

# Understanding the Neurobiology of Trauma

*Strategies for Healing Trauma  
Toolkit*

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# Creating safety – supporting the social engagement system

## What you can do to create safety

<b>Environment</b>		<p>A safe environment is paramount. Consider physical, emotional and cultural safety. Is the environment free from violence and abuse, responsive to physical and emotional needs and inclusive of cultural needs. Also ensure the environment considers the sensory needs of the child. Spaces that have too much stimulation - loud noises, bright lights, strong smells or too many pictures on the walls can be overwhelming for children experiencing trauma. Understanding the child's individual needs and providing enough sensory stimulation for growth but not too much so that the child is overwhelmed is the key. Remember safety is an individual experience. What seems safe for one person may not be for another.</p>
<b>Proximity</b>		<p>Consider the child's need for closeness or space. Each child is different. Take into account the context, your relationship and the developmental age of the child. Being attuned to the child will help you to navigate what the child needs. If a child is dysregulated always remain within the line of sight of the child, unless your safety or the safety of others is at risk. Remember time in rather than time out. Any direct contact with the child should be initiated by the child.</p>
<b>Eye contact</b>		<p>Eye contact is an important aspect of social engagement and enables feelings of connectedness and validation. Eye contact can be threatening though to a child who has experienced trauma as their social engagement system is usually on high alert. Consider ways to engage with the child using minimal eye contact. Chatting while driving along in the car, creating art or shooting hoops is a great way to engage the child in conversation and is less threatening than sitting face to face. Remember, each child is different so be guided by the child.</p>
<b>Facial expression</b>		<p>Children who have experienced trauma can often have trouble reading facial expressions and will often interpret expressions as anger or disappointment. Be aware of your facial expressions when engaging with the child. Aim for contingent facial expressions that look to mirror the child's inner experience – this conveys empathy and helps the child to understand themselves and feel heard. When the child is regulated, look for opportunities to assist the child to develop emotional literacy by using cards/games that match faces to feelings.</p>
<b>Tone of voice</b>		<p>Prosody is the rhythm, pitch and tone of the voice, like when a mother alters her voice to soothe her baby. Tone of voice can have a powerful impact on a child's sense of safety. In situations where a child is dysregulated, consider the tone and pitch of your voice. A soft and gentle voice is more likely to deescalate an overwhelmed child.</p>
<b>Posture and gestures</b>		<p>Consider your posture and gestures. How you approach the child will determine how safe or unsafe they may feel. If your posture is puffed up with your shoulders back, the child may read you as defensive and primed to fight. A posture that is strong, yet open and welcoming will help to calm the child. The child's implicit memory system may interpret certain postures or gestures as threatening, so stay attuned to the child and again be guided by them. Mirroring (whilst staying within your window of tolerance) is also important. Mirroring can convey empathy and a sense of feeling heard and this will help with co-regulation.</p>

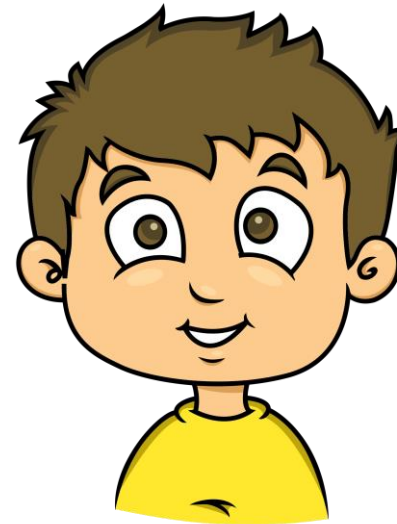
# Creating safety



Environment



Posture and gestures



Proximity



Tone of voice



Eye Contact



Facial expressions



# Brainfood for brainstem: Rhythmic and Repetitive

- Skipping
- Bouncing a ball
- Running / walking
- Hand clapping games
- Rocking – chairs
- Fit balls Bouncing chair
- Squeezing stress balls
- Circle breathing
- Colouring in
- Pen tapping
- Music
- Dance
- Hydrotherapy
- Weighted blanket
- Cushions with textures
- Swinging
- Stroking animals
- Bread kneading
- Water play
- Sewing
- Songs
- Deep breathing
- Drumming
- Marching
- Hammock – swinging
- Singing & percussion
- Feather breathing
- Any textures – plants, fabric, paints
- Magic Paper clay

# Brainfood for Cerebellum: Balance and Movement

- Dancing
- Swinging
- Riding
- Bouncing on a trampoline
- Any sport
- Chewing gum
- Yoga
- Martial arts
- Swimming
- Swinging in a hammock
- Ropes course
- Climbing – over and under
- Scooter/ BMX/Skateboard
- Clapping games
- Jumping rope
- Elastics
- Playing a musical instrument
- Art based activities
- Cross walking
- Rope balance
- Colouring in
- PMP

# Brainfood for limbic: Sensory

- Listening to music
- Playing percussion instruments
- Drumming
- Dancing
- Grounding exercises
- Mindfulness
- Art therapy
- Massage
- Veggie patch
- Meditation
- Grounding exercises
- Shaving cream on glass
- Stress ball
- Sand ball
- Hacky sack
- Hand cream massage
- Written on back
- Feathers
- Animals –Guinea Pigs
- Calm cards – visual that the child/young person selects
- Calm Box- objects that assist in helping the child/young person feel calm



# Brainfood for Cerebral Cortex: Cognition

- Life story work
- Identity shield
- Tell a story through massage on back  
i.e. making Pizza
- Cup tapping
- Drumming with complex patterns to follow
- Identity web
- Problem solving scenarios
- Movement machine
- Mapping
- Card games
- Board games
- Eco mapping
- Home and Away episode

# Brainfood for Prefrontal Cortex: Analytical and Abstract Thinking

- Mindfulness
- Talk Based activities Co-operation and Competition Game
- Would you rather
- Story work
- Yoga
- Ropes courses
- Adventure Activities
- Role playing games
- Ghosting

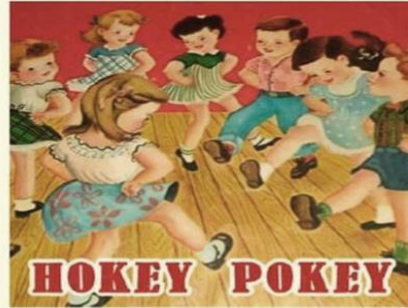
## Activities that build on:

- Focussing attention
- Working memory (the memory we use to make sense of and complete tasks in the here and now)
- Social cognition (understanding the minds of others)
- Attuned communication
- Self-regulation
- Impulse control
- Response flexibility
- Self-awareness
- Judgement and reasoning

# Right – Left Hemisphere development



**Cup tapping/stacking games**



**Hokey Pokey**



**Clapping chants**



**Physical activity/sports**



**Crawling games**

**Mirroring games**



**Tyre agility courses**





# Attunement and Relationship strategies



**Mutual smiling**



**Mirroring games based on facial expressions**



# Attunement and relationship based strategies



## VOICE COPYING





# Attunement and relationship based strategies



## Counting for relaxing



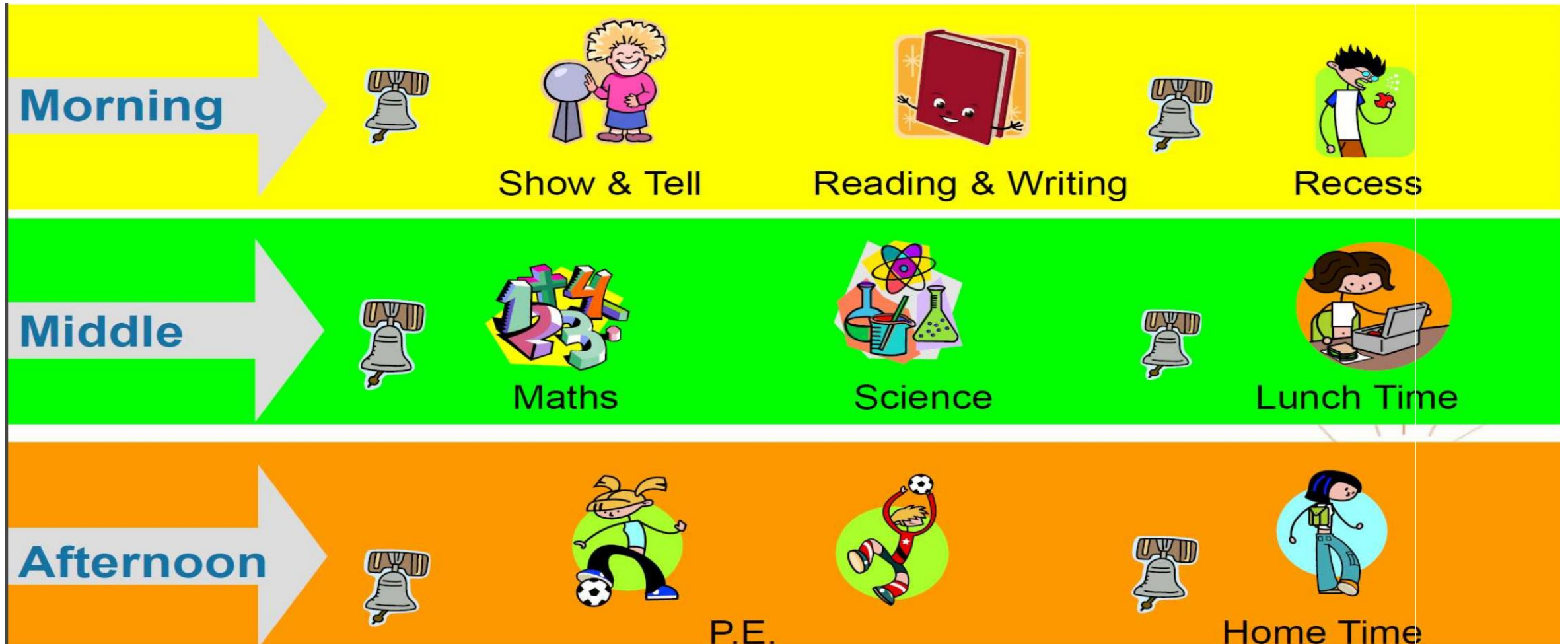
**Hang In There** When I'm upset, I...

- Freeze:** I stop what I'm doing and turn away from what's upsetting me.
- Count Backwards:** I count slowly backwards from 20.
- Belly Breath In:** I breathe in slowly through my nose to the count of 4.\*
- Belly Breath Out:** I breathe out slowly through my mouth to the count of 4.\*

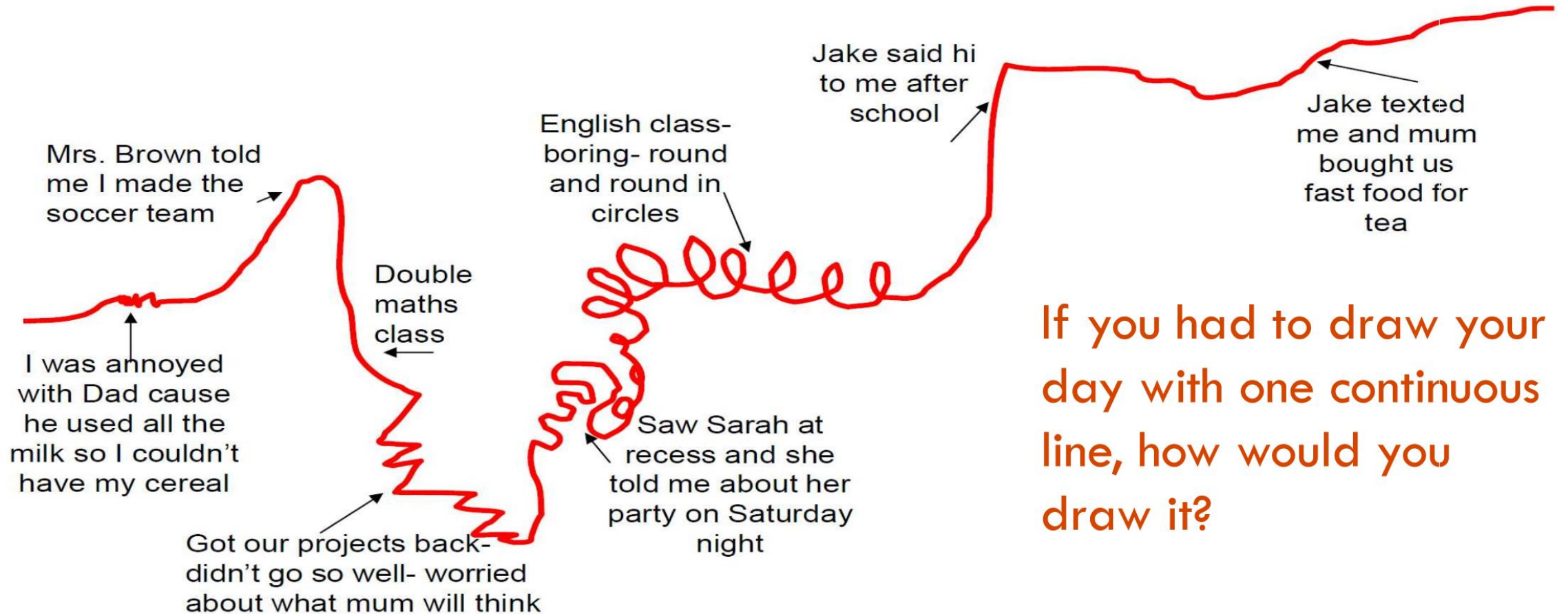
\*Place your hand on your belly. Watch your hand's moving in and out as you breathe.



# Creating predictability – visual timetable



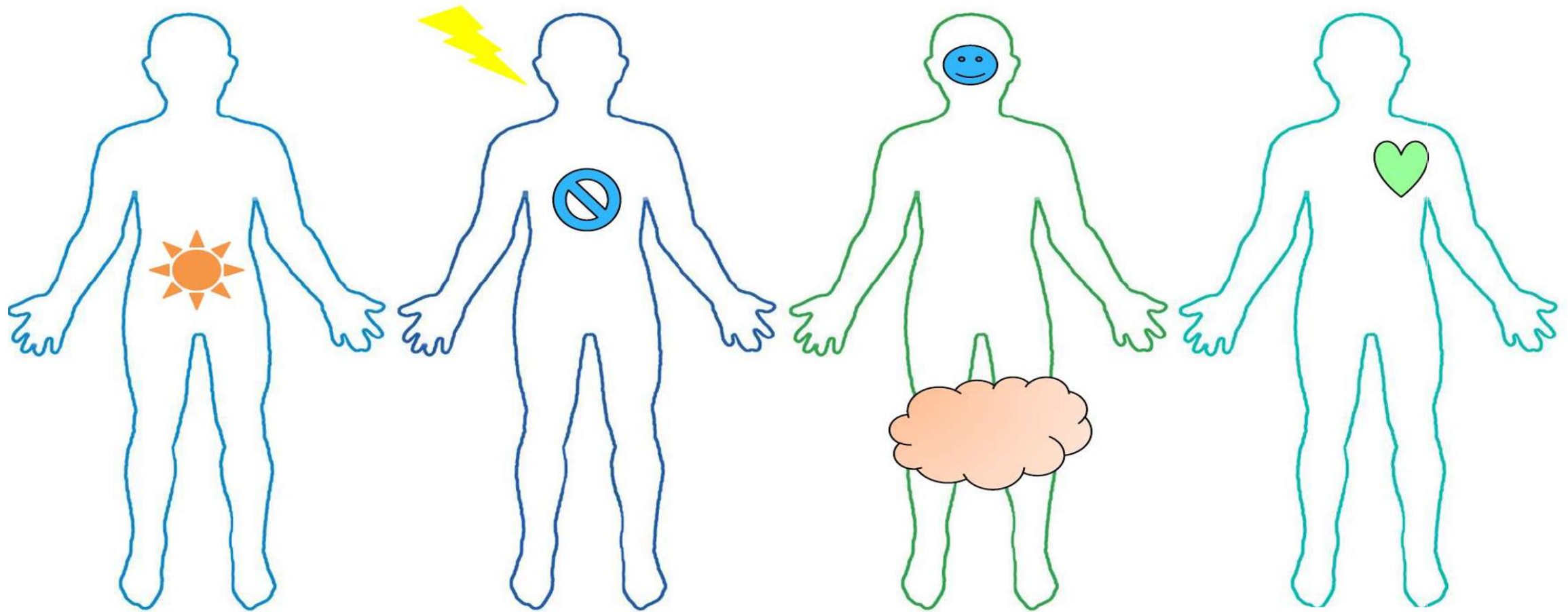
# Building memory - Reflecting on my day



If you had to draw your day with one continuous line, how would you draw it?



# Body awareness - Body scan



# Body awareness – body scan

## AIMS:

- Body Mapping helps children practice tuning into their body, increase body awareness and befriend their inner body sensations

Brain Regions Focus: Limbic Lobe, Diencephalon, Cerebellum

## Age Range:

- 7years – Adult

## Number of children Involved:

- Individual or small group
- After several searches, discuss the Body Map
- Invite the child/young person/adult to describe what they have found and how they felt doing the activity
- Encourage conversation that may enlarge self-awareness and offer a space that may help the child/young person/adult to draw out connections between what was found in the body and their experiences

## When would you use this activity?

- Throughout your contact with the child/young person/adult - It could be used to show how the relationship with their bodies and their self, change over time

## When wouldn't you use this activity?

- This activity should be discontinued if the process results in a high level of distress for the child/young person/adult.

## ACTIVITY:

- Guide the child/young person/adult to tune into their body and then connect each part
- *Tune into your body, check around inside your body and see what you can discover*
- *Begin in your head, and move your awareness gradually from your head down through your body to your toes*
- *See if you can move your awareness through your body and look for the different feelings. See if you can tell what colors and what lines can be used to describe what you find*
- *If you can find them on the body outline*
- *Then relax again and wait for the next feeling/color to look for, sometimes there is one thing, sometimes there are several.*
- *Look for things that you feel in your head, your shoulders, your arms and hands, your chest, belly, hips, legs and feet*

## Search for 6 to 8 of these:

- *Cool or cold*
- *Warm or hot*
- *Pain or pleasure*
- *Sadness or happiness*
- *Anger or loving*
- *Fear or courage*
- *Weakness or Strength*
- *Tight, holding parts or relaxed, free soft areas*
- *Agitated areas or peaceful parts*
- *Parts you don't like or favorite parts*
- *Ask: is there anything you have found inside that has not been mentioned? If so, invite them to draw or add them on*



# Readings list

- Dan Hughes and Jon Baylin MD 2012 • **Brain based parenting: The neuroscience of caregiving for healthy attachment,**
- Dan Siegel MD and Tina Bryson PhD 2012. **The whole brain child: 12 evolutionary strategies to nurture your child's developing mind.**
- **Kids matter:** <https://www.kidsmatter.edu.au/> •
- Using PACE to create loving attachments –An Interview with Kim S. Golding and Daniel A. Hughes, <http://www.jkp.com/jkpblog/2012/03/interview-kimgolding-daniel-hughes-creating-loving-attachments/> • Child development and trauma guide: <http://www.cpmanual.vic.gov.au/ourapproach/best-interests-case-practice-model/child-development-and-trauma>
- Bonnie Goldstein: (2017) **Hidden in Plain Sight – Decoding the Body Language of Trauma. A Sensory motor Psychotherapy Approach.**
- Pat Ogden: **Play and Creativity in Psychotherapy.** (Edited by Siegel, Solomon and Marks-Tarlow)
- Stephen Porges: (2006) **The Polyvagal Perspective,** <file:///C:/Users/mflint/Documents/Customised%20Trainings/Moving%20&%20Soothing/The%20Polyvagal%20Perspective.html>
- Janina Fischer (2009) **Sensorimotor Approaches to Trauma Treatment**

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