



### Explanatory Metaphor

## Brain Architecture

A metaphor to help the public understand sensitive periods of development in children's lives.



### The story you're telling:

The basic architecture of the brain is constructed through an ongoing process that begins before birth and continues into adulthood.



### Strategically redirects thinking away from patterns such as:

- The belief that 'real' learning and skill development begin when children reach the age at which they enter formal school.
- The assumption that healthy development happens automatically if children's physical needs are met.
- The understanding of the brain as a 'container' for information, rather than as a dynamic location of skill development.
- The understanding of skill development as innate and passive process that develops through mimicry.



### Concepts and ideas included in this frame element:

- **Construction is orderly.** We lay the foundation, frame the rooms and wire the electrical system in a predictable sequence. Similarly, advances in neuroscience have shown that neurological development follows predictable stages, including rapid synapse formation at some periods, the pruning of neural connections at others and the development of specific neural circuits at specific stages.
- **This construction project starts early – really early.** Science shows that brain development begins before birth. The first three years of life, including infancy, are an especially intense period of neurological development.
- **The strength of the foundation matters a lot.** Early experiences literally shape the brain; they establish either a sturdy or a fragile foundation for the development and behaviour that follow.
- **Getting things right the first time matters.** Building a strong foundation in the early years increases the probability of positive outcomes, while a weak foundation increases the odds of later difficulties.
- **Construction is a process, not an event.** Development is an ongoing process that begins before birth and continues into adulthood.
- **In any building project, there are periods of intense activity.** While development begins in infancy and continues into childhood, adolescence and adulthood, there are two especially intense periods of brain development: the early years and adolescence. In addition, specific brain circuits have specific sensitive periods.
- **This house has a complex floor plan.** A diverse set of skills and abilities are established in the early years, including cognitive and emotional development as well as physical skills and speech acquisition. Emotional development is a biologically based aspect of human functioning; it is wired into young children's brains in response to their individual personal experiences and the influences of the environments in which they live.
- **Building is an active process.** Neurological development occurs through early experiences, interaction with adults and sensory experiences with the environment.