The Human Brain

- Critical Periods of Brain Development
  - The areas of the brain develop at different times
  - Stimulation during the time of development is necessary
  - Most critical periods occur prior to age 6

During critical periods of development, children need adequate stimulation for optimum brain development. If these periods are missed, children are much more likely to develop learning, behavioral, emotional or health problems later in life.
The Human Brain

- Patterns of behaviour and emotional response set in the early years are very difficult to change or make up for with later intervention, even though the brain continues to develop and mature in many areas.

- Promoting early brain development
  - Love
  - Nurturance
  - Dependable and consistent interaction
The Human Brain

'Sensitive Periods' in Early Brain Development

"Pre-school" years

School years

Graph developed by Council for Early Child Development (ref: Nash, 1997; Early Years Study, 1999; Shonkoff, 2000.)
The Human Brain

- Habitual responses, vision, hearing and emotional control are all critical at birth and begin to decline at one year. By year 4 development is minimal in these areas.

- Language sensitivity also peaks early in the first year but remains active well into the school years.

- Numbers, conceptualization and social skills do not peak until the second year and continue to develop for some time after that.
The Human Brain

• The more words a child hears by age two, the larger his/her vocabulary will grow.

• Toddlers taught simple math ideas, like bigger or smaller, and more or less, do better in math when they are older.

• Early exposure to music helps develop skills which improve a child’s ability to think things through and make decisions.
The Human Brain

- Provide an example of how a caregiver could positively affect the development of a child’s...
  - Language
  - Emotional control
  - Vision
  - Peer social skills
  - Habitual responses

*Remember the age at which each of these critical stages takes place!*
The Human Brain

FOR FUN:

- While sitting at your desk, lift your right foot off the floor and make clockwise circles. Now, while doing this, draw the number “6” in the air with your right hand.
The Human Brain

- Your foot will change direction and there’s nothing you can do about it!
The Human Brain
The Human Brain

GREEN
BROWN
BLUE
YELLOW
PINK
BLACK
RED
ORANGE
PURPLE
The Human Brain

Left brain = language
Right brain = colour recognition

- Your brain is fighting with itself to recognize the colour with language that is written incorrectly.

- Brain Hemispheres: left and right
- [http://www.youtube.com/watch?v=UyyjU8fzEYU](http://www.youtube.com/watch?v=UyyjU8fzEYU)
- Jill Bolte Taylor
The Human Brain

Left Brain Function
- uses logic
- detail oriented
- facts rule
- words and language
- present and past
- math and science
- can comprehend
- knowing
- acknowledges
- order/pattern perception
- knows object name
- reality based
- forms strategies
- practical
- safe

Right Brain Function
- uses feeling
- "big picture" oriented
- imagination rules
- symbols and images
- present and future
- philosophy & religion
- can "get it" (i.e. meaning)
- believes
- Appreciates
- spatial perception
- knows object function
- fantasy based
- presents possibilities
- impetuous
- risk taking
The Human Brain

- Left brain, Right brain Quiz – find which side is your dominant side.
  http://www.intelliscript.net/test_area/questionnaire/questionnaire.cgi

- How can knowing your dominant side help you?