1. Figuring things out forces neurons to connect, raising IQ.

What activities have you developed to challenge young minds to figure out, solve, and discover?
2. Reflection strengthens brains. It examines habitual beliefs, conduct, work, and emotions.

On what occasions do you invite young people to reflect?
3. **Celebrations** trigger emotions that affect memory. They validate hard work, inspire confidence, strengthen relationships, and build community.

**What do you celebrate and when?**
4. The brain needs freedom to search for meaning. It needs freedom to make choices.

When do you encourage young people to choose—to make their own decisions?
5. The brain is a social organ. How do you help young people form positive relationships?
6. Intelligence is multiple. What different intelligences do your children draw upon?
7. The body aids memory. How do you encourage using the body to learn?
8. Emotion often overwhelms reason. How do you help young people rely on reason, not emotion?
9. Knowing the alphabet is a habit. What information do you make habitual?
10. Circuits hold morality. What ideas of right and wrong do you convey?
THE WAY THE BRAIN LEARNS BEST

1. The Brain shapes itself in response to the outside world. The five senses generate nerve impulses that cause brain cells to connect, forming circuits and networks.

Therefore: connect academic material to concrete, sensory experiences:

Sing, measure, talk, listen, write, build, draw, jump, run.

Engage all the senses to learn academic material.
2. The brain searches for meaning. Many teaching methods help the brain discover meaning.

- Link lessons with concrete, real things that engage the senses. Draw on things students already know, or create new experiences.
- Ask students to organize material into patterns that hold meaning: webs, charts, diagrams, sequences, cause-effect connections, chunking, and outlining.
- Engage in projects, problem-solving, service learning, discovery learning, and performances.
- Question, make choices, accept responsibility.

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3. Rote memory helps us acquire skills and make them automatic

- Practice, review, repeat
- Use mnemonics
- Chunk
- Rearrange
- Outline
- Summarize
- Use physical movement
4. Emotions are always with us

- We pay 3 to 5 times more attention to negative comments than to positive ones.
- The brain that is exposed constantly to negative feedback develops abnormal circuits.
- The frightened brain forces out reason.

Therefore: Make your classroom a place where students feel valued, worthy, appreciated, and connected with peers who respect them. “I am accepted, part of the class, full of potential. I can succeed.”

- To keep a memory intact, review and refresh it.
- Use visual aids, graphics, songs, rhymes, and simulations to refresh the memory.
6. The brain is a social organ. It demands that we live together harmoniously and cooperatively. Our biology demands positive relationships.

Teach students to co-exist harmoniously. Invite them to collaborate, listen deeply to how others feel, and contribute to the well-being of others.
Everyone is intelligent in several ways. Everyone has brain circuits dedicated to at least nine kinds of intelligence.

- Verbal/linguistic
- Logical/mathematical
- Spatial
- Kinesthetic (Motor coordination)
- Musical
- Naturalist
- Interpersonal, Intrapersonal
- Existentialist (Spiritual Quotient: SQ)

7. Intelligence can be raised or lowered. It is not single, but multiple. It is not fixed, but malleable, learnable.
MEMORY

• Memory is strengthened by sensory experiences.

• Sensory experiences travel to different parts of the brain, influencing countless networks of brain cells.

• An excellent way to remember information is to change it. Change it so that it reaches different senses. If students see it, let them read it or talk about it. If they hear it, they could also draw it or write it.
USING THE BODY TO LEARN

• The brain *depends* upon movement and the 5 senses.
• 95% of the brain’s information comes from touch, sight, and hearing.
• The brain learns best with the body’s help.
EATING FOR BRAIN POWER

Carbos provide glucose for Energy: whole grains, apples, vegetables
Water stabilizes circulation and transports nutrients.
Iron transports oxygen: red meat, spinach, soybeans, lentils, poppy seeds
Calcium conducts neuronal signals: milk, milk products, oatmeal, green vegetables, whole grains

Zinc aids chemical reactions, aids concentration & memory: poppy seeds, sesame, milk, eggs, meat, cheese, fish, carrots, potatoes

Unsaturated fatty acids build cell membranes: fish, walnuts, spinach, corn oil, peanut oil
BUILDING THE BRAIN

- Water carries nutrients to the brain; drink water.
- Sleep allows the brain to process and store memories. Get enough sleep.
- Chocolate releases endorphins that ease pain and cause a positive attitude. Eat chocolate.
- Laughter releases endorphins. Laugh
- Reflect for 10 minutes each day. (Unless doing so causes you stress. Avoid stress!)
• Language builds intelligence, so read. Carry a book everywhere.

• Build dendrites. Learn something new everyday. *Use it or lose it.*

• Exercise is essential: The brain uses 20% of the oxygen you take in at any moment, so walk in the fresh air. Exercise also strengthens memory and releases endorphins that reduce stress.
Neurobics: Brain Exercise

- Do new things, or do old things in a new way
  - Change your shopping path in the store
  - Make a garden
  - Exercise: go for a walk, shoot baskets
  - Change the seating pattern at meals
  - Change the location of things in your space
  - Change the route you take to work
  - Brush your teeth with the opposite hand
A human being is part of the whole universe, a part limited in time and space. But we experience ourselves--our thoughts and feelings—as separate from the rest. This is a delusion of consciousness, a prison. It restricts us to affection for the few nearest us. We must escape prison by valuing everyone.

Albert Einstein (paraphrase)