



Learning to Grow

MAKING A DIFFERENCE TOGETHER

UNIVERSITY OF HAWAII ♥ WINDWARD COMMUNITY COLLEGE

Critical Thinking: An Important 21st Century Skill

Do you remember the 3 R's (Reading, writing and arithmetic)? Fifty years ago, these skills were considered crucial for success in life – and teaching them was the priority of education. However, according to *National Education Association's* recent report, "What was considered a good education 50 years ago is no longer enough for success in college, career and citizenship in the 21st century." The report goes on to identify 4 important skills, termed the "Four C's," that students will need in order to be successful in our modern world: Critical Thinking, Communication, Collaboration, and Creativity.

The *World Economic Forum* reports that 65% of children entering school today will end up working in completely new jobs that don't yet exist; future occupations will require a different skill set. There will be a huge emphasis to hire individuals who can:

- ♥ Think creatively;
- ♥ Work collaboratively with others;
- ♥ Communicate effectively with those of diverse cultural backgrounds; and
- ♥ Demonstrate critical thinking skills (problem solve with minimal supervision).

The good news is that these skills can be taught beginning very early in life! In fact, the early years are the best time to begin giving children experiences that help them develop these skills.

In this newsletter, we will focus on one of these skills – critical thinking. Critical thinking is more than memorizing a list of facts; it is the ability to analyze, compare, contrast, and make sense of information in order to make good



decisions and solve problems. This important skill is used in everything from putting together puzzles to mapping out the best route to work. This newsletter will discuss how critical thinking develops and will provide tips and strategies for helping young children learn this skill at each age level– infants, toddlers and preschoolers.

This newsletter includes:

- ♥ **Age-specific information and suggestions** about activities to do with your infant, toddler, or preschooler,
- ♥ **Featured activities** for each age group,
- ♥ **How This Helps:** a summary of your child's development by doing these activities together,
- ♥ **Resources:** for more information about this topic, and
- ♥ **Suggested Books:** a list of books to read with your child.

Infants

Babies are born with a drive to understand – to be curious about their surroundings. You may see this curiosity in the way your baby follows sounds, faces and interesting objects with his eyes, or reaches for and handles objects and bring them to his mouth. This curiosity provides the foundation for critical thinking. Before children can analyze, compare, contrast and make sense of information, they need opportunities to explore objects. Curiosity is what drives them to explore. It is important to keep in mind that this natural drive to be curious can be weakened or strengthened by how you respond to baby's curiosity. Paying



attention to and nurturing your child's curiosity is one of the most important ways you can support his learning and development of critical thinking skills.

Here are some strategies to nurture curiosity and critical thinking in your infant:

- ♥ Use words to describe your infant's discoveries. For example, "Did you hear that? It made a sound when you shook the rattle! Try it again!"
- ♥ Watch your baby carefully. What is he trying to make happen? For example, is he trying to roll over to reach an interesting object? Encourage him to go as far as he can and then bring the object close enough that he can get it to explore.



Activity for Infants: *Textures*

What You Need:

Various textures that are safe for your baby to touch, such as a piece of paper, a ball of sticky masking tape, a piece of cloth, or a clean sponge

What to Do:

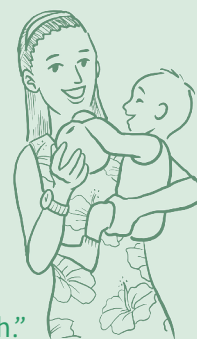
1. Let your baby feel an object, then gently brush it on your baby's skin.
2. Talk about what it is and how it feels: "This paper is smooth. This sponge feels rough."

Variation: Play together on different surfaces, such as grass, a carpet or a futon, and talk about how they feel.



Safety Alert: Do not let your baby play with a small object or put it in her mouth. Items that are small enough to fit through a toilet paper tube can cause choking if swallowed.

(See page 5 for information on how doing these kinds of activities with your child helps his development and school readiness.)



Toddlers

Toddlers are like little scientists. Their curiosity, combined with their increased mobility, leads them to “experiment” with (and to touch) just about everything they see. Critical thinking develops during these “experimentations”. For example, when he picks up a toy, then pulls, pushes, turns it, or throws it on the floor, he is discovering the object’s properties; comparing and contrasting his discoveries; and making sense of the information he gains. For example, he may discover, “when I throw the ball on the floor it goes back up; when I throw the spoon on the floor it stays down.”

Here are some strategies to nurture critical thinking in your toddler:

- ♥ Narrate his explorations. Think of yourself as a sports announcer and give a play-by-play description of what your child is doing: For example, “You dumped out all of the water. Now the bucket is empty!”
- ♥ Join your child in his play and explorations, and use words such as “big” and “small,” “full” and “empty” and “more” and “less.”



Activity for Toddlers: *Sponge Play*

What You Need:

- A clean, unused sponge and a variety of objects that will float or sink
- A container of water

What to Do:

1. Let your child explore a clean dry sponge; then have him place it in the container of water and explore the wet sponge. Describe how it feels, e.g., hard and bumpy when it is dry; and soft and squishy when it is wet.
2. Do a little experiment. Ask your child what he thinks will happen when you put the sponge under water and let go. For example say, “Will it sink or float?” Describe what happens as you watch it float back to the top.
3. Try experimenting with other objects. Have your child guess whether each object will float or sink before you put it in the container of water.

⚠ Safety Alert: Never take your eyes off your child while he’s in the bathtub or playing with a container of water. Children can drown in just a few inches of water.

(See page 5 for information on how doing these kinds of activities with your child helps his development and school readiness.)



Preschoolers

With an increased ability to think in a more complex way, preschoolers make exciting new discoveries about the world and come up with theories about how things work. For example, by experimenting with items that float and items that sink, your preschooler may theorize that heavy items sink in water, while lighter

items float in water. Critical thinking develops when preschoolers have opportunities to form theories. This is the perfect time to give your child hands-on experiences that promote investigation, questioning, making predictions, and forming explanations about why things work the way they do.



Here are some strategies to nurture critical thinking in your preschooler:

- ♥ When your child runs into a problem (for example, his paper airplane doesn't fly far), instead of solving the problem for him, ask questions such as, "What have you tried?" "What can you try that's different?"
- ♥ Give your child opportunities to make predictions. For example, ask "What do you think will happen if we put a paperclip on the tail of your paper airplane?" Then have him test out his prediction.

Activity for Preschoolers: *Anywhere Scavenger Hunt*

What You Need:

Paper and pencil (or crayons)

What to Do:

1. First, develop a list of items for your child to find, and incorporate critical thinking by crafting the list having them find items that fit a specific description. For example, find something that...
 - ♥ Can fit inside this cereal box
 - ♥ Bounces (or doesn't bounce)
 - ♥ Is heavier (or lighter) than this can of soup
 - ♥ Is longer (or shorter) than the crayon
2. If the item does not fit the description, read the instructions again and assist your child. Talk aloud so he can hear your thought process. For example, say, "We are looking for something that fits inside this cereal box. Hmm...does this pillow fit inside the cereal box? No, it's too big. Let's try this pencil. Yes! The pencil fits inside the cereal box!"
3. Keep playing for as long as your child is interested. You can even have him come up with instructions of items for you to find!



(See page 5 for information on how doing these kinds of activities with your child helps his development and school readiness.)

How This Helps

The activities suggested in this newsletter help promote many different aspects of development:

Physical Development

- ♥ Learn through his senses: seeing, hearing, smelling, tasting and touching
- ♥ Develop eye-hand coordination

Social and Emotional Development

- ♥ Develop a close bond with you
- ♥ Feel important and good about himself

Language and Literacy Development

- ♥ Build verbal skills, vocabulary, and use of descriptive language
- ♥ Increase his observation, listening and understanding skills, and attention span

Cognitive Development

- ♥ Develop his thinking and problem-solving skills
- ♥ Recognize math concepts like size, shape, volume, and measurement



Kids in the Kitchen

Cooking teaches valuable lessons such as math (quantities, measurement), science (how matter changes), fine motor (stirring, pouring), and literacy (print awareness). As you make this recipe with your child, talk about kitchen safety. Show him how to handle items safely and allow him to do as much as he is capable of. Praise his efforts, and ask questions throughout the process to encourage his thinking skills. Most of all, have fun!

Tomato Basil Pizza

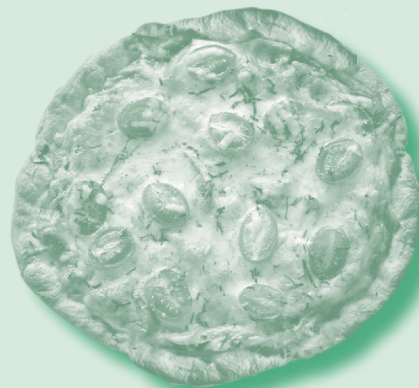
Adapted from *Nature Explore*

Ingredients:

- Pizza dough (store bought, fresh or frozen)
- olive oil
- pizza sauce
- 6 whole basil leaves
- 4 cherry tomatoes, sliced
- 1 garlic clove, thinly sliced
- $\frac{3}{4}$ cup mozzarella cheese

Directions:

1. Preheat oven to 425 degrees.
2. Prepare dough by following the directions printed on the package.
3. Have your child assist you by lightly brushing the dough with olive oil.
4. Together, spread pizza sauce on dough and top with cheese, tomatoes, garlic and basil.
5. Cook for approximately 20–25 minutes or until crust is golden brown.



Resources

Mind in the Making: The Seven Essential Life Skills Every Child Needs

Author Ellen Galinsky draws on fresh research to explain what we ought to be teaching our children. She focuses on seven essential life skills that children need in order to grow into successful adults. This is a must-read for everyone who cares about America's fate in the 21st century.

Vroom

www.vroom.org

Fast and fun tips to boost your child's learning!



Suggested Books

Discover these books and more at the **Hawai'i State Public Library** www.librarieshawaii.org.

Infants and Toddlers

Where's Spot? by Eric Hill

A true classic, this book encourages young children to lift-the-flap in order to find where Spot could be hiding. This interactive story is perfect for curious minds!

Mouse Count by Ellen Stoll Walsh

One! Two! Three! – A hungry snake finds ten little mice and counts them into a jar for dinner. The snake slips off for one more mouse, and while he's gone the clever mice come up with a good plan to free themselves.

Preschoolers

Round Like a Ball by Lisa Campbell Ernst

The book begins with a familiar guessing game: "I'm thinking of something that's round like a ball." Each page offers a new clue. The paper cutout shape in each illustration is a visual hint to the answer. What's round like a ball? It's the Earth!

Sunflower House by Eve Bunting

Sunflowers all in a circle make a sunflower house! It becomes a castle, a cage, a place to sleep out! But when summer is over and the enormous flowers fade and fall, the sunflower house is gone forever...until the resourceful children make a wonderful discovery!



Learning to Grow is a project of the University of Hawai'i, Windward Community College, with funding from the Hawai'i Department of Human Services. Visit our website at www.learningtogrowhawaii.org or visit us on Facebook at www.facebook.com/learningtogrowhawaii