Kingsfield Primary School

The Active Learning Trust

SEND CPD: Sensory Processing Differences

Cambridgeshire County Council

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ANY QUESTIONS FROM THE PREVIOUS TRAINING ON SOCIAL COMMUNICATION DIFFICULTIES?

WHAT WILL BE COVERED

- An overview of sensory systems
- Sensory processing model
- Current evidence and intervention
- Regulation (Sensory Modulation)
- What strategies can help
- Graduated approach

Please can you rate your current knowledge on a scale of 1 – 10 and post in the chat box with your initials.

Sensory processing differences can be experienced by many children for various reasons.

Four area of SEND Need (SEND Code of Practice, 2014)

Speech and Language Difficulties:

Autism Spectrum Disorders
Receptive and Expressive Language Difficulties
Speech Disorders

Cognition and Learning:

Specific Learning Difficulties (SpLN): Dyslexia, Dyscalculia, Dyspraxia and Visual Perceptual Disorder.
MLD, PMLD and SLD – Global Delay

Social and Emotional Mental Health:
Attention Deficit Hyperactivity Disorder
Anxiety Disorders, Eating Disorders, Social Disorders
Trauma /Attachment Disorder
Depression (Mental Health Issues)

Sensory and Physical Needs:
Visual impairment
Hearing impairment
Multi-sensory Impairment
Physical Disability: Cerebral Palsy
Sensory Processing Difficulties

AN OVERVIEW OF SENSORY SYSTEMS

HOW DO WE USE OUR SENSES IN EVERYDAY LIFE?

The 5 Senses that carry information from the world outside –

- sight
- taste and smell
- touch
- hearing

Visual Sense

The perception of light, shape and movement, visual integration helps to attach meaning to things in the environment.

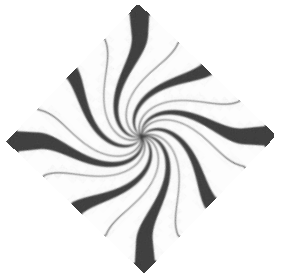
Children can be both attracted by and disturbed by light levels.

Flashing lights, fluorescent lights and sudden lights can cause behavioural reactions.

Light levels can also be soothing and calming

Sensory Detective

Overly Sensitive	Under sensitive
• Dislikes bright lighting • Prefers dark environment • Is distracted by visual information	• Takes more visual information to react • Likes bright environments, reflective items or spinning lights.



Gustatory (taste) and Olfactory (smell) Sense

Sensory receptors in the tongue and the nose.

In the tongue receptors can distinguish sweet, sour, bitter and salty. These are important to keep us safe from harm.

The nose provides us with information from particles in the air, directly linked to the brain. Smell can activate emotion directly, create memories and this can influence our reaction to future smells.

Sensory Detective

Overly Sensitive	Under-sensitive
• Dislikes strong tastes and smells • Only likes bland food • Tastes or smells objects • Likes consistent temperature of food either hot or cold. • Gags easily • Over-reacts to new smells	• Eats non-food items • Has lots of hard crunchy food in diet • Craves strong tastes • Under-reacts to good, bad or new smells

Tactile (Touch) Sense

Two different systems:

Discriminatory: Tells you where and what you are touching. So that we don't have to rely on visual cues.

Protective: Reacts to light and unexpected touch and alerts us to danger.

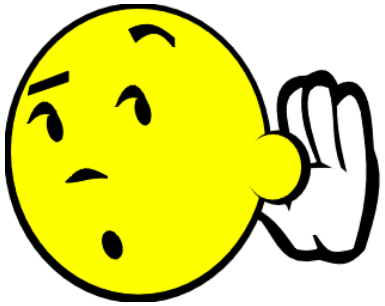
Both work together to protect us and help us to adapt to different sensations

If not in balance child or person can experience touch as painful, intrusive and anxiety provoking, sometimes the anticipation of touch can cause reaction (e.g. standing in line, being in a crowd)

Child can also seek touch, usually deep pressure touch.

Sensory Detective

Overly Sensitive	Under-sensitive
• Fussy • Avoids • Loves or hates hugs • Mouths objects • Only likes certain textures – clothing • Dislikes or really likes messy play. • Can react aggressively to another's touch • Feels pain and is very sensitive to temperature	• Takes firm touch to respond to stimuli (to register) • Is sometimes heavy handed • Over-grips objects • Is sometimes too close to others • Has difficulty responding to pain/temperature.



Auditory (hearing) Sense

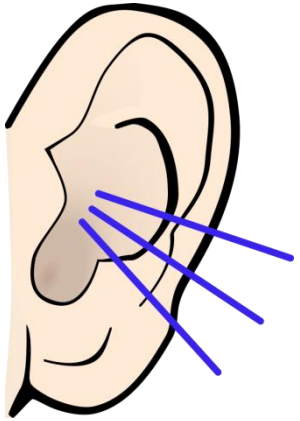
The sounds we hear and ability to listen and discriminate, works with the other senses to make sense of what we hear.

Sudden loud noises can alert.

Background noise can be hard to filter out and disproportionate attention can be paid to it.

Sensory Detective

Highly Sensitive	Low Sensitivity
• Noise levels feel magnified • Dislikes loud noises • Likes to chew to damp down sound • Becomes anxious about expected sounds (school bell) • Talks loudly	• Enjoys really loud noise • Fails to pick up expected cues.



Senses that tell us what is happening in our bodies

- Our sense of body position and movement. From our joints and muscles -**proprioception.**

- Our sense of head position and movement. From the balance system in our inner ear – **vestibular.**

- Our sense of temperature, pain, hunger, full bladder, sensations we may experience as emotions etc – **interoception**
- Awareness of the world in relation to yourself **- exteroception**

Proprioception (position and movement)

Information from our muscles and joints which tells us about our body's position in space, without reliance on visual input.

Important for smooth movement.

Children with poor proprioception have difficulty doing things with their eyes closed.

Being physically active can help us be both alert and calm at the same time.

Sensory Detective

Overly Sensitive	Not sensitive enough
• Hates spinning and jumping • Becomes dizzy easily or not at all • Hates a busy place full of movement. • Avoids feet off the ground (swings)	• Is always on the go • Has difficulty sitting still • Is constantly fidgeting/tapping • Runs rather than walks • Takes risks • Is fast but not always well coordinated.

Vestibular (Gravity, head movement, and balance)

Situated in the inner ear, receptors respond to gravity and the position of the head to tell us where we are in relation to gravity, whether we are moving fast or slow and in what direction.

Difficulties with the vestibular system can lead to feeling dizzy and to motion sickness. Children with poorly integrated vestibular systems can feel insecure when their feet are not on the floor or alternatively can spin without getting dizzy.

Sensory Detective

Overly Sensitive	Not sensitive enough
• Doesn't like others being too close • Creates own boundaries (sometimes this person will always be at the end of the line) • Removes self from crowds	• Bumps into/trips over things/people • Stands too close to others • Puts self into small spaces or pushes in corners of rooms • Looks at feet when going down the stairs

A Model of Sensory Processing

	Passive Behavioural response	Active Behavioural response
Under Reactive system High Neurological threshold (Big glass)	Low Registration Misses sensory stimuli/slowed responses/ doesn't notice what others do	Sensation Seeking Enjoys sensory stimuli/ creates sensation in the environment
Over Reactive System Low Neurological threshold (small glass)	Sensitivity to stimuli Distractibility or discomfort with sensation	Sensation Avoiding Limits exposure to sensory stimuli

Children (and adults) can experience sensory differences that limit their participation or prevent them from doing activities that people of a similar age manage easily.

When this happens they may benefit from specialist help.

Council for Disabled Children (2020)

Completing a sensory checklist if you believe a young person has sensory differences.

Sensory Checklist

From *Raising a Sensory Smart Child, © Biel & Peske, 2005,2009*

TOUCH	AVOIDS	SEEKS	MIXED	NEUTRAL
Being touched on some body parts, hugs and cuddles	❑	❑	❑	❑
Certain clothing fabrics, seams, tags, waistbands, cuffs, etc.	❑	❑	❑	❑
Clothing, shoes, or accessories that are very tight or very loose	❑	❑	❑	❑
Getting hands, face, or other body parts "messy" with paint, glue, sand, food, lotion, etc.	❑	❑	❑	❑
Grooming activities such as face and hair washing, brushing, cutting, and nail trimming	❑	❑	❑	❑
Taking a bath, shower, or swimming	❑	❑	❑	❑
Getting toweled dry	❑	❑	❑	❑
Trying new foods	❑	❑	❑	❑
Feeling particular food textures and temperatures inside the mouth—mushy, smooth, etc.	❑	❑	❑	❑
Standing close to other people	❑	❑	❑	❑
Walking barefoot	❑	❑	❑	❑

Performance or Goal-Oriented Sensory Approaches

- The intention is to manage rather than change
the person's sensory needs by:
  - o Identifying their sensory strengths and differences
  - o Adapting the environment
  - o Modifying the task
  - o Developing strategies to help the person manage their own sensory needs.
- The theoretical basis for this approach is aligned to occupational therapy models.
- Occupational therapists are skilled in providing these interventions on graduation.

Up to date Research review:

Evidence suggests self-management strategies can be successful in enhancing performance and participation (Dunn et al 2012) and performance orientated
approaches support a better fit between
the young person, their environment and the task (Rodger et al 2010).
Such **'top down'** approaches which focus on improving functional activity performance and participation have been identified as the most effective interventions (Novak and Honan 2019).

Intervention

- Always look holistically – sensory is one piece of the puzzle
- Identify individual sensitivities and needs
- Identify individual strategies
- Build sensory strategies into individual plans
- Use sensory strategies sooner rather than later
- **Support self management of arousal**

Asking the following questions will help you to decide whether an intervention approach is right for a child:

• Will the intervention help this child do the everyday activities that he/she needs, wants or is expected to do?

• What evidence is there that this intervention will make a difference to this child's daily life?

• What exactly does the intervention involve? What will this child be doing?

• How much intervention will be needed – how often and for how long?

• Are parents/carers involved in the therapy process? And if so how?

• How will you know if the intervention has made a difference?

Council of Disabled Children (2020)

Individualised Sensory Toolkit

This is an example but you may need external professional support to work through a sensory profile and link strategies into a 'top down' approach.

Assembly:

Child is overly sensitive to another child's touch and can become aggressive.
Child dislikes loud noise and likes to chew to dampen down sound.

Sensory Toolkit for this situation to enable them to join assembly:

- Ear defenders in case noise levels get to an intolerant level.
- P or Q chew to manage sound
- Seated on bench to side of hall rather than in the class row.

Independent Learning:

Child is not sensitive enough to movement so is always on the go and has trouble sitting still.
Child is overly sensitive to visual information.

Sensory Toolkit for this situation to enable them to sit and learn:

- 1 km run before table top work or bouncing on a mini trampoline.
- Wobble board for under the table or physio ball chair at table.
- Work station for independent work.

Occupational Health Involvement

Practice
Briefing

College of Occupational Therapists

Sensory Integration

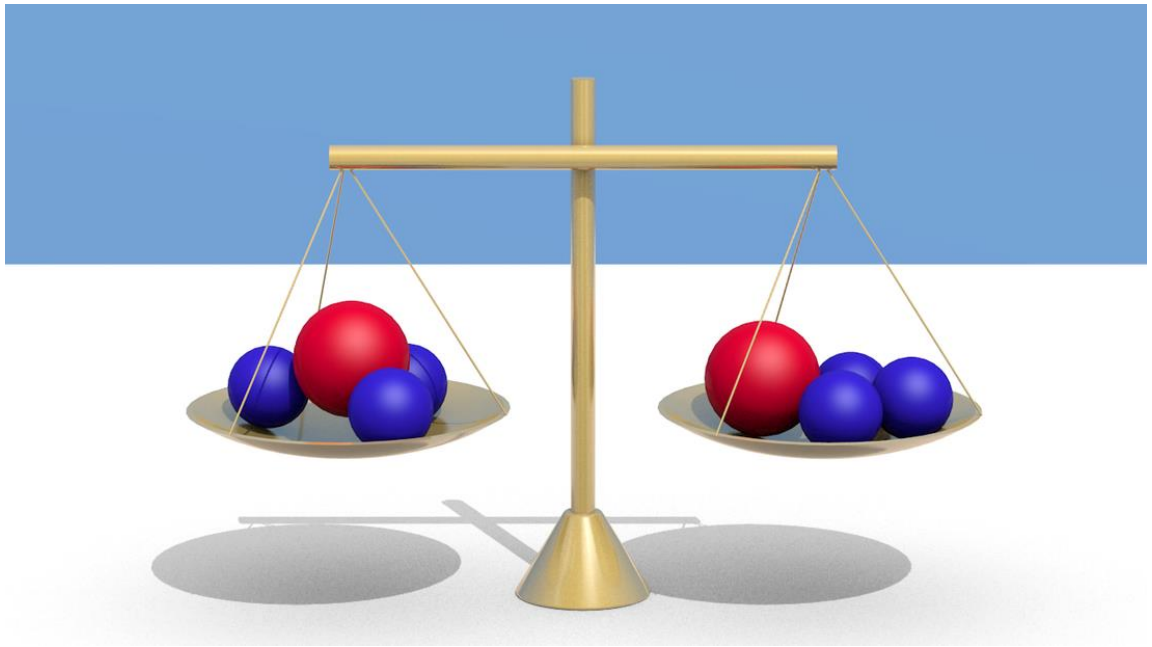
Published: April 2015
Lead group: Professional Practice
Country relevance: UK wide

4. Should an occupational therapy assessment focus only on sensory issues?

The focus for assessment should not be only on sensory issues. It must be on occupations which are important and meaningful for the person and family such as playing/socialising, doing school/college work, taking care of themselves etc.

Occupational therapists do, however, have a key role to play in supporting people with sensory processing issues. This can be done by enabling a better 'fit' between the person, his/her occupations and the environment (Rodger et al 2010). An occupational therapists' knowledge of sensory processing can be used to offer insight for families and carers into the sensory needs of a person which facilitates a better understanding of behaviour (Cohn, Miller and Tickle-Degnen 2000; Dunstan and Griffith 2008).

Regulation



Sensory Modulation

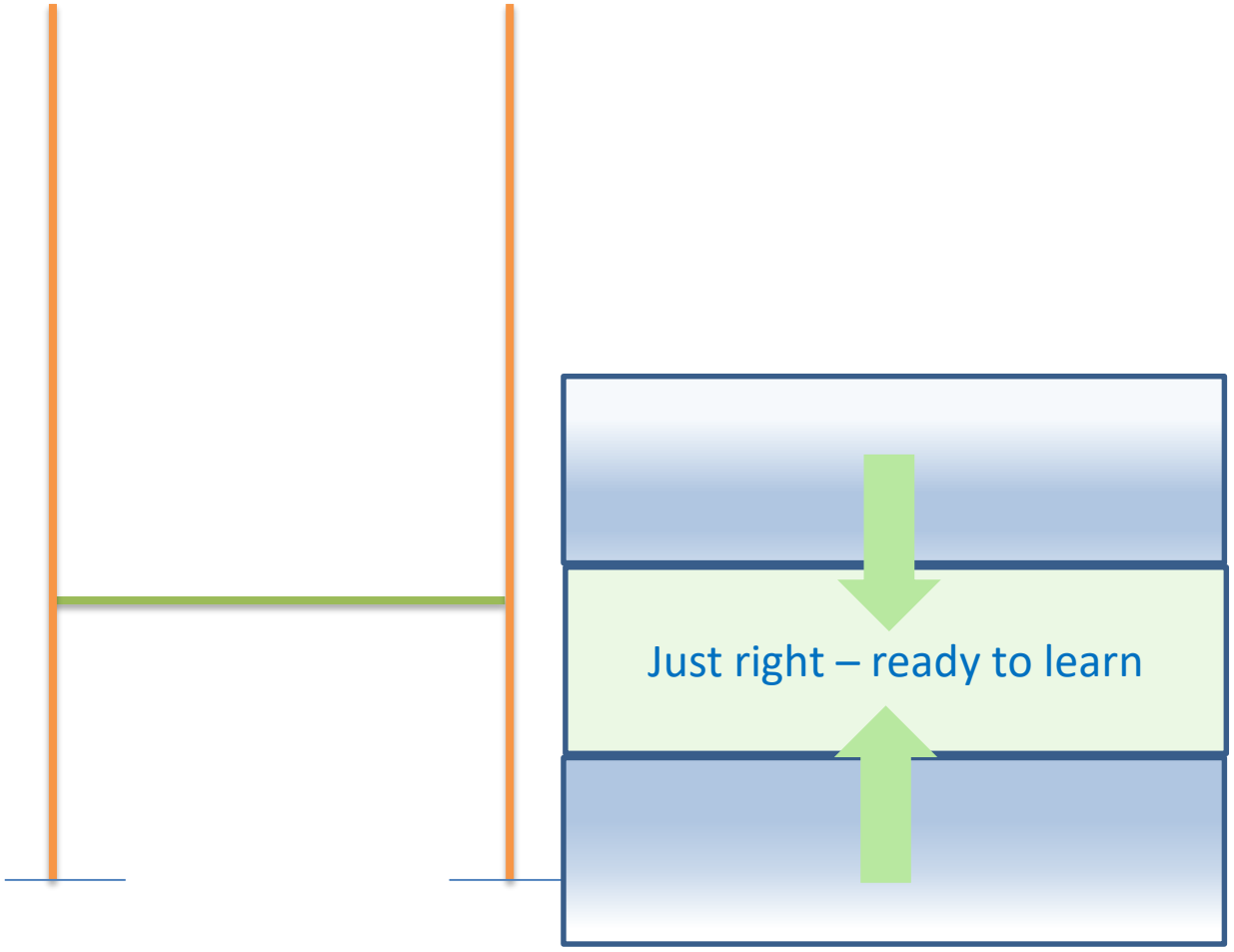
- The ability to regulate and organise the degree, intensity and nature of responses to sensory input in a graded and adaptive manner
- Strongly influences arousal levels
- Allows people to maintain an optimal level of performance and adapt to challenges in everyday life.

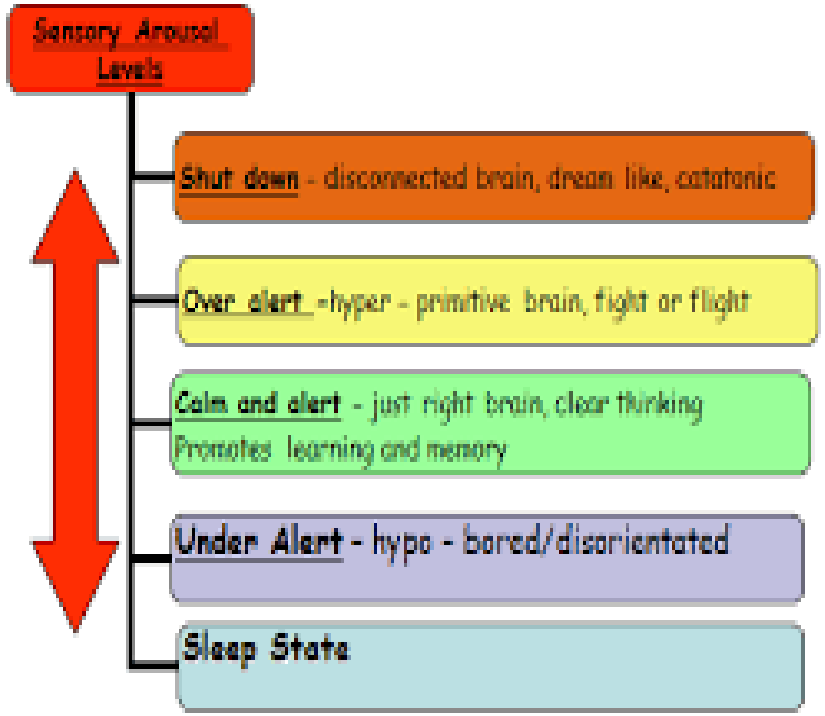
The Senses and Emotion

- Our senses can help us to
  - Relax/Calm Down
  - Be more alert/energised
  - Be in tune with our body and the world
  - Feel more organised
- Sensory preferences are individual, what calms some may irritate others
- Sensory input is especially helpful where the ability to think clearly is impaired (when we are upset, distracted, stressed or ill)

What do you like?

Thresholds


Just right – ready to learn


Sensory Arousal Levels
Shut down - disconnected brain, dream like, catatonic
Over alert -hyper - primitive brain, fight or flight
Calm and alert - just right brain, clear thinking
Promotes learning and memory
Under Alert - hypo - bored/disorientated
Sleep State

Feeling ‘just right’ you could choose …

- What you choose is dependent upon what you need and is very individual
- For most people, whether you feel a bit ‘overwhelmed’ or ‘not quite right’, engagement in the following activities may help;
- Going for a walk
- Any pushing or pulling activity (heavy muscle work)
- Adding rhythm to an activity

CALMING	ALERTING
Slow	Quick Paced
Simple	Complex
Soothing and	Irritating
Relaxing	Pronounced/High
Soft/Mild	Intensity
Intensity	Non-Rhythmic
Rhythmic	Negative
Positive	Associations
Associations	Unpredictable
Predictable	Novel
Familiar	High demand
Low Demand	

Characteristics of Calming and Alerting sensations

Sensory circuits work through the arousal states in a consistent order – alerting, organising and calming.

Or you could choose … to be more alert

Movement:

- Fast swinging
- Bouncing on ball, mini trampoline
- Running tag games, hide and seek, running errands
- Cold water play
- Jumping aerobics
- Jogging

Oral:

- Drinking ice cold water or crushed ice
- Crunchy food (eg raw vegetables)
- Yawning

Smell & Taste:

- Citrus, Peppermint
- Strong fragrances
- Strong or spicy
- Sour or bitter
- Pickles

Visual:

- Bright colours/lights
- Abstract Art
- Complex visual images
- Changing patterns of light
- Cause and effect toys with sounds and lights
- Bright lights
- Visually stimulating rooms

Touch:

- Light stroking
- Prickly or squishy
- Cool room
- Fiddling with stress toy
- Use of fidget toys
- Fresh cool air

Auditory:

- Loud, and fast music
- Whistling
- Singing loudly
- Percussion instrument
- Rock music

Or you could choose … to be calmer

Smell & Taste:

- Soothing, scents - vanilla,
- Sweet flavours
- Porridge and brown sugar
- Apple juice
- Sweet fruits

Visual:

- Soft warm colours
- Natural or dim lighting
- Fish aquarium
- Bubble lamp
- Clean and sparsely furnished room

- **Auditory:**
- Soft Slow music
- Classical music
- Humming
- Simple melody
- Repetitive sounds
- Relaxation/meditation

Oral:

- Sucking sweets or using a curly straw to such liquid (particularly thick)
- Chewing, blowing
- Chewing granola or fruit bars, dried fruit, gums, resistive chewing:, chew tubes,
- Blow Toys, blowing bubbles
- Lollipops

Movement:

Linear input -
Slow rhythmic movement
Rocking
Swaying
gliding

- Swimming
- Adding rhythm to an activity
- Hanging from a trapeze or monkey bar
- Pushing or pulling heavy loads
- Inverted positions
- Adding deep pressure within an activity

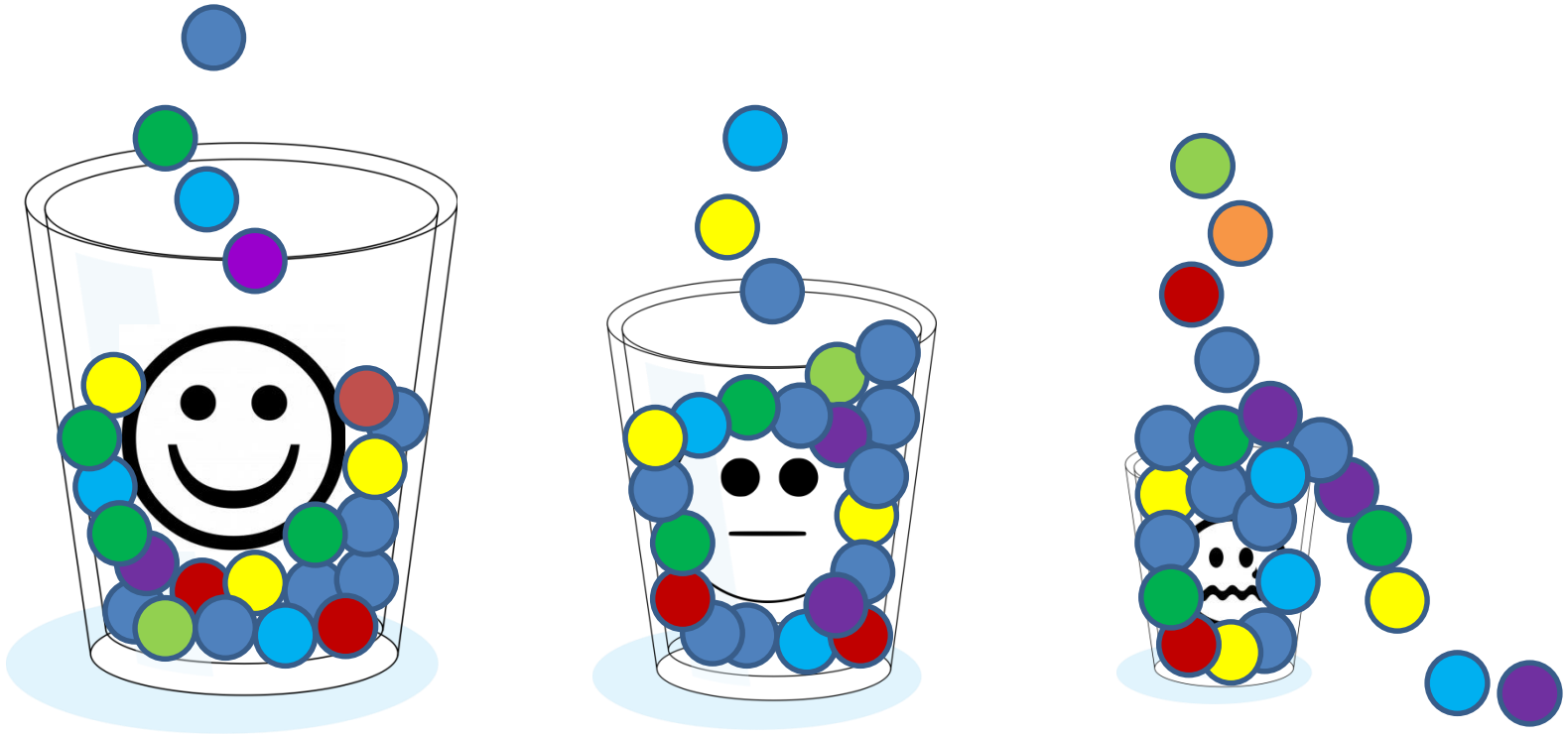
Proprioception:

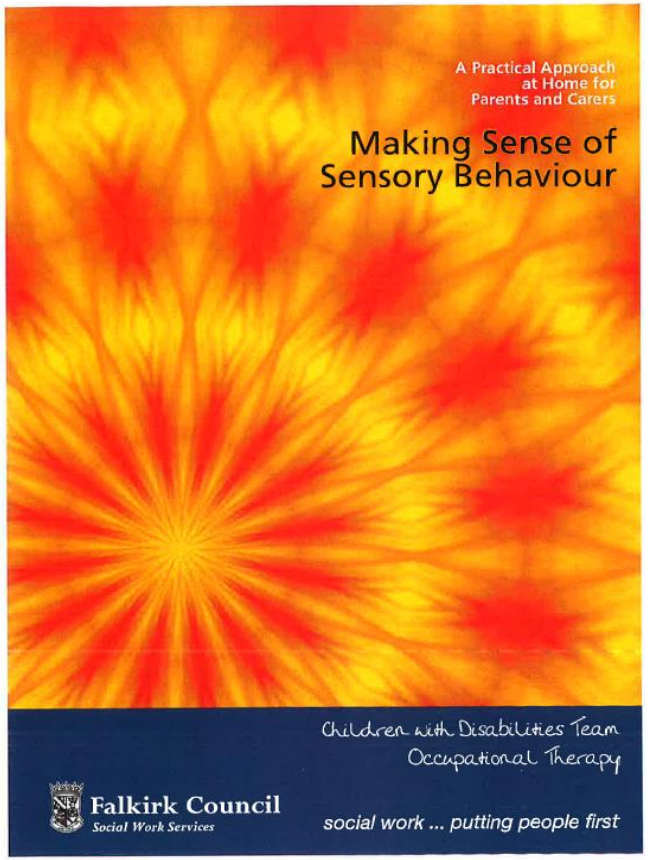
- Movement against resistance
- Exercise bands & equipment
- Stress ball –squeezing
- Climbing push & pull activities
- Stretches
- Snuggling in bean bag/pillow
- Lycra clothing
- Yoga, Tai Chi
- Fidget toys

A way to describe self regulation

https://www.cambscommunityservices.nhs.uk/cambridgeshire-children's-occupational-therapy

http://bit.ly/NHScambsOT-sensorylearning





Examples:

If you can think in pictures -

Picture Feeling	What I do
Calm	Feel positive and able to attend to tasks.
Slightly anxious	Helps to play with fidget toy or Gameboy (likely if waiting in queue).
Very anxious and angry	Will tell mum and get out of situation for a few minutes.

If you think in numbers -

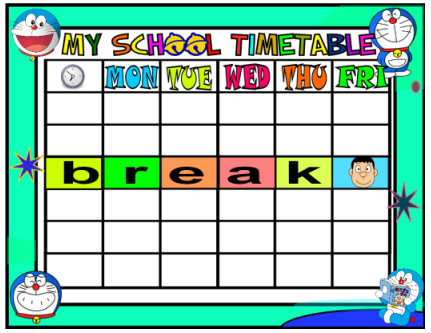
Picture Feeling	What I do
1 Calm	Feel positive and able to attend to tasks.
2 Slightly anxious	Play with fidget toy or Gameboy (likely if waiting in queue).
3 Quite anxious, feel hot and flustered	Ask for a drink of water to calm down.
4 Anxious, angry, very fidgety	Need to tell someone I need to get out for a few minutes. Go to quiet space and use a sensory strategy that helps.

Responses to touch can cause unwanted behaviour.

Empower young people to self-manage their strategies

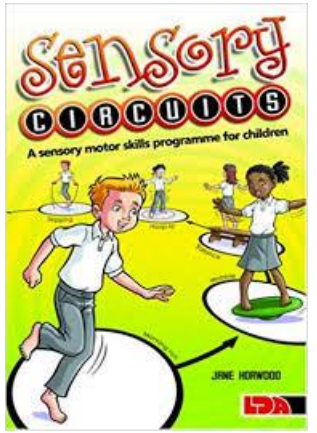
Or you may need …

- A visual timetable
- Now and Next steps
- To know and understand what is happening when there is change (eg school trip)
- A way to communicate how you are feeling
- Someone to help me to feel more settled
- Optimum seating position in the classroom
- Regular breaks away from intensive learning
- Time to settle after break/lunchtime



Low arousal

- Calm environment – Reduces distraction and anxiety: noise levels/colour schemes/smells/lighting/clutter
- This does not mean 'no arousal'
- Plan for new experiences, prepare the young person
- Explore relaxation and arousal reducing strategies – sensory rooms, music, yoga and massage
- https://www.cambscommunityservices.nhs.uk/cambridgeshire-children%27s-occupational-therapy

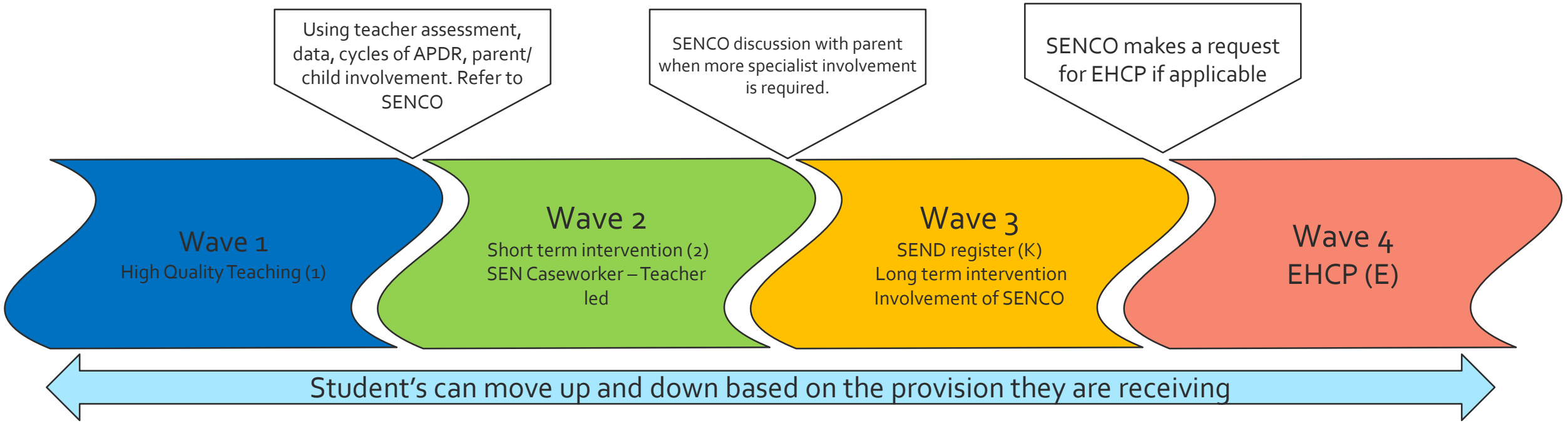


Weighted Garments/products

- Low evidence base
- Although child led – can help towards self regulation, guidance regarding wearing times and amount of weight must be adhered to.
- https://www.sensorydirect.com

Gradated Approach

1 APDR cycle = 6 weeks



Student's can move up and down based on the provision they are receiving

- What every child receives
- All staff responsible for ensuring Wave 1 provision is delivered
- Teacher standards
- Reasonable adjustments
- Class teacher has implemented HQT classroom strategies (pupil profile) and followed 2 cycles of. Assess/Plan/Do/Review.
- Student recorded as (1) on EduKey

- Not making expected progress despite reasonable adjustment at wave 1.
- HQT and Short Term specific intervention required. (specialist, class or curriculum)
- Baseline assessments to be completed with recommendations.
- Student recorded as (2) on EduKey

- In-depth assessment to establish area of need.
- Ongoing, specific support to address child's SEND. Evidenced based intervention monitored by SENCO.
- Young person will have individual learning plan, measurable targets, provision outlined.
- Specialist support from outside agency.
- SENCO involved in coordinating provision, assessment, measuring impact and liaising with outside agency.
- Student recorded as SEND support (K) on SIMS

- Support over and above, additional and different.
- Highly personalised and closely monitored specialist provision.
- Specialist support form external services.
- Student recorded as EHCP (E) on EduKey

Graduated Approach for Attention and Listening

Using teacher assessment, data, cycles of APDR, parent/ child involvement. Refer to SENCO

Wave 1

High Quality Teaching (1)

- What every child receives
- All staff responsible for ensuring Wave 1 provision is delivered
- Teacher standards
- Reasonable adjustments
- Class teacher has implemented HQT classroom strategies (pupil profile) and followed 2 cycles of. Assess/Plan/Do/Review.
- Student recorded as (1) on EduKey

Assessment:

Teacher observation of sensory behaviours using model:

- They may bump into furniture
- Constantly on the go
- Overly sensitive to sound
- Overly sensitive to touch – avoids messy play

See previous slides to make sense of sensory behaviours.

Reasonable Adjustments for children with sensory processing differences:

- Use their name to ensure you have their attention.
- Movement breaks / a job to do.
- Organising activity – puzzle, lego, colouring
- Fidget toy – I know what my hands are doing
- Good chair – feet planted and arms to chair to provide stability.
- Reduce language to keep it focused. **Focus on what they need to do.**
- Recap with them to ensure they have understood learning task.
- Whole class visual schedule.
- Visual scaffolding
- Schedule regular check-in times
- Use a visual timer to support focused learning
- Seating in class with minimal distraction around them – front near teacher
- Seated at the end of the row in assembly or lining up.
- Emotions fan available to children.

Example of APDR target:

Tom will be seated at the end of the line in assembly, and have headphones available to prevent him becoming overwhelmed. The number of times Tom is able to participate in assembly will be the measure.

Graduated Approach for Attention and Listening

SENCO discussion with parent when more specialist involvement is required.

Wave 2

Short term intervention (2)
SEN Caseworker – Teacher led

- Not making expected progress despite reasonable adjustment at wave 1.
- HQT and Short Term specific intervention required. (specialist, class or curriculum)
- Baseline assessments to be completed with recommendations.
- Student recorded as (2) on EduKey

Assessment and observation:

- Displays sensory seeking behaviours
- Displays sensory avoidance behaviours
- **Sensory Checklist**
- Language Links Infant and Junior
- Anxiety mapping / Roots and fruits – Step On tool
- Boxall Profile

Intervention:

- Sensory circuits
- Sensory Toolkit
- Yoga / Mindfulness activities
- Social stories to support sensory toolkit
- Comic Strips
- Recommendation from Language links
- Emotional Literacy programme (ELSA resources)
- Talk Time (SEMH focus) – Big Books of Blobs

Example of APDR target:

Tom will attend daily sensory circuits in the morning. The time Tom can attend will be measured, at the end of a term there will be a week of no circuits to measure the impact.

Graduated Approach for Attention and Listening

SENCO makes a request for EHCP if applicable

Wave 3

SEND register (K)
Long term intervention
Involvement of SENCO

- In-depth assessment to establish area of need.
- Ongoing, specific support to address child's SEND. Evidenced based intervention monitored by SENCO.
- Young person will have individual learning plan, measurable targets, provision outlined.
- Specialist support from outside agency.
- SENCO involved in coordinating provision, assessment, measuring impact and liaising with outside agency.
- Student recorded as SEND support (K) on SIMS

Wave 4

EHCP (E)

- Support over and above, additional and different.
- Highly personalised and closely monitored specialist provision.
- Specialist support form external services.
- Student recorded as EHCP (E) on EduKey

Diagnostic Assessment:

- British Picture Vocabulary Scale (BPVS)
- Conners Assessment for assessing ADHD
- Functional Behaviour Assessment (FBA)
- Referrals:
  - Community Paediatrician
  - Link Speech and Language Therapist
  - SEND 0 – 25 Educational Psychologist or Specialist Teacher

Intervention:

- Specific targets set by external professionals which feed directly into the APDR cycle
- Review of targets 6 weeks later by external professionals or SENDCo.
- Sensory toolkit
- Zones of regulation

Example of APDR target:

Tom will have five minutes a day teaching input on his sensory toolkit so he can learn when he needs to use his different strategies. Record the times in a day Tom independently uses strategies without adult prompting.

Thank you for listening please ask any questions.

It would be great if you could let us know on a scale of 1 – 10 where your knowledge / confidence is on now for meeting the needs of pupils with attention and listening difficulties following the presentation.

https://www.cambscommunityservices.nhs.uk/cambridgeshire-children's-occupational-therapy
http://bit.ly/NHScambsOT-sensorylearning