clear clutter along with anxiety
Organize	Keep things organized
Seek	Seek professional help or join support groups to help you change

# Behaviors associated with a stressful environment

More oppositional and challenging behaviors

Increase in frequency or intensity of self stimulating behaviors

Covering head with shirt or a blanket

More neutral facial expressions and less smiling

Limited social interaction with adults who come across as tense

Decreased responses to requests

Decreased eye contact

Eloping from the room

less motivation to interact





# How Behaviors Affect The Home Environment

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Behaviors are attempts to introduce order into a chaotic world.

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Order and routines are important, however they may interfere with the function of the rest of the family. Insisting on the same seating at the family table does not allow additional guests to join without a scene.

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Discouraging unacceptable routines quickly will make it easier to add new ones.

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Changing every day occurrences makes adapting to change easier.

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Saying “no” often will promote strong reactions and cause the behavior to continue or may cause withdrawal, less motivation and less engagement.

# Behaviors that affect home safety

Throwing utensils

Breaking plates and cups

Sweeping items off surfaces

Dumping drawers and containers

Breaking windows

Climbing out of windows

Flushing items down the toilet

Turning on water and walking away

Inserting items into electrical sockets


Chewing on wires

Playing with matches



# Sensory Overload

Sensitivity to sounds, sights and touch can cause sensory overload and unwanted behaviors but many children need sensory stimulation in order to function effectively. The goal should not be to eliminate sensory stimulation behavior but to channel it into more appropriate and productive activities.



# Chronic noise

- Chronic noise stresses endocrine, cardiovascular and immune systems, disturbs sleep and emotional wellbeing.....and that's with typical people. Imagine now that you have a sensitivity to sound. Many people on the spectrum have heightened hearing and sounds that may not be noticeable to us but cause terrible reactions in them. Extreme sensitivity can cause crying, whining, temper tantrums or covering their ears.



# Sounds that may be disturbing

- Refrigerators and air conditioners humming
- Furnaces turning on and blowing
- Washing machines spinning and clunking
- Dish washers
- Food processors
- Televisions
- Radios
- Cell phone conversations
- Traffic
- Wind
- Someone's voice

## Ways to diminish sounds

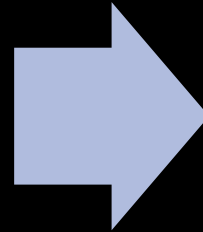
- Carpet floors
- Make sure windows are covered with drapes or blinds
- Use wall hangings and pictures
- Fill book cases with books
- Place cork or rubber mats under countertop appliances
- Use storm doors and solid doors
- Install double panned windows
- Seal doors and windows with weather stripping
- Plants trees and bushes around the perimeter of the house

- Open floor plans in a home let sound bounce around freely. If there is nothing in the home to absorb the sounds it may be deafening to someone with auditory sensitivities. It may be best to consider a house with specific rooms to keep sounds under control.



# Sound stimulation

Some people who fill the silence with humming, echolalic speech, repeating, babbling or screaming may need sound stimulation when it is too quiet.



Background music like instrumental or classical music or white noise from fans can be just enough to fill the quiet and keep the every day sounds at bay. Just remember that it has to be background noise and not too loud to be interesting or intrusive.



# Visual Overstimulation

## Causes

- Bright lights
- Environments with too much movement
- Rapidly changing scenes on TV
- Clutter
- Busy walls
- Patterned floors

## Symptoms

- Staring at spinning objects
- Turning face away from someone talking
- Losing objects on crowded shelves
- Losing place when reading
- Awareness of where objects are placed or moved

# Ways to decrease visual overstimulation

01

Use muted colors on walls instead of bright colors

02

Have plain wooden or tiled floors

03

Use light dimmers to adjust lighting

04

Encourage use of sunglasses inside if necessary

05

Decrease clutter

# Increasing visual stimulation



- When individuals are drawn to bright lights and brightly colored objects they may need more visual stimulation. People who get stuck on TV and bright moving patterns may find shimmering, iridescent and spinning things comforting. Sometimes videos and television are the best way to help get points across.
- Bubble machines, fiber optics, color tubes and light up toys will provide visual stimulation.



# Sense of Smell

- Smells may cause behaviors, gagging, nausea, headache, vomiting or flight or fight responses.
- Studies are inconclusive about smell and autism. Some researchers believe that issues with smell are tied to social deficits. Other studies reveal that typical children change the way they smell good and bad odors while children on the spectrum smell everything the same way.

# Smell

## OVERSENSITIVITY

- Oversensitivity to smell may cause toileting problems
- Children may dislike people with strong smells
- Strong smells may be used to explore or provide self stimulation
- May be neat freaks and shower often to get rid of smells

## UNDERSENSITIVITY

- Some children with weakened ability to smell may lick items to identify them
- may like strong smells like dirty socks or rotten food because they don't get adequate input from senses used to explore environment

# Considerations with smell

Scents should come from fresh plants, flowers or preferred foods

Open windows will keep air clean inside the house

If there is a favorite scent buy soap or body wash in that scent

Use 100 % grade essential oils to promote self regulation

Stay away from chemical based smells in candles, air fresheners and sprays

Use nose plugs, keep car vents open to circulate air when traveling

Use diffusers when cooking unpleasant smelling foods

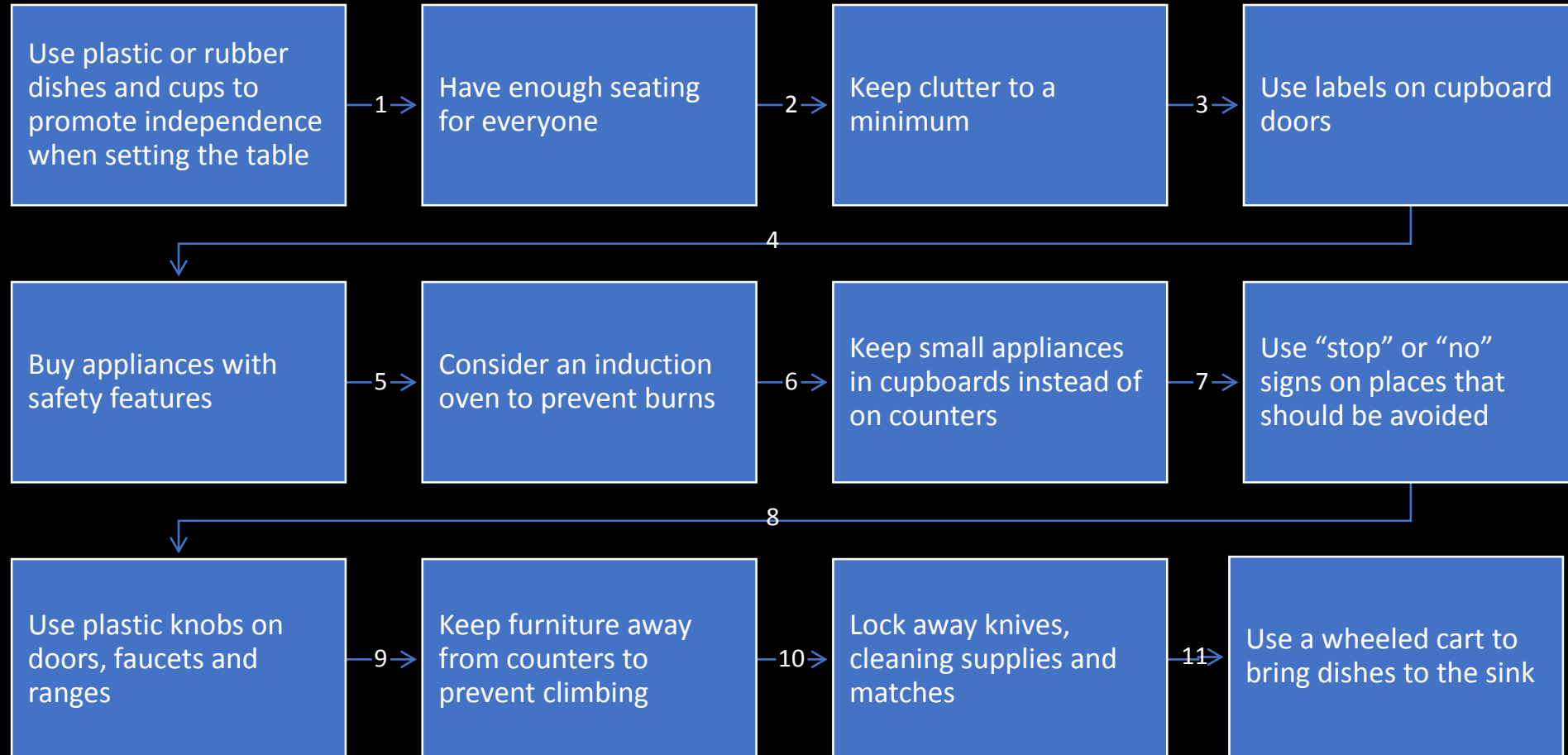
Avoid drier sheets with hazardous chemicals

# Kitchen- The heart of the home

- Cooking together can enhance fine motor skills, sequencing, math, manners and social interactions.



# Considerations for kitchen time





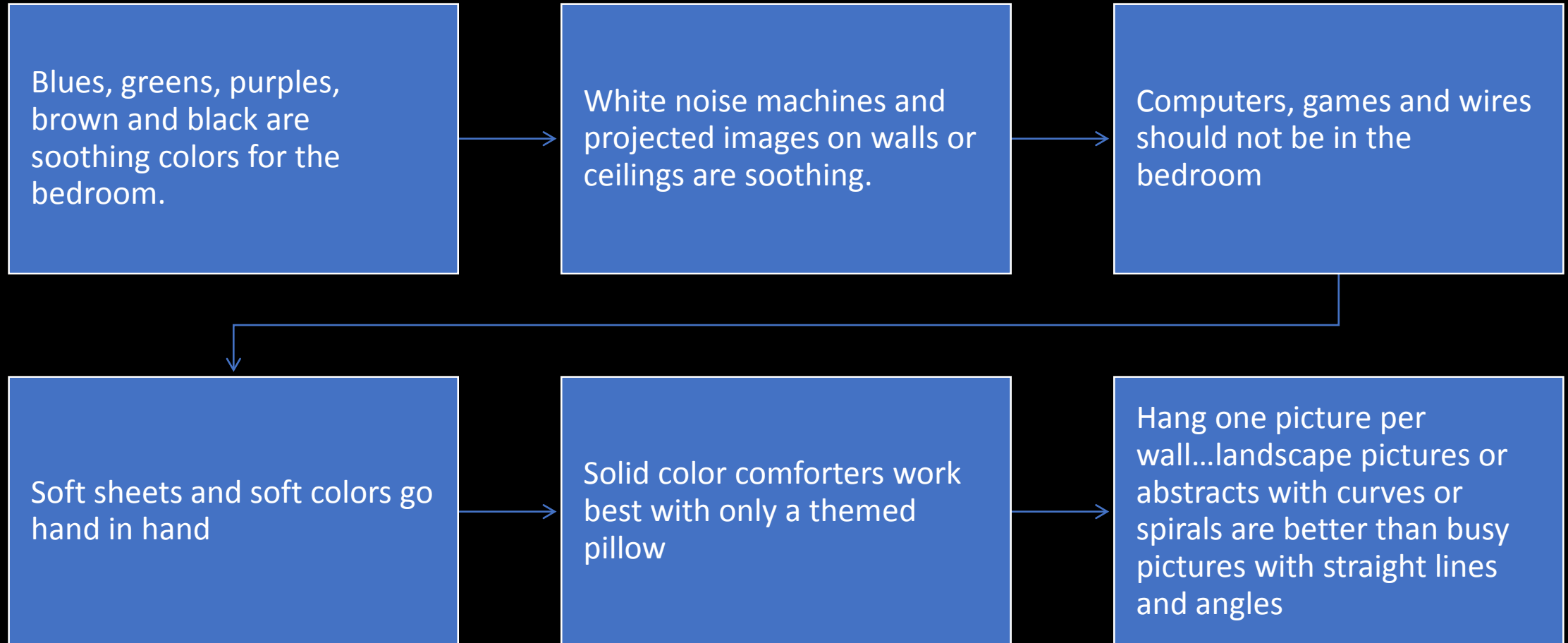
# Bedroom space

The space where a child drifts off to sleep at night and where he awakens should be calm, safe and welcoming.

It should be a place to replenish the senses, not a place for discomfort and isolation.



# Considerations for bedrooms



Whether lights are on or off colors and patterns emit vibrations that affect brain waves positively or negatively.

Do not confuse sensory integration needs with sensory environmental needs.

Keep items in closets or on high shelves to keep room visually calming.

Can a child sleep, play, enjoy and learn in the room?

Beds should be away from windows-against a full wall or door

The swaying of vertical blinds or curtains can make disturbing noises

More considerations for bedrooms

# Good or bad?

Is the bedspread too busy?

Are there too many books on the shelf?

Is the storage easy to access?

Is the wall color good?

Are pictures suitable?

Is the floor pattern too busy?

Is there adequate lighting?

Are the window coverings sufficient?

Is the bed placement good?



# Bathroom considerations

- Keep bathroom toys in a bag or bin away from the tub until bathing and hair washing are finished.
- Keep soap, shampoo and washcloths in a place that is easily accessible
- Replace open lip bottles with pump dispensers so they do not flow easily and cannot be ingested
- Cover faucets to prevent burns
- Make sure hot water heater is not set too high
- Keep medications and first aid supplies in locked cabinet



## Transitioning to toileting

- Maturing through the toileting stage is not an easy concept for many children on the autism spectrum. Having communication challenges and breaking the long standing routine of wearing diapers is often difficult.

# Toileting habits

Using special toilet seats can help break the anxiety about using the toilet. Using a soft seat will make it less of a challenge to balance and can build confidence.



# Other considerations for toileting

Using a timer will help alert the child when it's time to go. Set it 20-30 minutes after having a drink. When it goes off it's time to sit

Count out loud to 20. If they do not go by then they can get off the toilet. Set the timer for 10 minute increments and keep trying

Make light of accidents

Move to underwear as soon as possible



# Playroom

The playroom should be considered a place to be creative and learn. Including sensory type equipment can provide vestibular and proprioceptive input, however it should not become a therapy room with emphasis always on sensory integration.



# Swings



- Swings are a great way to help organize and regulate the sensory system and calm and regulate behavior.
- Place mats or padding under the swing and keep it positioned away from walls or objects that can cause injury if bumped.
- Young children should only swing when supervised.
- Make sure to check the maximum weight capacity for safety.
- When using a swing the child should be able to stop the movement on their own.
- A child should be actively engaged in choosing to swing. They should never be forced to.

# Considerations for playroom

Having small intimate space is much better than having a huge room overflowing with toys, games and furniture.

Depending on the child you may want to minimize visual distractions. Having windows without coverings may prompt the child to stand and stare outside instead of playing creatively.

Have a padded floor that is comfortable for sitting and laying down to play.

Have a table and chair for tabletop activities and to help promote good posture while playing.

If attending to play is difficult keep snacks and drinks handy to avoid the interruption of leaving the room to get them.



Fun pieces to add to the playroom

Chair Trampoline and Canoe



# Lighting



# Adding light

Consider intensity, dimming options and color rendering when choosing lighting.

Filter light by as many means as necessary.

Incandescent bulbs marked as Sol White, Daylight, Reveal or full spectrum are best choices for light bulbs.

Consider using LEDs lights

Use individualized lights for different areas of the house





Small nightlights are a great help for bedroom and bathroom.

- Natural sunlight is the best option for light.....as long as there is no glare.



# Other thoughts on lighting

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Using sensors may be disorienting when they go on and off

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Motion lights that react to body movement are good if it is difficult to flip switches on lights

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Glare, contrasts and intensity cause distortions

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Blinds and curtains add visual interest

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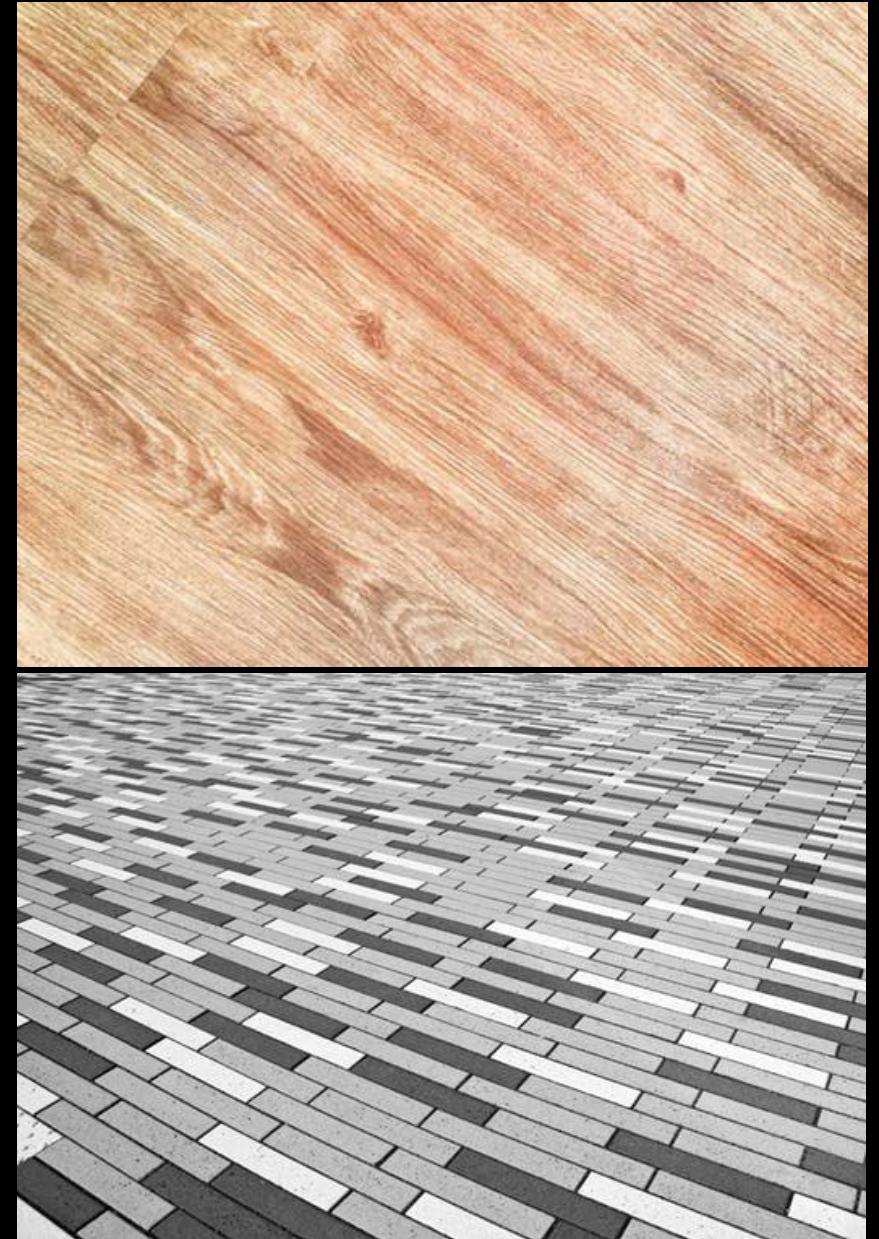
Fluorescent bulbs contain mercury, distort color, buzz and strobe at high frequencies, especially when losing power. Strobming and flashing can cause headaches, migraines and seizures.

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KD brand tinted glasses work great to deal with indoor fluorescent lighting

# Flooring

- Consider practicality and sound absorption when choosing a floor.
- Natural wood is the best option
- Laminate floors that look like wood make a lot of noise
- Vinyl planks that look like wood are soft and warm and easy to maintain
- Carpet tiles work well and can be replaced easily
- Porcelain tiles are cold and hard to fall on and have no sound absorption
- Patterns and checkerboard effects are not good because some children believe that the color changes are holes and they can fall through





Furniture

# Thoughts on furniture

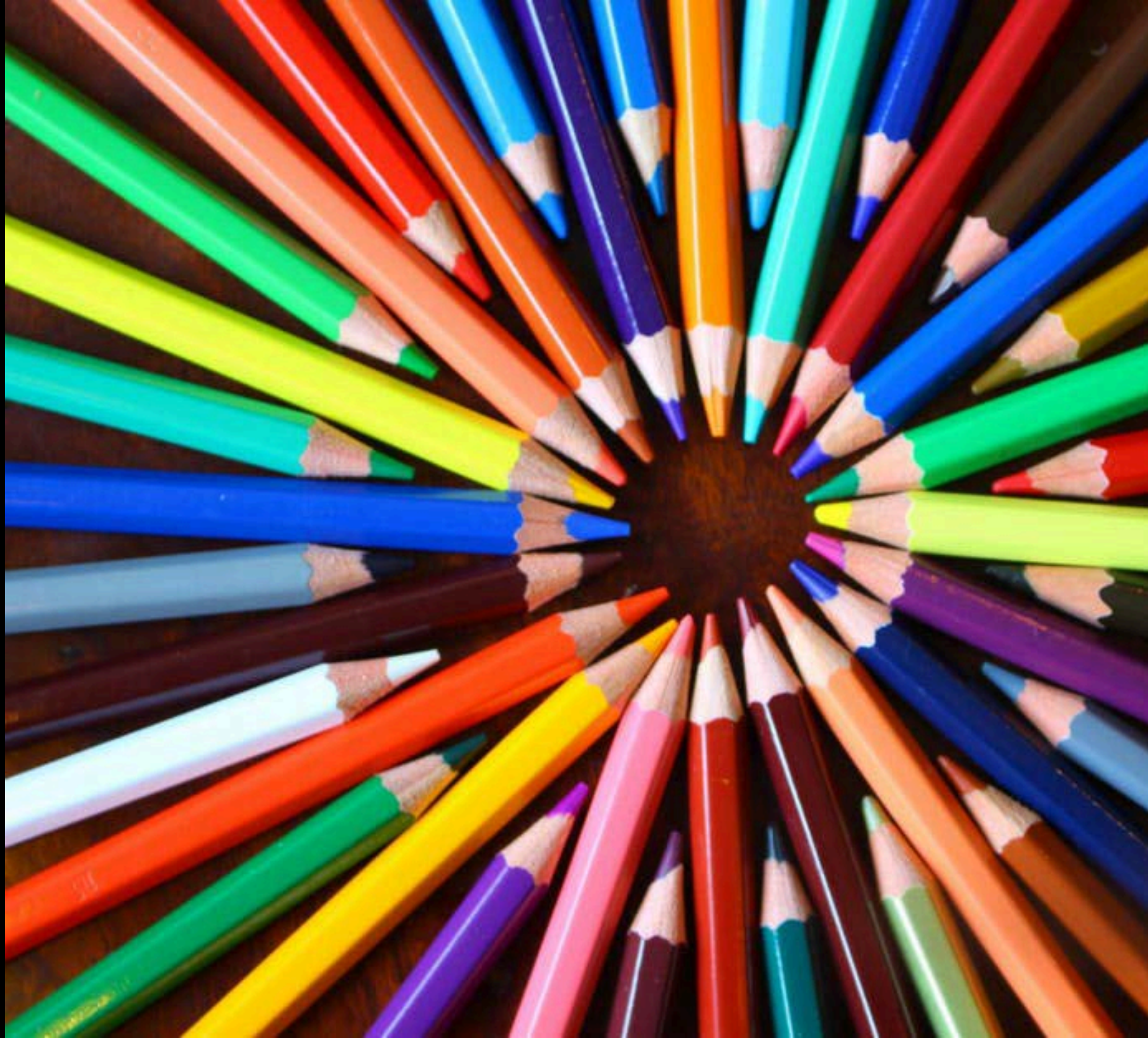
- Wood is best if the natural grain shows through....no high gloss red, yellow or orange undertones
- Painted furnishings are best in espresso, charcoal or black
- Look for rounded corners that are safe and nice to touch
- Keep it simple-no intricate styles
- Chairs with arms or wraparound styles are great for doing work
- Arrange the furniture in a way that makes sense for daily activities.
- If running from the room in a predictable pattern occurs arrange the furniture so there is not a clear path out of the room
- Move furniture away from shelving to prevent climbing
- Keep furniture clear if you have a sweeper

# Color

People on the autism spectrum detect color at high intensity

To avoid strong visual stimuli opt for subdued, muted tones

Do not use pure, vivid, acidic colors



# Using color

- Color used in tonal blocks helps to distinguish space
- Lighting and shade helps build relationships between space and the person
- Consider colors in day light and in artificial lighting conditions
- If your child likes primary colors do not use those colors on walls or clothing....they may pay more attention to them than to people
- Wear favorite colors when you want them to pay attention to you
- If luminous colors are preferred pick small items like chairs or picture frames to use them



# Safety

- Safety at home is a concern for us all. Safety with children on the spectrum involves many more aspects due to the multitude of behaviors that can be present.



# Locks

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- Gates with locks are easy to install and will prevent children from going in unsafe areas.
- Cabinet flex locks work in kitchens and bathrooms to keep curious children away from harmful objects.





# MIRRORS

- Avoid glass mirrors if your child pounds on things....use acrylic instead.
- Avoid glass, metal and sharp corners at low levels that can be bumped into.
- Consider plexi glass windows to prevent injury from pounding or throwing objects.



# Electricity

- Children on the spectrum are often curious about how things work. Care should be taken to cover outlets and prevent having a multitude of wires that curious hands may play with.
- Keep cords secured to prevent tripping over them.
- Hide wires from appliances that are easily accessible. Do not keep counter top appliances plugged in.



01

Use blinds or shades that do not have cords

02

Use alarms on windows and exterior doors to prevent elopement or to alert you they are trying to leave

03

Alert police and fire departments that you have a wanderer

04

Use plastic knobs on appliances, ovens and doors

05

Never leave a child alone with a fireplace or grill running

06

Use a sticker on a child's bedroom window to identify it

07

Have peers and adults model good behavior

Other safety considerations

# Alerts

- Use bracelets, necklaces, labeled clothing, fanny packs or backpacks with identification if your child is a wanderer or cannot communicate their personal information if lost
- Tracking devices, perimeter systems or service dogs are a great help to prevent elopement
- Be sure to reinforce safe and appropriate behavior
- Be consistent with consequences for unsafe or inappropriate behavior
- Use social stories, pictures or words to prepare for safety issues in the home and in the community.



At devices can assist in a variety of areas:

Sensory stimuli

Motor skills

Communication

Participation in academic tasks

Organization

Increase independence that will assist with behaviors

Social interaction

Transitioning

# Assistive technology

# Four areas of AT devices

- No tools (NT):- strategies, actions, environmental arrangements ; no tangible item or material
- Low tech tools (LT): items that are not electronic or battery operated; low cost easy to use, no voice output
  - Dry erase boards, clip boards, binders, photo albums, picture cards, choice boards, hi- lighting tape
- Mid tech (MT):-simple electronic , battery operated items; simple voice output devices
  - Tape record, timers, calculators, simple voice output devices, overhead projectors
- Hi tech (HT): complex devices- higher cost, training to use
  - Video cameras, software, adapted computer hardware, complex voice output devices



# Sensory Needs

No Tech/Low Tech/Mid Tech

No tech

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Visual-use limited colors,  
hang peaceful objects

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Auditory- observe reactions  
to voices, pitch, volume, rate

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Multi-sensory- ensure  
personal space

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Vestibular-stretch breaks to  
get up and move



## Low tech

Oral-gum, water, chew toys

Proprioception-rolled mats, pillows, weighted vests

Vestibular-seat cushions, balls, swings, different chairs

Multi-sensory- cards to communicate needing a break

Visual-neutral colors

Tactile –koosh balls, soft objects to hold for comfort

# Mid tech

01

Choice boards  
with visual  
output

02

Computer  
games

03

Software  
programs

04

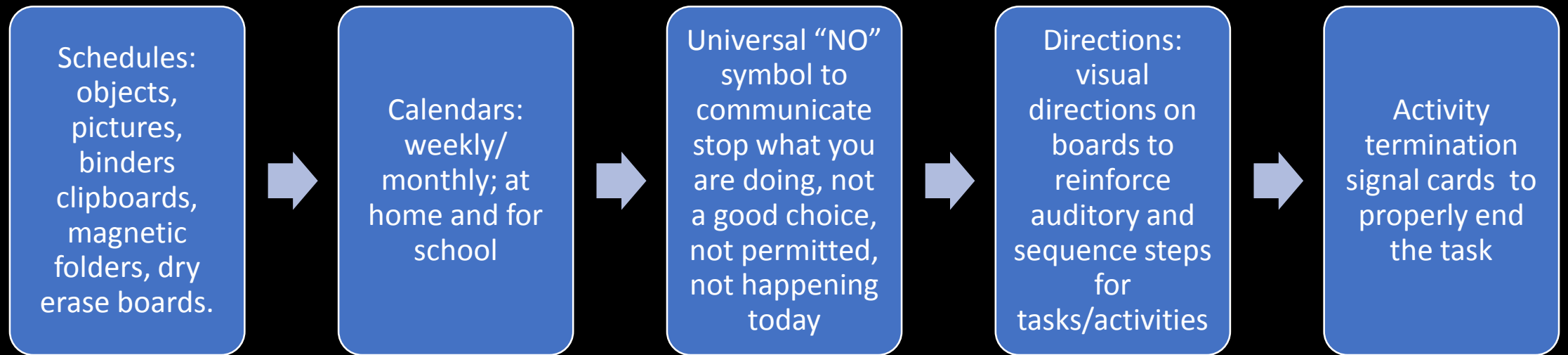
No high tech  
devices to  
meet sensory  
input needs



# Communication

Receptive / Expressive

# Low Tech



## No tech

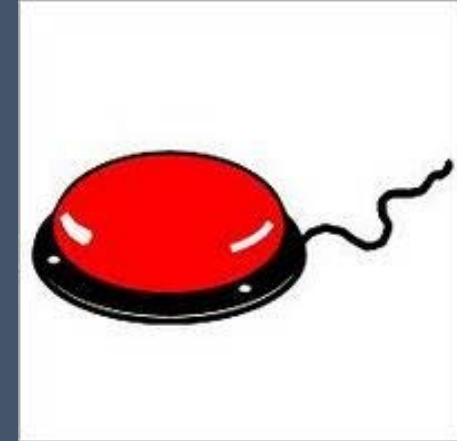
- Pauses to allow processing time

## Low tech

- Picture communication board
- PEC cards
- Break cards
- Choice cards
- Finished cards
- Past event cards to communicate daily events

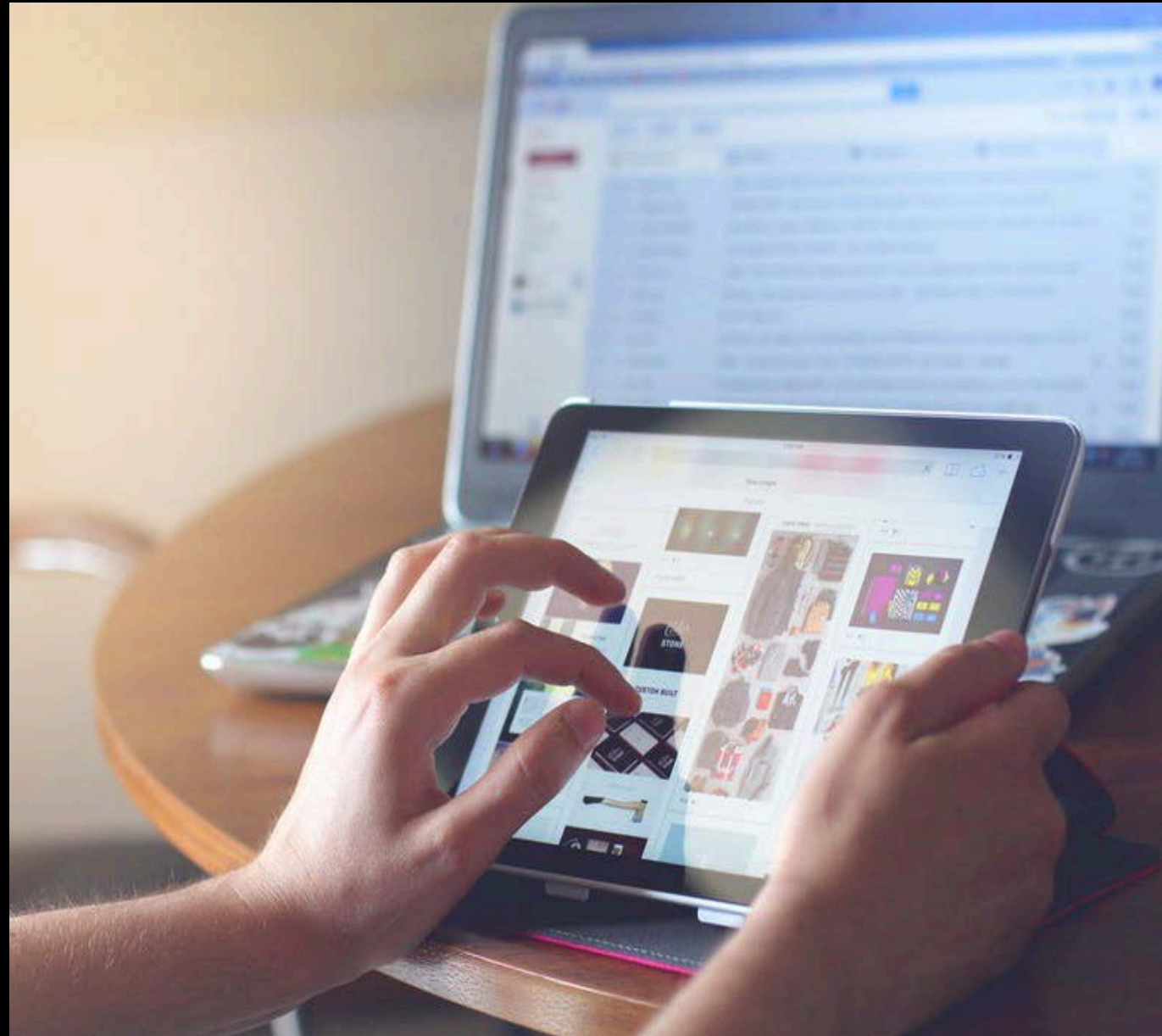
# Mid Tech

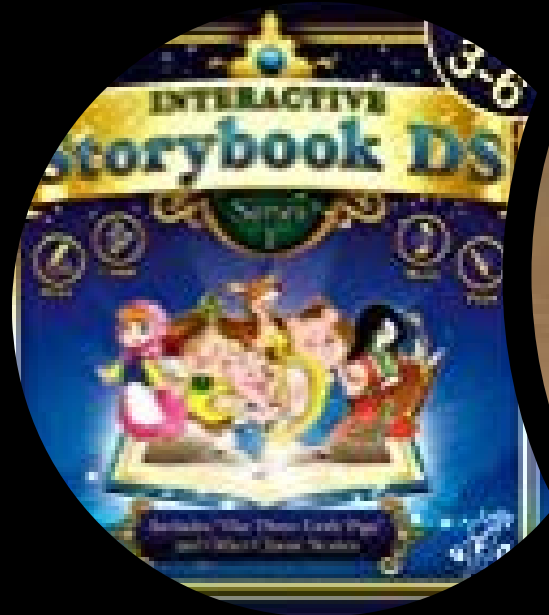
- One message speech generating devices
  - Word processor
  - Interactive stories
  - Computer
  - Calculator
- 
- Multiple message speech generating devices



# Hi Tech

- Computer software
- Videotaping
- Intelli keys
- Big keys
- E books
- Touch screens
- Digital cameras
- Track ball







The image features a dark gray background with a central white horizontal band. Behind the band, there are three overlapping circles in shades of blue, arranged horizontally. The word "Behaviors" is centered within the white band in a dark blue, sans-serif font.

Behaviors

# Low tech

- Visuals provide the best support:
  - Display rules and expectations of good behavior
  - List good choices
  - List alternative behaviors
  - Help to self regulate with pictures/words
  - Use reward cards
  - Use finished cards



# Mid tech

- Timers
- Video recorders

# High tech

- Computers
- Videos
- Concept mapping software





# Organization

No-Low Tech/Mid Tech/High Tech

# No Tech/Low Tech

Have defined  
work space

Use color  
coding

Hi-light things  
to remember

Use calendars  
and schedules

Make to do  
lists

Organize with  
paper note  
books

## Mid Tech

- Simple speech devices
- timers
- Digital recorders
- Software
- Electronic reminders
- Cell phones
- Electronic scheduling tools

## High Tech



# Social Interactions

No Tech/Mid Tech/High Tech

Social scripts

Social stories

Wait cards

Help cards

Turn taking  
cards

One message  
devices

No Tech



Mid Tech

High Tech

- One message devices
- Speech generating devices
- Audio recording
- video recording
- computers



# Transition

Transitioning is often very difficult for children on the spectrum. Moving from one place or activity to another may cause unwanted behavior. Preparing for transition can alleviate stress and instill coping behaviors.

No Tech

Low Tech

Practice steps for change in activity during quiet times

Use signals to terminate activities and cues to signal new activities

Write schedules using words and pictures to communicate when a change in tasks will happen



8:30	Put away lunches
9:00	Laundry.... Start fold deliver
9:15	Coffee time
9:30	Worksheets
9:45	Exercise
10:00	Group Activity
10:15	Lotion to hands
10:30	Check supply closet
10:45	Roll ball on back in classroom
11:00	Lunch
11:15	Adls/ relaxation time
11:30	Wipe tables
11:45	Sweep Floors
12:00	Wipe coolers
12:15	Laundry.... Check washer, dryer, fold and delive



Mid Tech

High Tech

- Use timers and watches
- Use videotapes to see changes in activities.


Thank you so much for coming to this presentation. I hope that I have provided you with “food for thought” and ideas to help children work, play, learn and live happily at home. Please feel free to contact me if I can assist you in any way.

[Stephanie@dwellnpeace.com](mailto:Stephanie@dwellnpeace.com)





# References and material

- What you see in this presentation is a culmination of 36 years of experience working with people who have autism, sharing close relationships with friends who live with autism and accumulating material from a variety of agencies that dedicate their time, energy and money researching and providing services to people on the autism spectrum. I have read numerous articles, attended trainings and conferences and communicated with many “experts” to amass the information to share with you.
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Pathfindersforautism.org  
Autismparentingmagazine  
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Information was provided by the following: