

**What Ignites  
True Learning?**



# "Education Is Not the Filling of a Pail, But the Lighting of a Fire." Yeats

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Think about your current method of teaching. How much of it is:

- A. Facts – Test based
- B. Mostly reading, writing, and some video/audio
- C. Grade level or age-based
- D. Public School at home

# "Education Is Not the Filling of a Pail, But the Lighting of a Fire." Yeats

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Do you struggle with:

- **bored, unmotivated learners?**
- **having to prod** your child to get through lessons and assignments?
- **complaining, frustration?**
- **lack of enthusiasm?**



Why Is It a  
Struggle to  
Get My Child  
to Love  
Learning?





# Brain Science

What do modern brain researchers say about how children learn and retain learning best?

# Let's Start At the Very Beginning

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Before our brains even have the chance to decide if the information we are being exposed to is worth learning, our emotions have already made the decision for us.

**“Emotion drives attention and attention drives learning, memory, problem solving, and just about everything else.”**

*Dr. Robert Sylwester Ed.D.*

# Emotions – And Family Life

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As homeschooling parents we are responsible for teaching our children:

The Gospel

A Work Ethic

Manners

Cleanliness

Morals

Academics

Responsibility

And More!

# How Can We Make Sure Our Children Are Emotionally Ready To Learn?

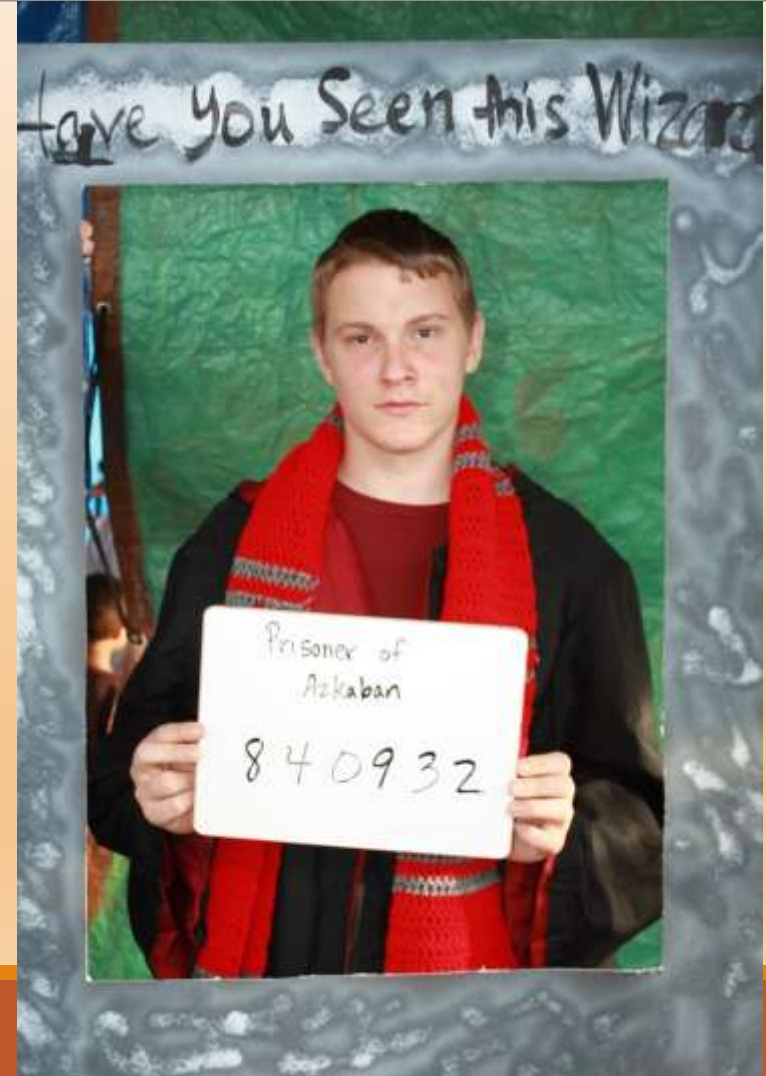
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**Absence of Threat:** Parents should create a safe learning environment free of anxiety, pain, or fear, where no threat is present (either real or perceived). Perceived threats are just as real, especially to children, as actual threats. Have you ever awakened from a nightmare with your heart pounding and sweating profusely? The threat you felt during the nightmare was imagined, but your response was the same as it would have been had the threat been real.

All children should feel safe to learn, explore, and share, knowing that their contributions will be respected. We want our children to feel comfortable and confident as they try new things or learn new concepts. Emotions play a major role in the learning process. Fear, frustration, embarrassment, sadness, stress – any of these emotions, as well as others, can create a barrier between students and their own learning capabilities.



# Emotions - Make Learning Fun!



# Emotions – Would You Rather...

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## LEARN THIS WAY?

Study about Renaissance Minds

Learn about WWII

Explore Governments like Communism, Empires, & Theocracies – compared to the US Constitution

## OR THIS WAY?

Be a Wizard trying to unlock the secrets of a Renaissance Mind

Be a Hero, discovering your Rendezvous with WWII History

Be a Steampunk Detective seeking to know how different governments work and learning how to protect our Constitution

Once Your Child's **EMOTIONS** Recognize  
the Worth of What You Want Them to  
Learn, What is the Next Step?

Brain  
Function #1

Gather  
Information





# We Gather Information Through the Things We Are Exposed To

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## EXPERIENCES



## EXAMPLE

Habits  
Language  
Behavior  
Beliefs  
Relationships  
Handling Stress, Trials  
Character  
Attitudes  
Learning approaches  
Work dance  
Response to constructive criticism  
Physical skills

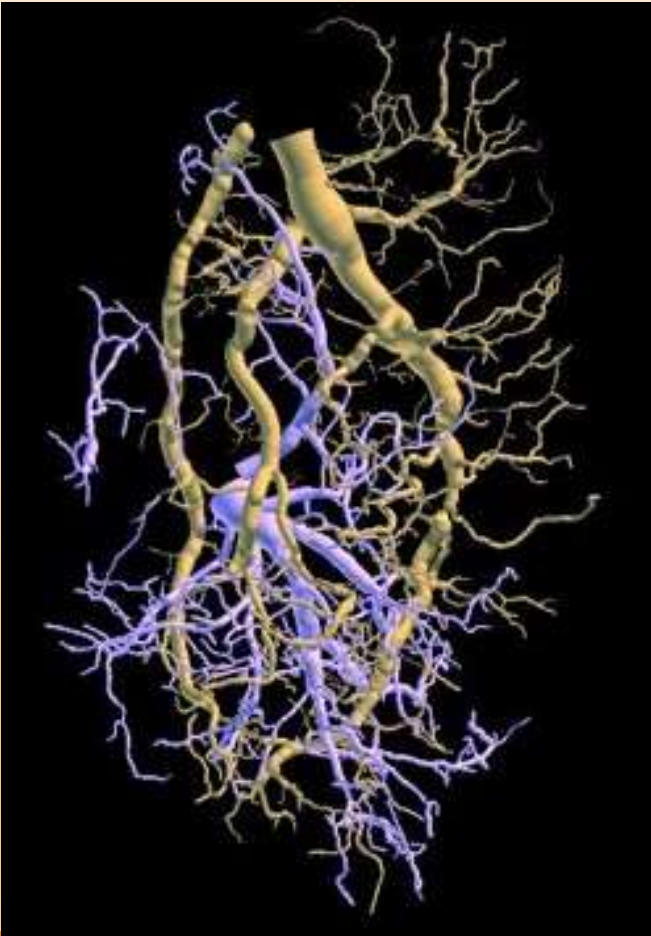
Nothing your child is exposed to is insignificant. Spread out a smorgasbord for your child and EXPOSE him to great and noble ideas and people.



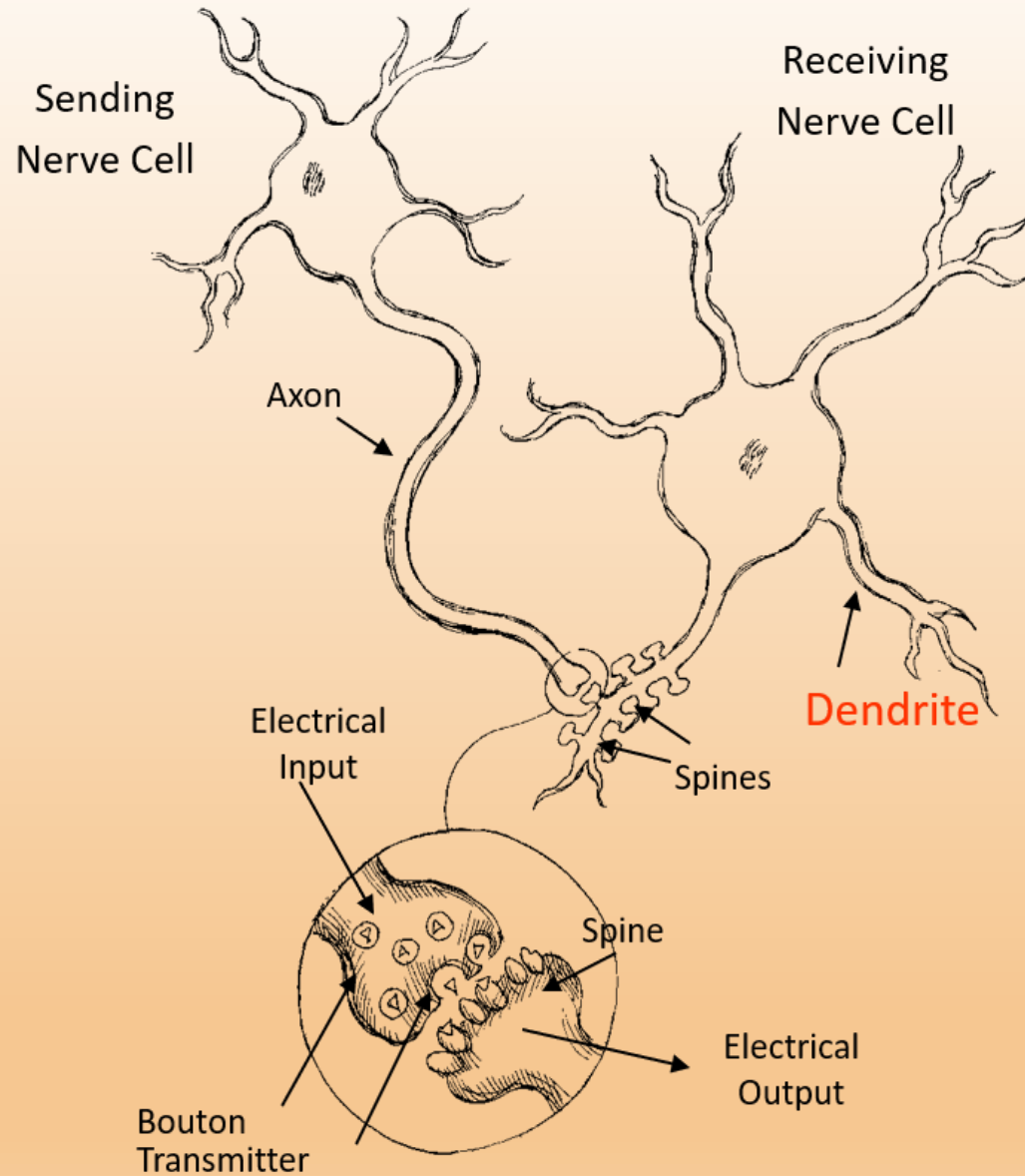
**WE BECOME WHAT WE GAZE UPON.**

# Learning is the Result of Dendrite Growth

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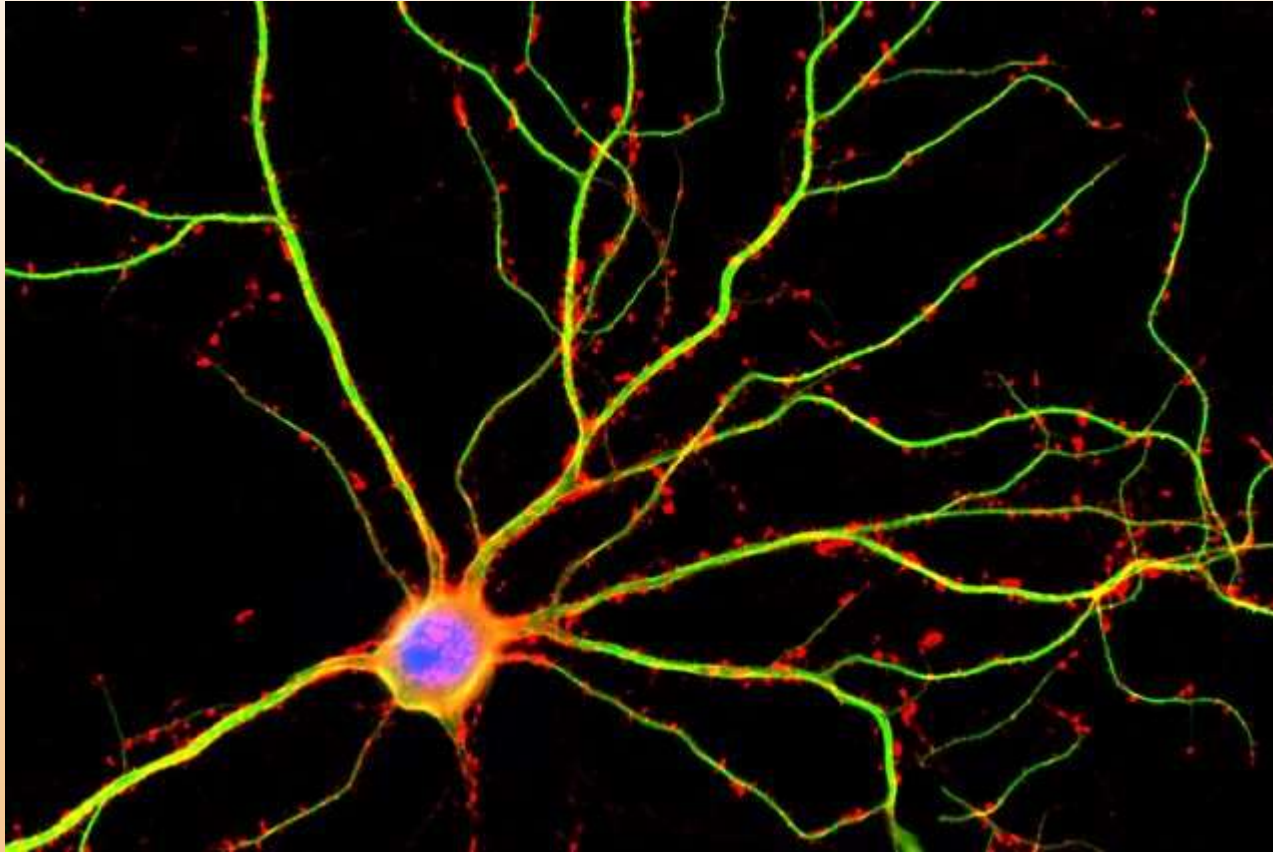


Our brains are made up of cells called **NEURONS**. Each brain has at least **100 BILLION** neurons. As we listen to, talk about, or practice something, fibers called **DENDRITES** grow out of our neurons.



Learning is built as your network of dendrites grow higher and higher, with new dendrites sprouting from existing dendrites. In other words, you're building new knowledge upon the things you already know. Growing your dendrites takes time and practice.





Some ways of growing dendrites are better than others. Learning comes through our senses.

Scientists generally acknowledge we have 21 senses. The more of these senses we use, the more we remember and the thicker and longer our dendrites grow.

# MAKING SENSE OF THE SENSES

There are many opinions about how many senses we have

SENSORY MODALITY	Conservative	Accepted	Radical
<b>Vision</b>			
Light			
Colour			
Red			
Green			
Blue			
<b>Hearing</b>			
<b>Smell</b>			
2000 or more receptor types			
<b>Taste</b>			
Sweet			
Salt			
Sour			
Bitter			
Umami			
<b>Touch</b>			
Light touch			
Pressure			
<b>Pain</b>			
Cutaneous			
Somatic			
Visceral			
<b>Mechanoreception</b>			
Balance			
Rotational acceleration			
Linear acceleration			
Proprioception – joint position			
Kinaesthesia			
Muscle stretch – Golgi tendon organs			
Muscle stretch – muscle spindles			
<b>Temperature</b>			
Heat			
Cold			
<b>Interoceptors</b>			
Blood pressure			
Arterial blood pressure			
Central venous blood pressure			
Head blood temperature			
Blood oxygen content			
Cerebrospinal fluid pH			
Plasma osmotic pressure (thirst?)			
Artery-vein blood glucose difference (hunger?)			
Lung inflation			
Bladder stretch			
Full stomach			
<b>TOTAL</b>	<b>10</b>	<b>21</b>	<b>33</b>

This list is fluid. As more research is done, other senses may be added. Just a few years ago the accepted list of senses was just 19.

# SIX KINDS OF SENSORY INPUT



**BEING THERE**



21 senses



**IMMERSION**



14 senses

**HANDS ON**

with the real thing



10 senses



**HANDS ON**

of representational items

6 senses

**2nd HAND**



3 senses

**SYMBOLIC**



$E = MC^2$  2 senses Adverbs



**“The richer the sensory input, the greater the physiological growth in the brain and thus the greater the learning that will be wired into long-term memory.”**

*Susan Kovalik, founder of the ITI and HET models for learning*





# Brain Function #2

Make Meaning of  
Information



Your child's brain makes meaning of information by sorting experiences into patterns. **The brain is a pattern-seeking device.**

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Learning is built, as your network of dendrites grow higher and higher, with new dendrites sprouting from existing dendrites. In other words, you're building new knowledge upon the things you already know (like a tree sprouting twigs from existing branches).

# Let's Play a Game!

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I'll divide the group into 2.

Group 2 will close their eyes while group 1 views the next slide.



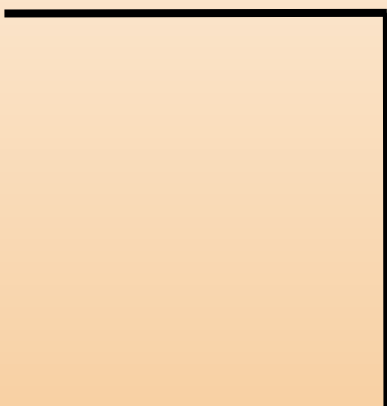
1	2	3
4	5	6
7	8	9

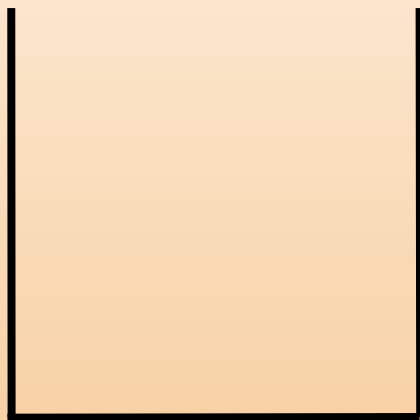


5	9	1
8	2	7
6	3	4











5	9	1
8	2	7
6	3	4



1	2	3
4	5	6
7	8	9

# How Do You Present Information So Your Children Understand the Pattern?

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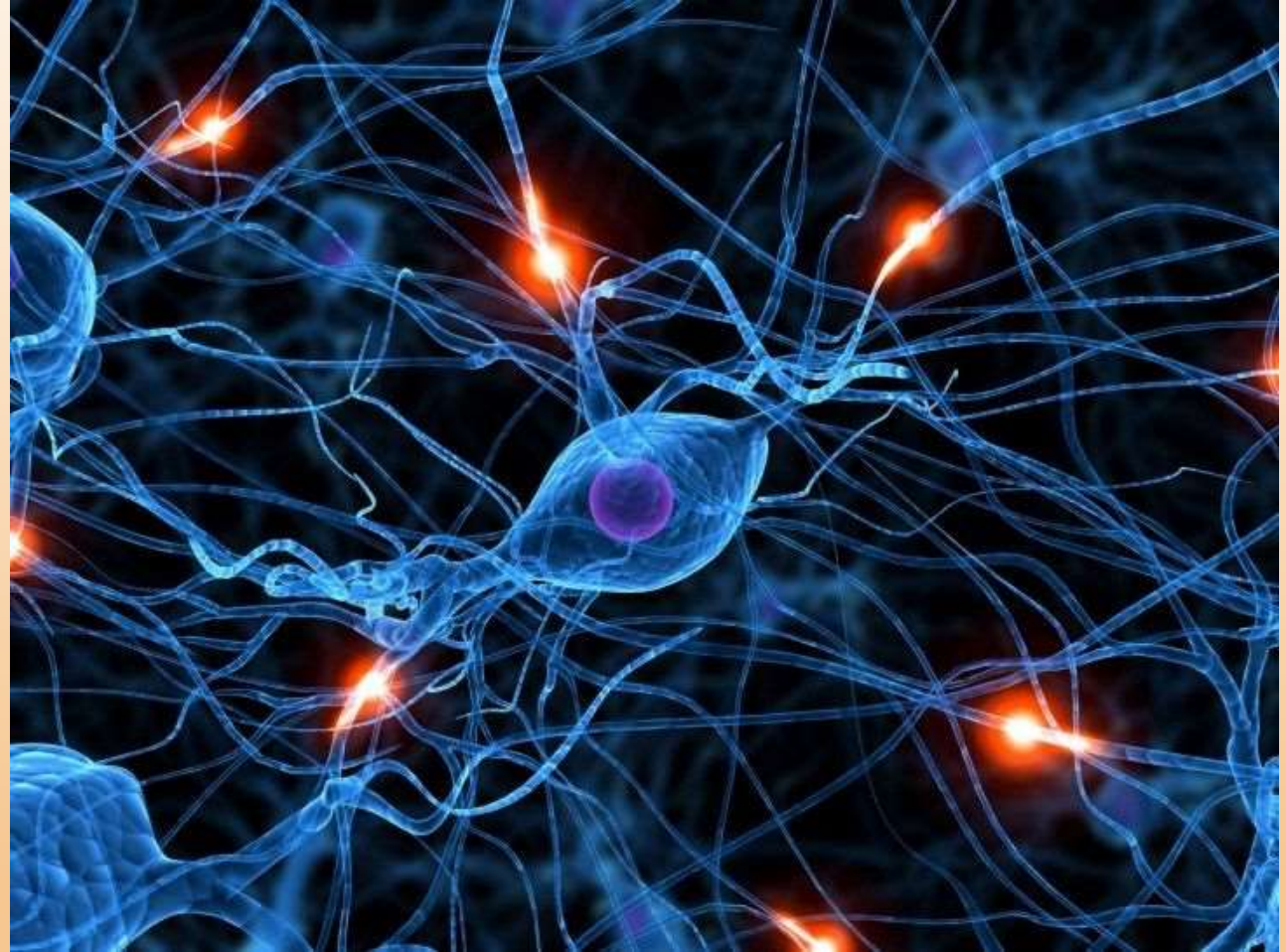
“If there is to be power in your learning experiences it must come from tapping the energies and curiosities of your children, freeing them of artificial fragmentations, and unleashing the awesome power of the brain.” *Karen Olsen, Executive Director, Center for the Future of Public Education*

“Curriculum should not be planned in such a manner that each subject is treated as a separate entity, disconnected from everything else.” *Maria Montessori, founder of Montessori Education*

When **EXPOSED** to information within a **PATTERN**, your child will more easily be able to use, catalogue, and retrieve information for future use.



When the brain sorts data into PATTERNS, then seeks to retrieve the data, the data stored in one dendrite connects with the data stored in other dendrite. This creates a brain-firing, electro-chemical interaction called “synapse.”







If the information is meaningful, (your child's brain makes meaning through **PATTERNS**), your child's brain will make electro-firing synapse connections.

**Her brain will be on fire!**

# Brain Function #3

Create new  
ideas.



**EXPOSURE** to information and **PATTERN** recognition is the beginning, but to truly understand your child needs to build a mental **PROGRAM**.

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For example – A flat tire is a **PATTERN** your child recognizes, knowing how to change it is a **PROGRAM**. A loaf of bread is a **PATTERN** your child recognizes, knowing how to bake a loaf of bread is a **PROGRAM**.

A **PATTERN** is merely the information. A **PROGRAM** is the action. True understanding comes when a child works with the information enough to build a **PROGRAM**.





Your child must do something with the information or he hasn't really learned it, because "Intelligence is a problem-solving and/or product-producing capability." *Howard Gardner, PhD, Psychologist, Educator, Author*





“Numerous studies suggest that the brains of spectators, however rich the visual images, are no different from those brains which live in impoverished environments. In other words, *if there is no active involvement, there is minimal activity in the brain.*” *Susan Kovalik*

Your child can become adept at seeing deeper meaning, and gain the ability to apply that meaning to his own life.

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How can I help Johnny learn X? 'math, geography, spelling'... should be rephrased; "How do I best stimulate Johnny's brain to make it grow, to increase the number and strength of connections being made, and to 'hard-wire' learning into long-term memory?"

*Dr. Marian Diamond, one of the founders of modern neuroscience*

“The Spirit of Inquiry enters when something has captured our attention and pulled us to engagement in meaningful work. This is what we hope to do with our children. This is one of the experiences we hope them to have regularly as we set forth on exciting learning Adventures... Inquiry is a question, a wondering, one that motivates us to ask.”

*Karen Kindrick Cox, founder of EPIC Adventures*





INQUIRIES are the activities in which your child works with the information he has learned, according to his individual choices, interests, and talents.





INQUIRIES give your child the opportunity to experiment with the information, think creatively, see new possibilities, and create new ideas.

# Brain Function #4

Act on Those  
Ideas





Give your child a **PATTERN** with inherent greatness and significant meaning connected to their lives.

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Your child can become adept at seeing deeper meaning, and the ability to apply that meaning to his own life. The capacity to see on a symbolic level is acquired by consistent, meaningful **EXPOSURE** to the symbolic **PATTERN**.

“The more powerful a brain, the more complex, finer, and subtle **PATTERNS** it can detect.” *Leslie Hart, Human Brain and Human Learning*

# Even Young Children Can Learn To Act On Ideas





# Teens Love Feeling Needed and Capable

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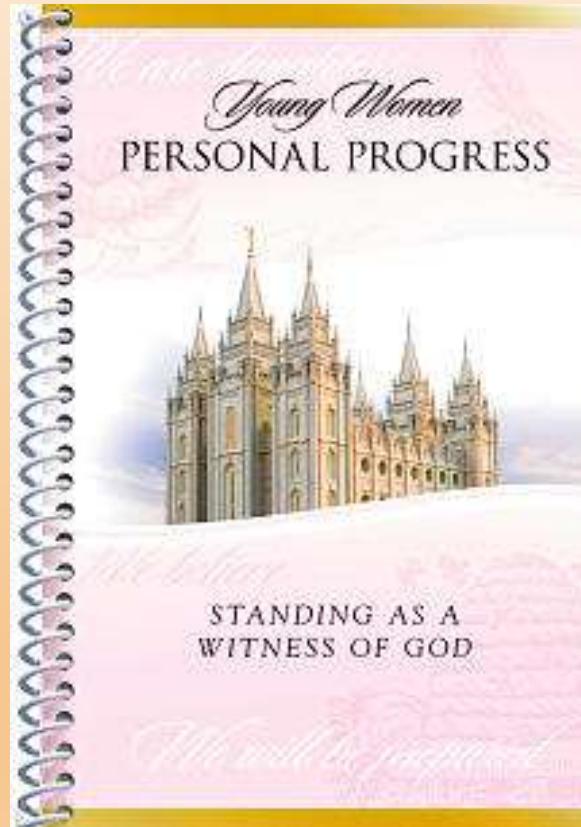
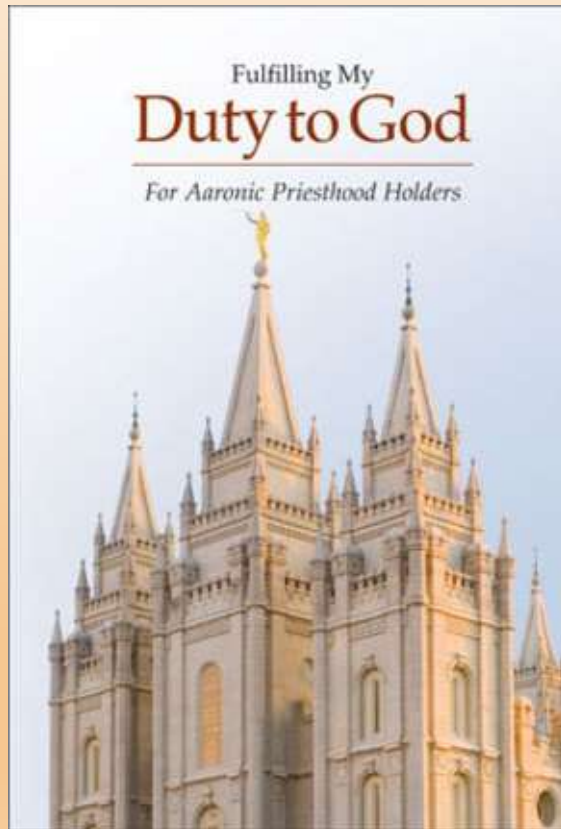


How Does the  
LDS Church  
Teach?



# What Patterns Does the LDS Church Use in Teaching Youth and Adults?

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Monthly topics for youth Sunday School (Come Follow Me), and 4<sup>th</sup> Sunday Relief Society and Elder's Quorum lessons that have the same topics for 6 months.

# Activity Days, Faith in God, Duty to God, and Personal Progress

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- Each program is divided into topics that relate back to the title (Overall theme sets the pattern, topics relate to that pattern).
- Each topic contains key points – the important things each child should know.
- After learning the key points, each topic includes choices for the child to build programs with the information and create new ideas.
- Finally, each topic includes a project where the child learns to act on what they have learned.



From the Come Follow Me youth Sunday School curriculum: “...help the youth make connections between things they are learning in various settings (such as personal study, seminary, other Church classes, or experiences with their friends). How can you help them see the relevance of the gospel in daily living?”





# Come Follow Me - Youth

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Make Connections – with what they are learning at home, in Seminary, even experiences with friends.

Learn Together – teach skills (how to study, pondering, how to feel the Spirit, etc.), share experiences, get answers from the scriptures.

Invite to Act – make plans, improve yourself, share with others

# Come Follow Me - Adult

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From the Come Follow Me adult curriculum: “...each Sunday when we gather in elders quorum and Relief Society meetings, we discuss and plan what we will do to help accomplish God’s work. To be effective, these meetings need to be more than classes. They are opportunities to counsel about the work of salvation, learn together about that work from the teachings of Church leaders, and plan and organize ourselves to accomplish it.”

**Do you SEE the PATTERN?**

1. Gather Information
2. Make Meaning of the Information
3. Create New Ideas
4. Act On Those Ideas







Romance Your Child's Heart –  
Out-romance the Competition