

Introduction to Brain Science & Vroom

Created in consultation with
Sherri Alderman of the Oregon Health Authority



Agenda

- **Part 1: Brain Science**
 - Reflection Activity
- **Part 2: Attachment and Brain Development**
- **Part 3: Vroom in Oregon**
- **Part 4: Vroom's Key Principles**
- **Part 5: Brain Building Basics**
- **Part 5: Vroom Materials**
- **Part 7: Vroom in the Community**
 - Action Plan



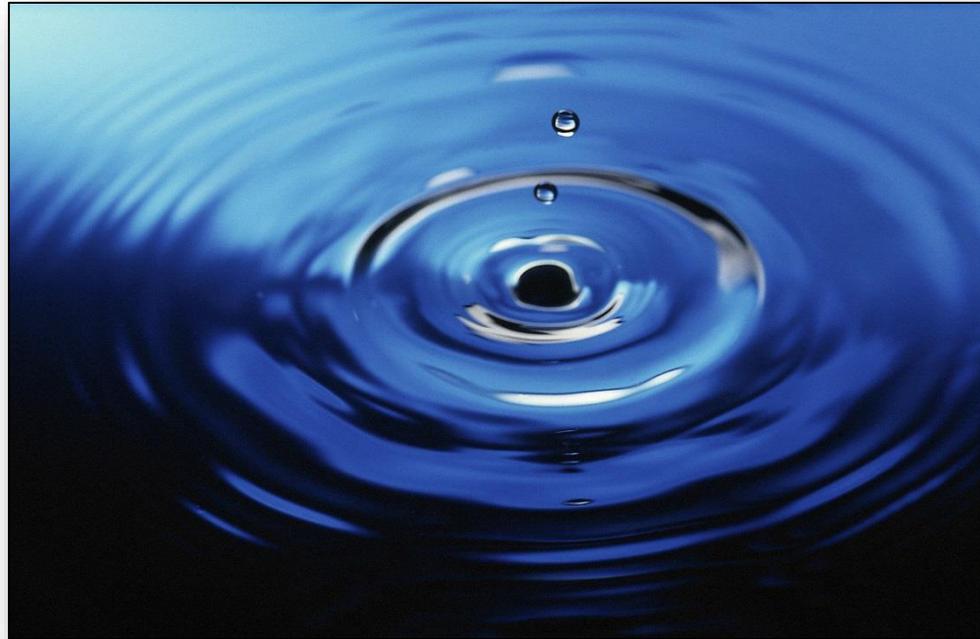
Objectives

At the conclusion of this presentation participants will:

- **#1:** Learn about the current knowledge of environmental influences on brain architecture and development
- **#2:** Discuss the critical importance of serve and return interaction on brain architecture and learning
- **#3:** Become familiar with the Vroom resource and its value to parents and caregivers



Brain Science





Reflection Activity

Think about the ways you learn best.

Why do those ways work for you?

Write down some of your thoughts.

**When you are ready, introduce
yourself to a partner near you.**

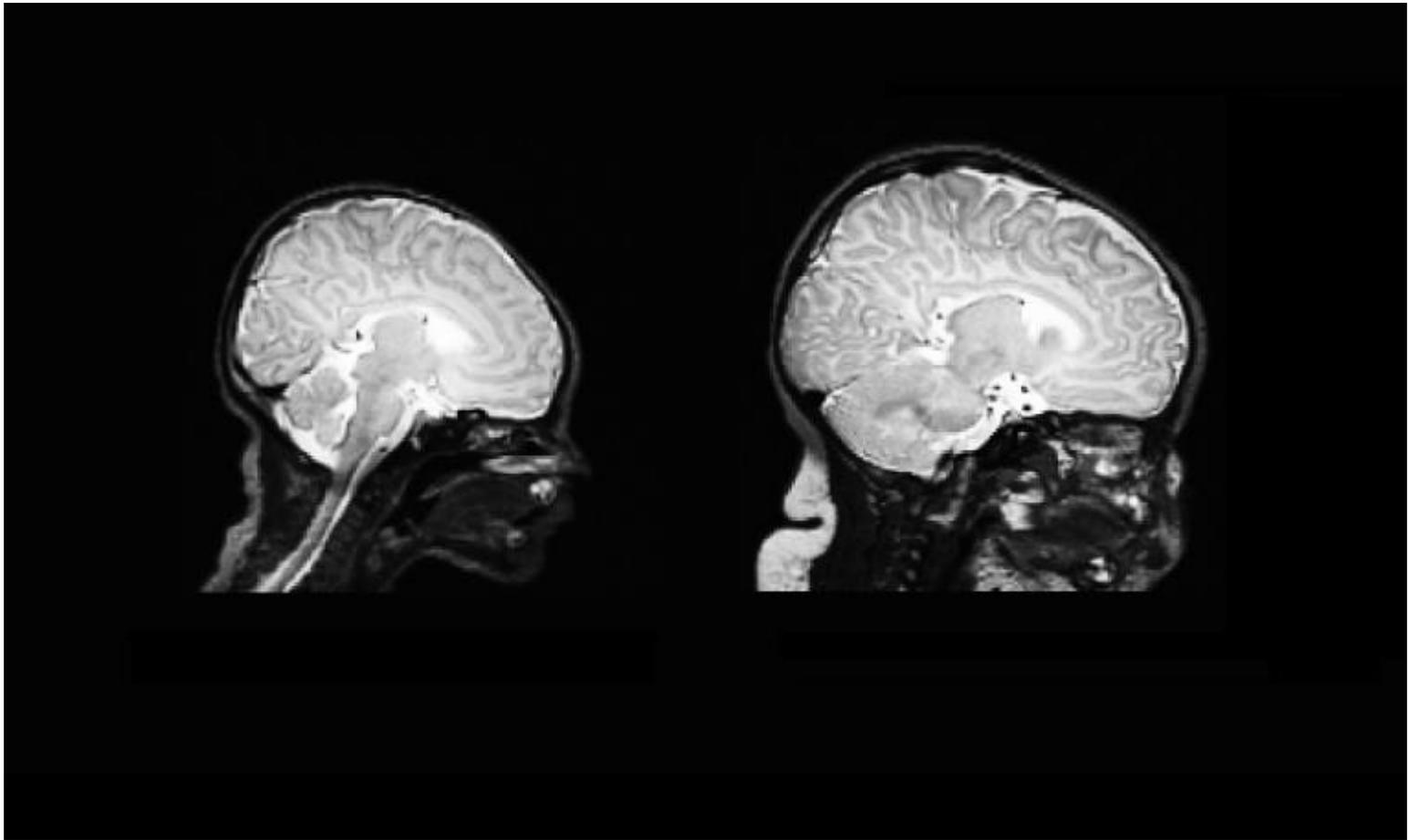
**Share some of your thoughts
with them.**

Infant Brain Development



- At birth, the infant's brain is the most immature organ in the body.
- Environment determines how the infant's brain will grow and develop.
- How the baby's brain will develop is highly determined by the quality of the relationships the baby experiences.
- This is both an opportunity and a vulnerability.

The first 5 years show the most significant rate of growth for the brain. Babies brains grow by 64% in the first 90 days. Here is an MRI of a newborn (L) and an MRI of the same baby at 90 days (R).



Source: Dominic Holland et al., University of California, San Diego School of Medicine.

Brain Development Is Sequential



Brain growth and development are sequential.

Brain Development Is Sequential



Like building a house, early brain development lays the foundation for all future development.

Brain Development Is Sequential



The quality of early brain development carries forward and determines the quality of the brain development that follows.

Brain Development Is Sequential



Without repair, how an infant's brain develops sets the path for that child's development throughout the child's life.

Brain Development Is Sequential



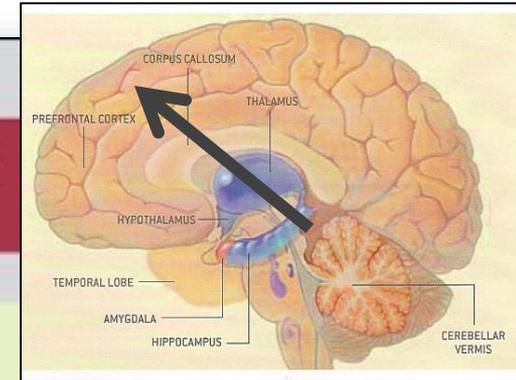
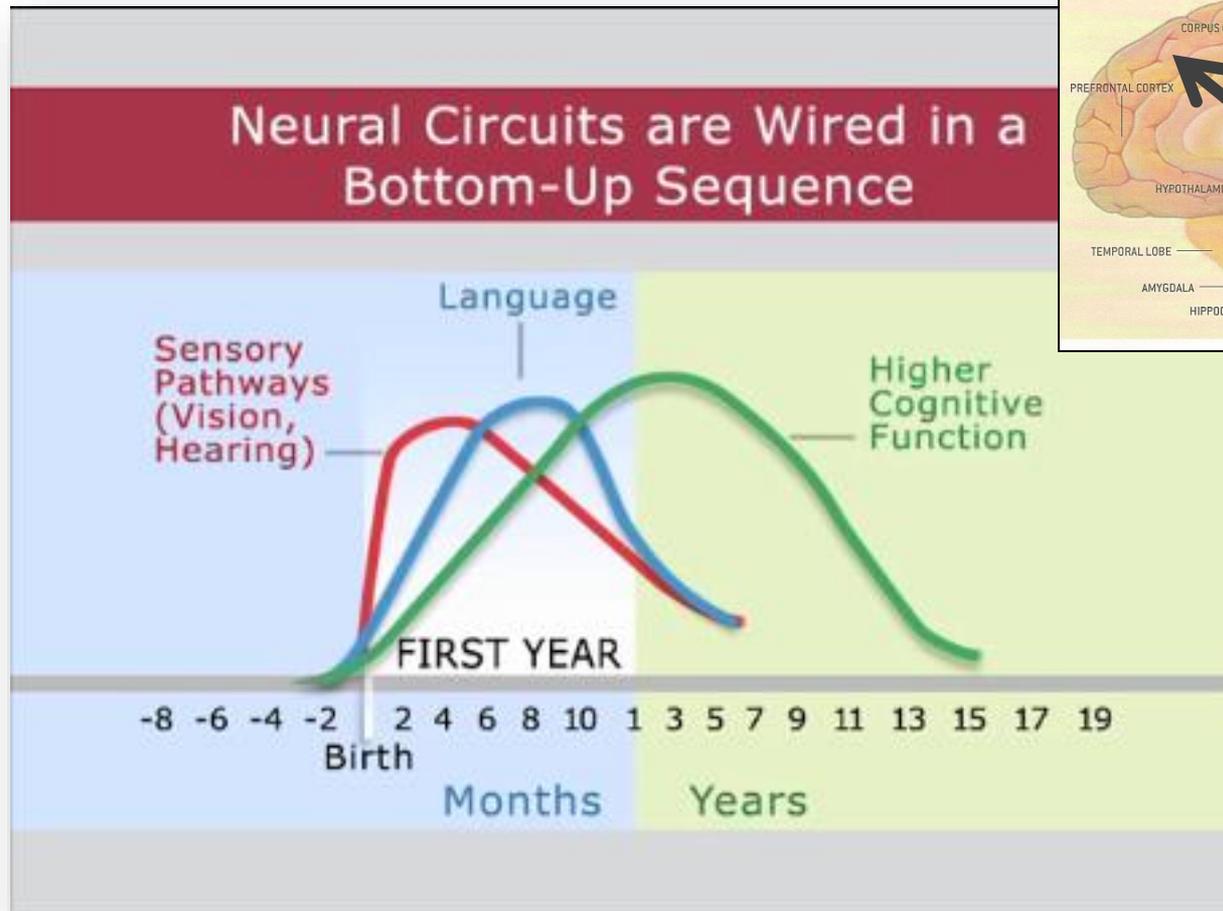
This is what is meant by the earliest years of brain development are both an opportunity to set into motion optimal development as well as a vulnerability if the environment is not filled with quality relationships.

Brain Development Is Sequential



Its much easier to build it right the first time than to fix it later.

Sequential Brain Development the First Three Years



National Science Council of the Developing Child
Center on the Developing Child
Harvard University

Attachment and Brain Development

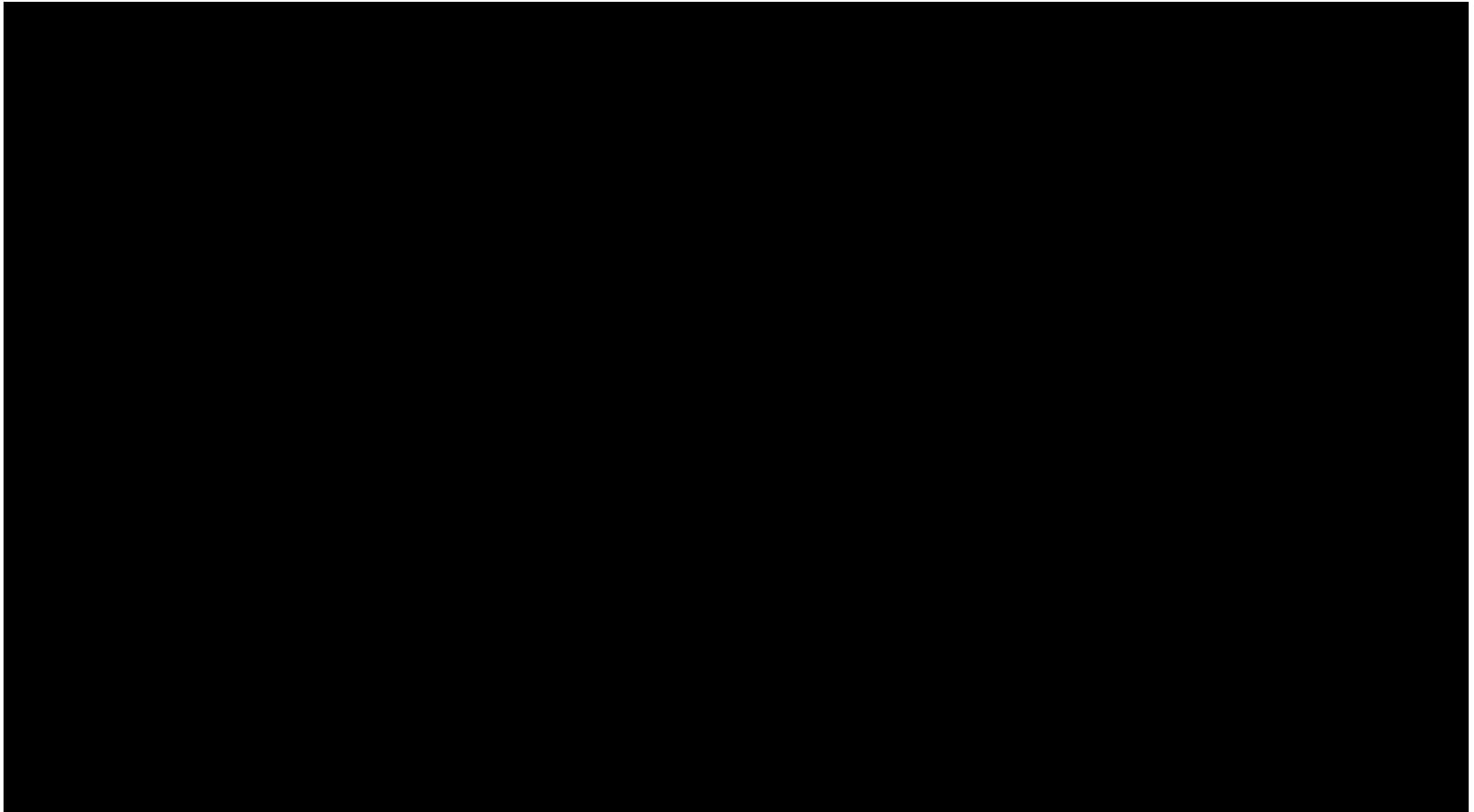


Attachment



- Humans are social beings hardwired for relationships with others.
- Babies are born seeking human connections.
- Brain architecture is influenced by environment and relationships.
- Children learn in and from relationships.
- A child's first teachers are Mother, Father or other caregiver.

The Importance of Serve and Return



**National Science Council of the Developing Child
Center on the Developing Child
Harvard University**

Attachment

An infant must be in a nurturing and affectionate relationship with a caring adult for healthy social, emotional, mental, physical and cognitive development.



Attachment

Infants need social interaction to learn language.

Live Exposure



When exposed to a new language at 9-months:

- Those exposed through social interaction with a native speaker acquired sustainable language knowledge
- Those exposed through audio-recording or television showed no response to language exposure (equal to controls who had no exposure to the foreign language)

TV Exposure

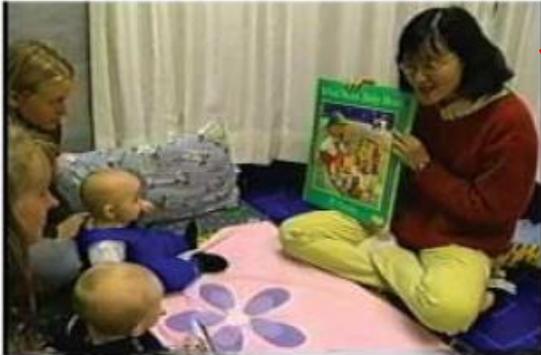


Kuhl et al. 2003
Kuhl 2007

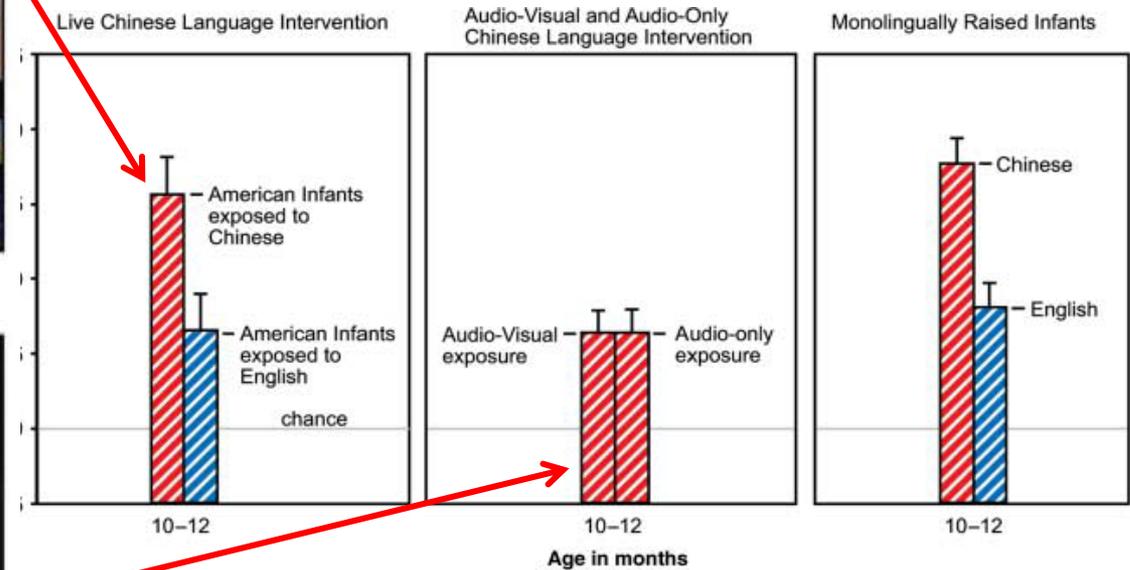
Attachment

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Live Exposure



TV Exposure



Attachment

Infants experiencing secure attachment with a sensitive caregiver at six months of age perform higher academically in school than infants living with a caregiver who is not emotionally available.



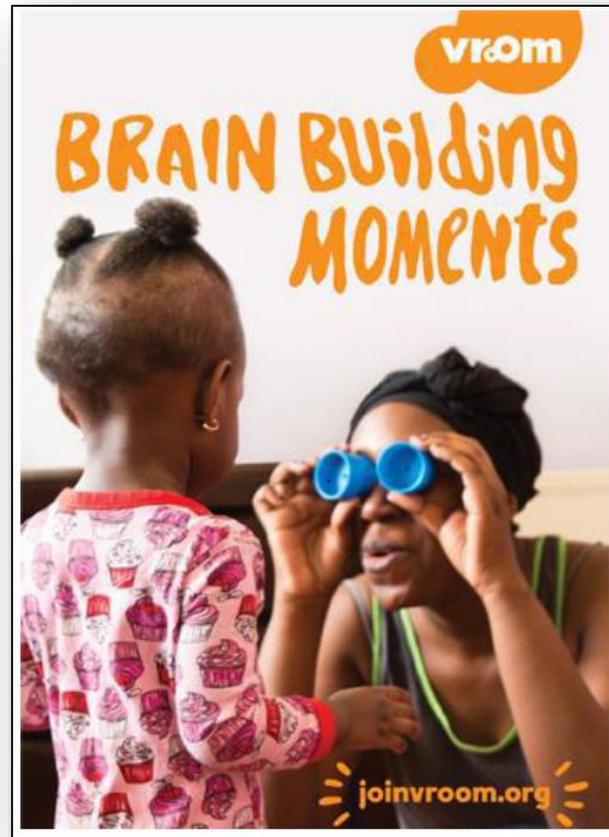
Sroufe et al. 2005

Promoting Brain Building Moments

So how can we promote brain building moments in our busy lives?



Vroom in Oregon



Introduction to Vroom

Vroom is a powerful way to prompt simple, everyday moments of parent-child interaction that are fun brain-building activities. Based on the latest science and designed to fit into parents' existing routines, Vroom's 1,000+ brain-building tips can be accessed via its free Smartphone app (Daily Vroom) and other free materials in English, Spanish, Chinese, Russian, and Vietnamese. Learn more at www.joinvroom.org.

Vroom Communities



Early Learning Division Statewide and Regional Partnerships



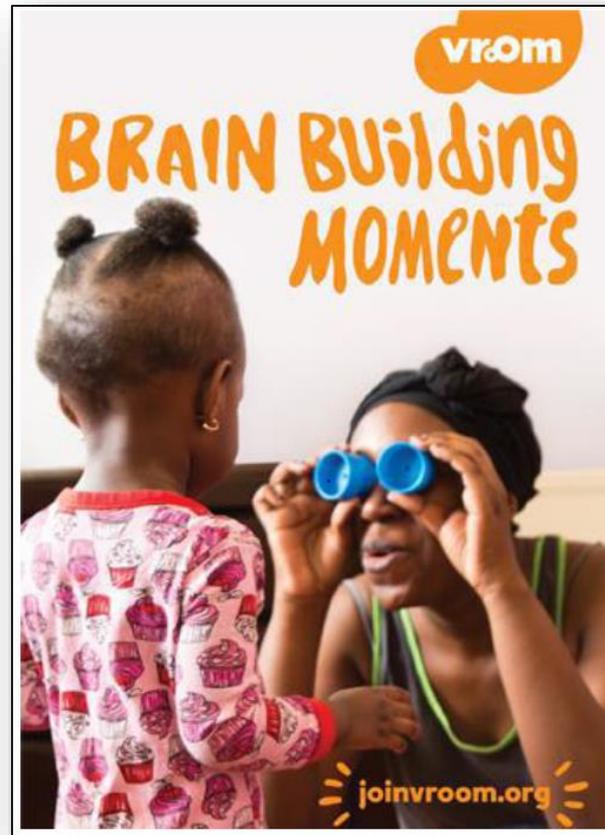
*Nutrition for you
and your family*



Oregon
Health
Authority



Vroom's Key Principles

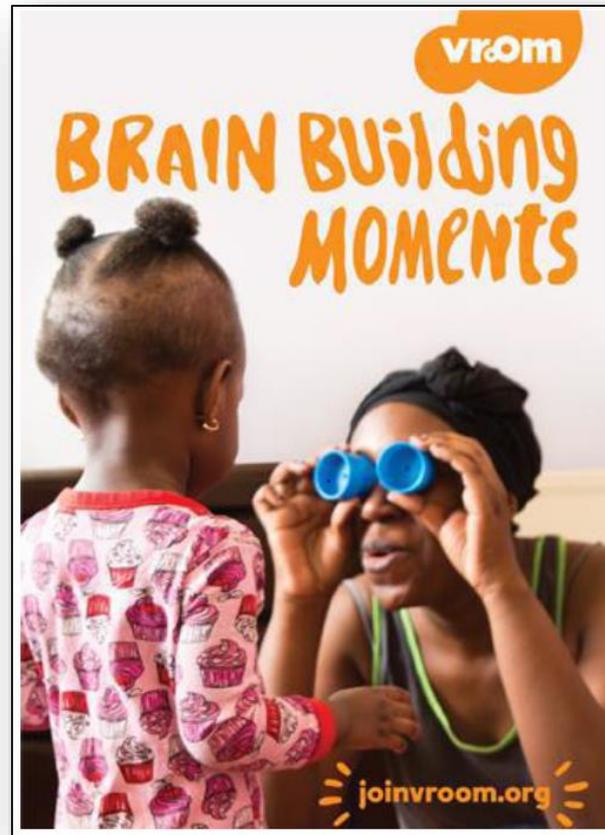


- **Vroom is positive and empowering:** The message of Vroom is non-judgmental and reminds parents that they already have what it takes to be brain builders. By showing parents the benefits of what they are doing right, Vroom promotes more frequent interactions that boost a child's brain development.

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- **Vroom aims for attainability:** Vroom is achievable within the reality of parents' busy lives and doesn't require extra time or money. It takes the science and makes it actionable during everyday routines like bath-time or mealtime.
- **Lead with the science:** Vroom is grounded in research that's easy to understand, easy to apply, and motivating. It explains not just what to do but "why"—and the "why" matters!

Brain Building Basics



Brain Building Basics



1. Look

Even before babies can talk, they're showing you what they're interested in. Look into their eyes, or at what catches their eye, and begin brain building!



2. Follow

Powerful brain building moments are created when you let children lead the way, and you follow by responding to their words, sounds, actions, and ideas.



3. Chat

It may not seem like it, but the sounds and gestures young children make are their way of communicating with you! So talk out loud together and keep chatting as your children grow, engaging them in learning about the world around them.



4. Take Turns

Back and forth interactions between you and your children are one of the most important ways to help their brains develop. So be sure to take turns while you're talking, playing, or exploring with your children.



5. Stretch

Make the moment last longer by building on what your child says, or asking follow-up questions that expand your child's thinking and learning.

Brain Building Basics in Action

The Brain Building Basics were created to break the science down into actions that can turn any moment into a brain building moment. Let's take a look at how the following Vroom activity utilizes the Brain Building Basics.



Daily Favorite

At dinnertime, ask your child what his/her favorite part of his/her day was. Make sure you follow up with questions. "Why did you like that? Was it more fun than the last time you did that? Why?" You can make this a dinnertime tradition.

Ages 3-4



Brainy Background

powered by Mind in the Making

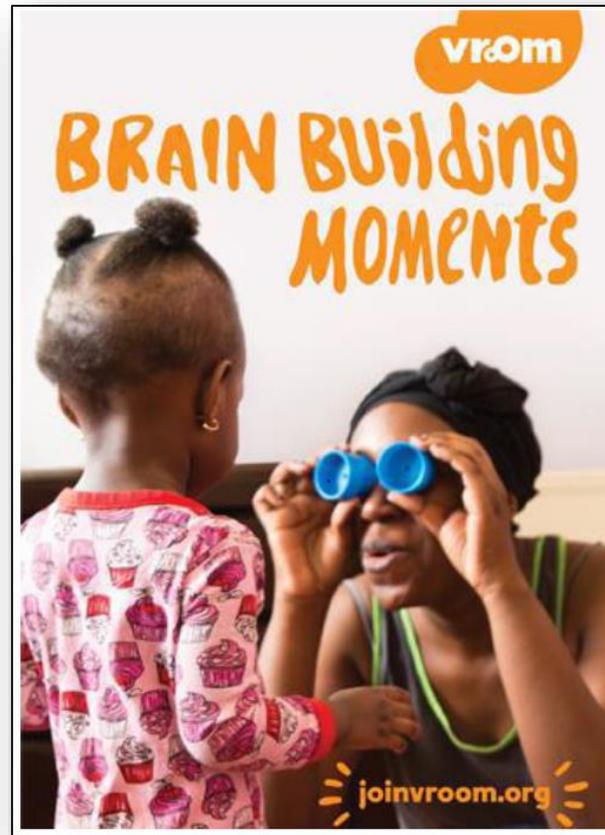
Asking your child questions that require more than a simple "yes" or "no" help build language, communication and reasoning skills. Repeat what he/she says back to him/her in more complex sentences. Don't be afraid to use words he/she doesn't know!

For more activities like these, check out the free Daily Vroom mobile app!

Brain Building Exercises in Action

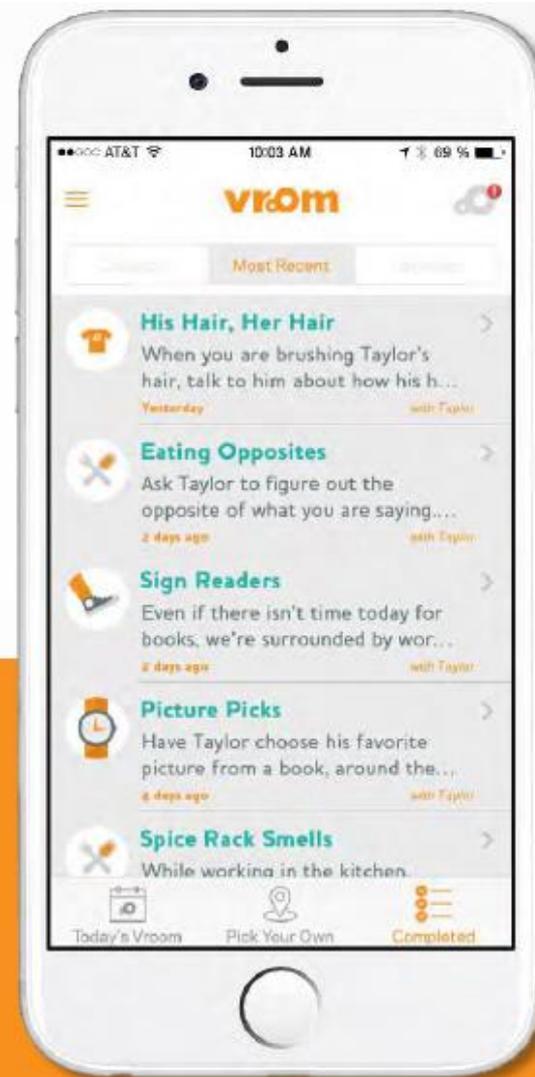
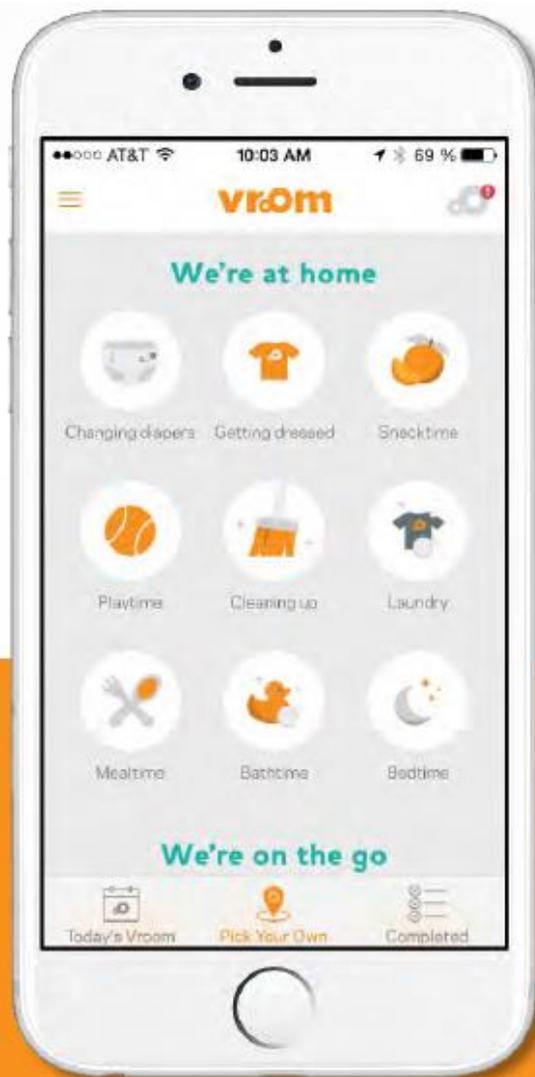


Vroom Materials



The Daily Vroom App

Daily Vroom can be downloaded from your phone's app store or at www.joinvroom.org.



Other Vroom Materials

Additional Vroom materials include: stickers, posters, flyers, and tip-cards with helpful activities and “brainy backgrounds.” Many of the Vroom materials are free and also available for download from the Vroom website at www.joinvroom.org in Spanish, English, Chinese, Russian, and Vietnamese!



Videos

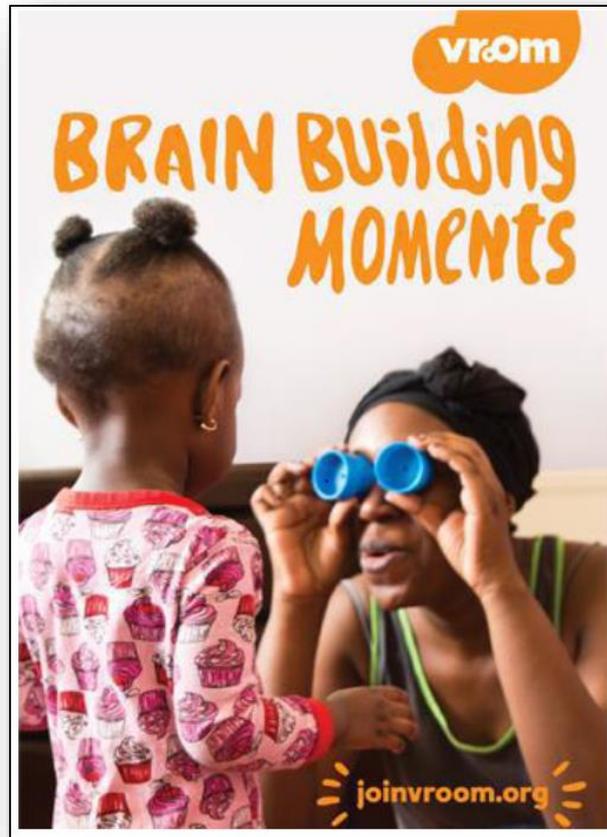


Posters



Tip Card Sets

Vroom in the Community

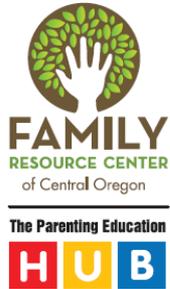


Marion & Polk Early Learning Hub, Inc. Vroom Implementation Plan

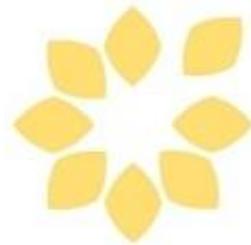
“Vroom is part of our overall strategy to support and empower parents as their child’s first teacher and as a brain builder. Community organizations are incorporating Vroom in a variety of ways: putting information in waiting areas, at community events, as part of orientation or registration. It is also being included as part of group therapy sessions, home visiting, parent education and more.”



Early Learning Hub of Central Oregon Vroom Partners



Parenting Class



Head Start



Healthy Families



WIC



EI/ECSE



Relief Nursery

Vroom Positively Impacts Families

“Vroom has enriched the time I spend with my daughter.”

–Young, at-risk father
in Central Oregon



LAST A LIFETIME

EARLY LEARNING HUB
OF CENTRAL OREGON
www.earlylearninghubco.com



FAMILY
RESOURCE
CENTER
of Central Oregon

Strengthening Families through Parenting Education in Crook, Deschutes and Jefferson counties.

The Parenting Education



vroom
Brain building moments

Multiplying Words
When your child starts to say words or make sounds that could be words, connect them to more words. If he says "Nose," you can say, "There's your nose and there's mine." If he says "beep, beep," you can say, "The horn on the car goes beep, beep."

The first 3 years are when children's brains grow fastest. With simple activities like this one, you can make every moment with your baby a brain building one.

Learn more at joinvroom.org

download
Daily VROOM
on the
App Store
or
Google Play

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Love Connections

Take turns talking to your child about love connections. "I love you as much as a bee loves its stinger." "I love you as much as a worm loves the dirt." "I love you as much as a car loves gas." Ask your child to come up with one. Keep going back and forth.

Ages 4-5



Brainy Background powered by Mind in the Making

When your child is challenged to find connections and make comparisons, he/she is learning new ways to sort and categorize information. These skills are important in math, reading and science. You are also promoting creativity and a sense of humor.

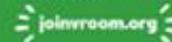
For more activities like these, check out the free Daily Vroom mobile app!



Love You

As you get your child ready for bed, gently touch him/her on his/her head, ears, and hands. As you touch each part, tell your child, "Love your head. Love your ears. Love your hands. Love you." Use a soft voice that helps relax both of you.

Ages 2-3



Brainy Background powered by Mind in the Making

When your child feels your touch and hears your voice, he/she is learning new sounds and words that will help him/her learn to communicate. Children learn best when they feel safe and secure. Your gentle touch and soft words will help give your child these feelings.

For more activities like these, check out the free Daily Vroom mobile app!



Slow Dance

Play your favorite slow song and hold your child while you dance together. How does he/she respond to the feeling of dancing? What about the sound of the music? Respond to what he/she does. Laugh if he/she laughs or make the same sound. Enjoy this special moment.

Ages 0-1



Brainy Background powered by Mind in the Making

Dancing together is a back and forth conversation—using movement not words—that deepens the connection between you two. It also allows your child to use his/her senses—hearing, touch, sound, sight—his/her primary way of learning about the world at this age.

For more activities like these, check out the free Daily Vroom mobile app!

 <h3>Find the B's</h3> <p>While waiting at the doctor's office or drugstore, look around you and try to spot things that start with a B sound. Take turns spotting B's (like babies, bottles and baskets) and calling out the words to each other.</p> <hr/> <p>Ages 4-5</p> <p> joinvroom.org</p>	 <h3>Brainy Background</h3> <p>powered by Mind in the Making</p> <p>By using waiting times for learning, you are helping your child learn to wait as well as to make connections among letters, words, and sounds—all laying the foundation for reading.</p> <hr/> <p>For more activities like these, check out the free Daily Vroom mobile app!</p>
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 <h3>Letter Lookout</h3> <p>Pick a letter with your child and try to find it everywhere you go. Take turns calling it out when you see it. If he/she sees an apple for the letter "A," then you have to find something next. See how many things you can find. Four? Ten? More?</p> <hr/> <p>Ages 4-5</p> <p> joinvroom.org</p>	 <h3>Brainy Background</h3> <p>powered by Mind in the Making</p> <p>"I Spy" games like this one are great brain builders. They make your child aware of his/her environment and teach him/her to make connections between similar things. You can try this game with letters, colors, shapes - anything really!</p> <hr/> <p>For more activities like these, check out the free Daily Vroom mobile app!</p>
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Today's Color

Any day can start off with a little color. Ask your child to pick today's color, like yellow, red or blue. When you're getting him/her dressed, take turns picking something that's the same color. See if each of you can find more things the same color during breakfast.

Ages 4-5

joinvroom.org



Brainy Background

powered by Mind in the Making

A conversation about colors builds on something your child knows and gives him/her the chance to add to his/her knowledge. Focusing on details, such as the colors, is a skill he/she can use for other kinds of learning and helps to learn to read.

For more activities like these, check out the free Daily Vroom mobile app!



Colors of the Rainbow

When you're outside, go on a scavenger hunt with your child to find all the colors of the rainbow around you. Look for red, orange, yellow, green, blue and purple. Seek and find them as a team.

Ages 3-4

joinvroom.org



Brainy Background

powered by Mind in the Making

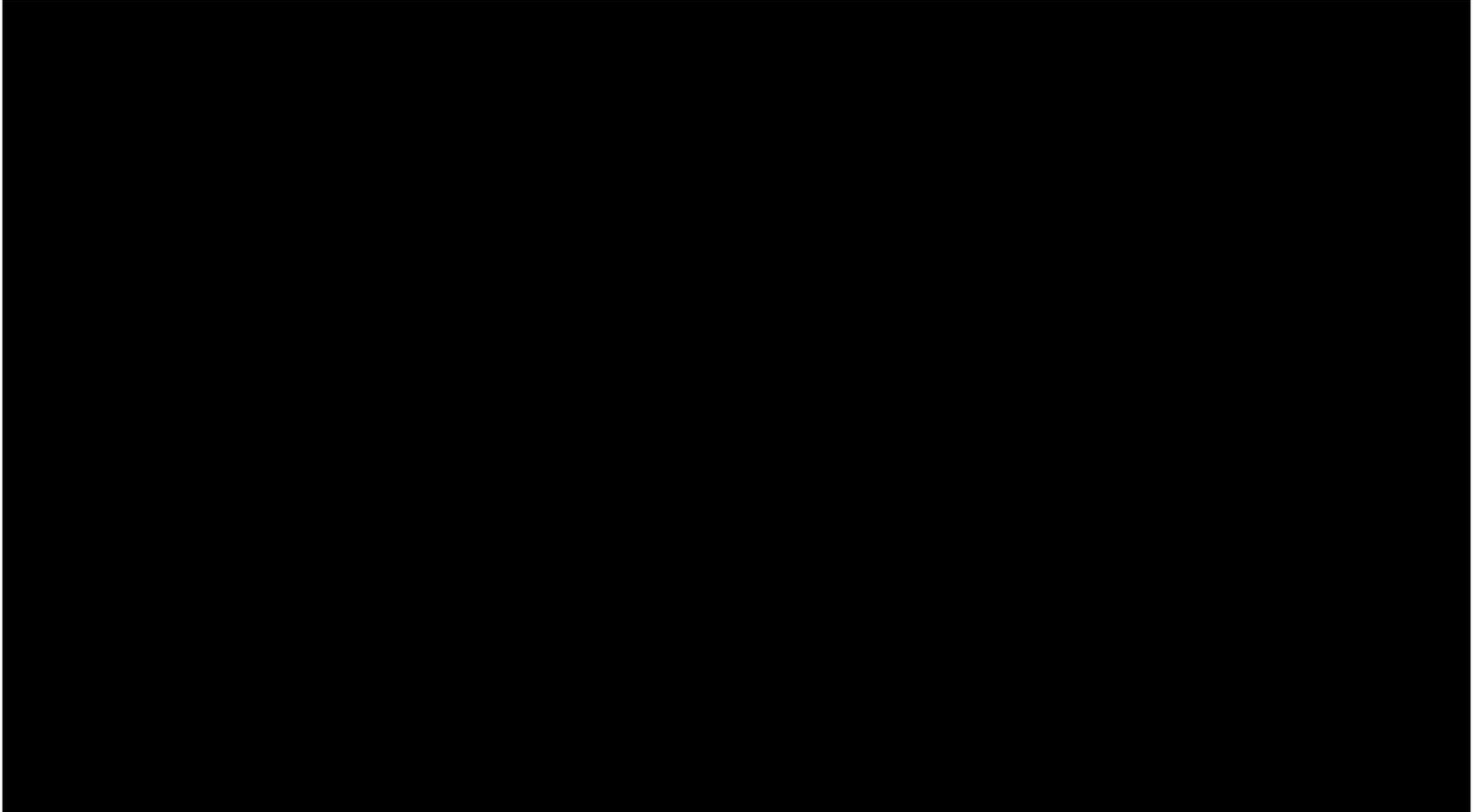
As your child figures out which objects are the same or different colors, he/she is putting information into categories. Sorting information by categories helps him/her organize his/her understanding of the world and is a pre-math skill.

For more activities like these, check out the free Daily Vroom mobile app!

How to Talk about Vroom with Parents and Caregivers

- **Your child's brain develops more rapidly during the first five years of life than at any other time, and during these first 2000 days, his/her brain is being built based on your child's experiences and interactions.**
- **Parents have a wonderful opportunity to play an important role in supporting this brain development during this exciting time.**
- **Vroom was created to help you make the most of the moments you already share with your child and to support you on your brain building journey.**
- **It is based on the latest early brain development research and was designed to layer onto your existing routines (you already have what it takes!).**

Becoming a Brain Builder: You Already Have What it Takes!!!



Time to strategize...



Vroom Action Plan Activity

Now that you have a good understanding of how Vroom is being implemented in Oregon, the science behind it's development, what it looks like, and how to share it in your community, let's do a quick group activity.

Please spend the next few minutes discussing with those around you how Vroom could be incorporated into your current work with parents and families.

Can you provide a few examples?



Don't forget your Vroom toolkits
and coming soon...
WIC-specific Vroom tip cards!



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Thank you!

Additional Resources

Vroom Questions? Requests? Suggestions?
Contact Ari Wubbold, Vroom Coordinator
ari.wubbold@state.or.us and 503.947-2572
www.oregonearlylearning.com/vroom

Brain Science questions?
Contact Elisabeth Underwood, HFO
Home Visiting Specialist
elisabeth.Underwood@ode.state.or.us



*Special thanks to Sherri Alderman
and the Oregon Healthy Authority for
contributing to the presented
information on brain science.*

