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# Exercise: An Antecedent Based Intervention to Address Sensory Motor Needs and Learning Readiness

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# Exercise: An Antecedent Based Intervention To Address Sensory Motor Needs and Learning Readiness



Laura Greiss Hess, PhD, OTR/L & Heather Maurin, MA, EdS, BCBA



Stockton Unified School District-Marshall Preschool Autism Programs in Collaboration with Dominican University, Department of Occupational Therapy

## Research (selected)

- “Exercise (ECE) is a strategy that involves an increase in physical exertion as a means of reducing problem behaviors or increasing appropriate behavior while increasing physical fitness and motor skills”
- “ECE can be used effectively to address behavior, school-readiness, academic, and motor skills.”
  - NPDC Exercise Fact Sheet, 2014
- DSM- 5 ASD Diagnostic Criteria includes:
  - Hypo (under) or hyper (over) reactivity to sensory input or unusual interest in sensory aspects of the environment.
- Children with ASD have documented sensory processing and motor impairments. Positive effects from sensory motor interventions including improved play, social interactions and decreased sensitivity.
  - Baranek et al., 2002

## Marshall Preschool Autism Programs

- Leveled programs
  - Highly Structured
  - Structured
  - Generalized
  - Kindergarten
- Philosophy and practice of **Interdisciplinary Team Collaboration**
  - Autism Specialist/Behavior Analyst
  - Occupational Therapist
  - Speech Language Pathologist
- Programming
  - Formal in-service modules for teachers and staff (monthly, 2010-2014). Written and presented by the therapy team
  - Individual classroom collaboration meetings (approx. Monthly).
  - Interdisciplinary team classroom consultations – “push-in”

## Current Model: MOTOR THRU THE DAY

**Built directly into the daily curriculum**  
**Roughly 12 times per day over a total of 200 minutes of instruction**

1. Circle time (2x per day – 60 mins) - Exercises
2. Stations (“Get Ready” Exercises x 6 stations)
3. FM Exercises (FM station & art projects)
4. FM / GM lessons (approx 20 mins stations)
5. Structured Recess – 2x per day = 60 minutes total

## Information for Families

### Classroom Wide Support for Sensory Motor Development

Frequently Asked Questions (FAQs)

**Q: When does sensory motor exercise programming happen?**

A: Throughout the school day! Be on the lookout for sensory motor activities including: exercises in circle time, “Get ready to learn” exercises in stations, motor breaks, recess activities, and specific motor development lessons. Sensory motor programming happens multiple times per day!

**Q: Where does sensory motor exercise programming happen?**

A: In the classroom, during group instruction, in learning stations and on the playground.

**Q: How does sensory motor exercise programming happen?**

A: Interdisciplinary team collaboration is the key. An Occupational Therapist (OT) is a member of our team and provides sensory motor supports to each classroom. The OT consults with each classroom on a regular basis and provides formal in-service training to our teachers and staff regarding sensory motor / exercise needs and classroom interventions to support student learning.

**Q: What should I do if I have more questions?**

A: Contact your child’s teacher with any questions and the team will work in partnership with you to discuss your child’s sensory motor needs.

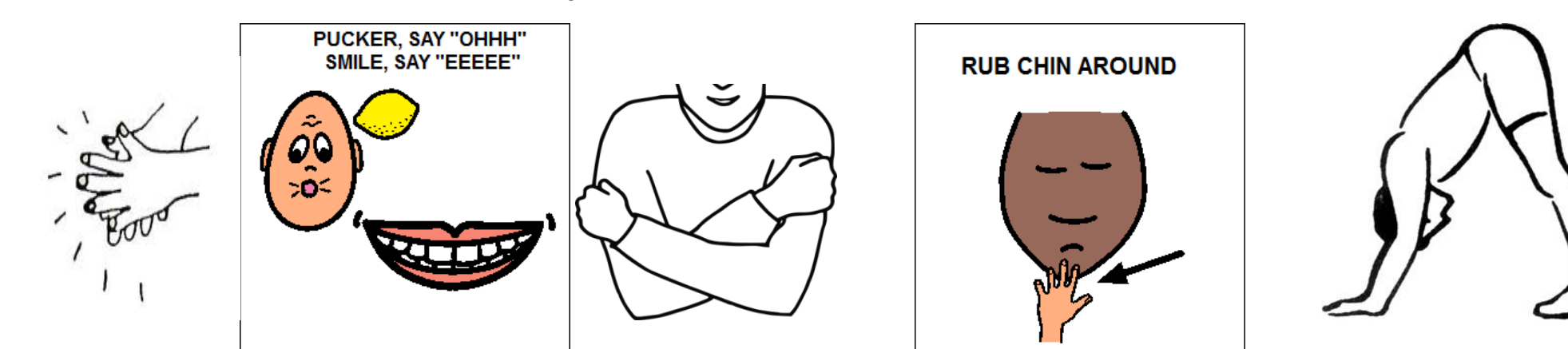
## Circle Time Exercises

- Circle time was analyzed to determine how much time students spent “sitting”
- All exercises (gross , fine and oral motor) done in standing position.
- Sensory motor “exercises” designed to be peppered throughout circle time:

- Exercise
- Book
- Exercise
- Song
- Exercise
- Etc



- Sensory motor exercise visuals included in circle time schedule and/or on choice boards



## Get Ready Exercises

- At the beginning of each rotation, students participate in get ready exercises.
- Helps students get ready to learn.
- Exercises repeated as needed throughout the lesson and sometimes at the end to facilitate transition.

Jump with both feet 10 X



Clap hands 10 X



Cross arms, squeeze and count to 10

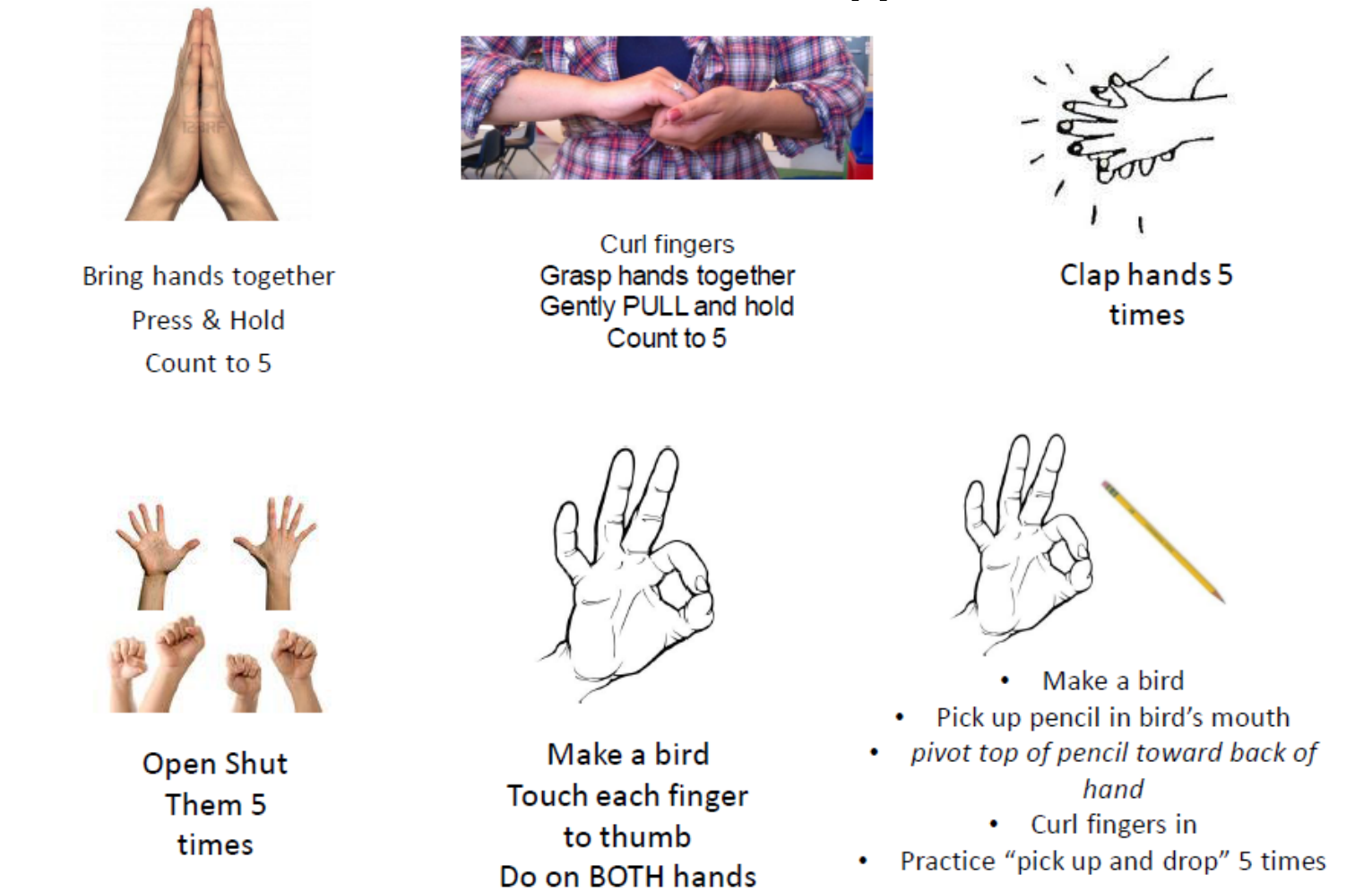


Take slow, deep breaths, in and out, do this 3 times



## Fine Motor Exercises

- Done before lessons involving fine motor skills



## Recess

- Formal inservice training on structured and purposeful recess for all teachers and staff.
- Lesson plans and fidelity checklists developed.
- Visual supports and variety of sensory motor exercise /social play emphasized. Teaching ratio maintained.

- Activities include:

- Visually structured gross motor obstacles using playground
- Chalk
- Bubbles
- Parachute
- Tricycles



## Break / Self-Regulation

- Use of visuals taught throughout program
- Sensory-Motor Exercises can be used responsively because they are integrated throughout the day.



## Future Directions

- Ongoing program implementation via **interdisciplinary team collaborative approach**
- Formal student outcome measure data collection
  - Classroom data
  - BIP data
  - IEP goals

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