



## Glossary of terms Early Childhood Intervention

### ABCDEFGHIJKLMNOPQRSTUVWXYZ

#### A

##### **Abstract thinking**

The ability to grasp concepts, values or processes that cannot be experienced directly through the senses.

##### **Abuse and neglect in children**

Child abuse occurs when a parent, guardian or caregiver mistreats or neglects a child, resulting in injury, or significant emotional or psychological harm, or serious risk of harm to the child. Child abuse entails the betrayal of a caregiver's position of trust and authority over a child. It can take many different forms.

*Source:* The National Clearinghouse on Family Violence.

##### **Academic skills**

All the course subjects learned at school and that are based in reading, writing and completing number operations.

##### **Adaptive skills**

The ability to adjust to new situations and to apply familiar or new skills to those situations. These skills are required to perform everyday activities, such as communicating, dressing, and household tasks.

**Alliteration**

When two or more words starts with the same sound (for example jumping jaguars).

**Alternative therapies**

These are therapies and strategies that are considered non -traditional, or less traditional. Professionals in the medical and therapy fields will only rely on therapies that have been approved by members of the academic research community.

**Anencephaly**

Anencephaly is a defect in the closure of the neural tube during fetal development. Anencephaly occurs when the "cephalic" or head end of the neural tube fails to close, resulting in the absence of a major portion of the brain, skull, and scalp. Infants with this disorder are born without a forebrain (the front part of the brain) and a cerebrum (the thinking and coordinating part of the brain).

*Source;* National Institute of Neurological Disorders and Stroke

[http://www.ninds.nih.gov/disorders/cephalic\\_disorders/cephalic\\_disorders.htm](http://www.ninds.nih.gov/disorders/cephalic_disorders/cephalic_disorders.htm)

**Antidepressant medication**

Some research suggests that abnormalities in neurotransmitter activity affect mood and behavior. SSRIs seem to relieve symptoms of depression by blocking the reabsorption (reuptake) of serotonin by certain nerve cells in the brain. This leaves more serotonin available in the brain. Increased serotonin enhances neurotransmission — the sending of nerve impulses — and improves mood. SSRIs are called selective because they seem to affect only serotonin, not other neurotransmitters.

*Source:* <http://www.mayoclinic.com/health/ssris/MH00066>

### **Antiepileptic drugs**

Antiepileptic drugs decrease membrane excitability, increase postsynaptic inhibition or alter synchronization of neural networks to decrease excessive neuronal excitability associated with seizure development. Common side effects of decreasing neuronal excitability, however, are slowed motor and psychomotor speed, poorer attention and mild memory impairment (Meador, 2005).

*Source: Cognitive Side Effects of Antiepileptic Drugs in Children By David W. Loring, Ph.D. Psychiatric Times September 2005 Vol. XXII Issue 10*

### **Apraxia**

a=no- or without-; praxia=action; term refers to someone who struggles with actions, e.g., language, motor.

### **Areas of development**

These are also called developmental areas or developmental domains and include the following: physical, motor, language, cognitive, social, emotional and adaptive.

### **Argumentative**

A child who tends to argue.

### **Arnold-Chiari malformation**

Arnold Chiari malformation is a serious neurological disorder where the bottom part of the brain, the cerebellum, descends out of the skull and crowds the spinal cord, putting pressure on both the brain and spine and causing many symptoms.

*Source: Conquer Chiari <http://www.conquerchiari.org/index.htm>*

### **Articulation**

The ability to produce and connect vowel and sounds, i.e. pronunciation.

**Articulate (or to pronounce)**

To *pronounce* and to *articulate* are similar terms and refer to making the vowels and consonants in a word clear for others to understand.

**Assembling**

As they grow older, children learn to put together pieces that will create a picture, an image or a form.

**Assess**

To assess includes to observe, to test with educational and learning tools, and to talk to teachers and parents of the child.

**Asthma**

Asthma is a recurring inflammation of the lungs which is caused by certain triggers. These triggers inflame the airways and cause them to temporarily narrow causing difficulty in breathing.

Source: [http://www.lung.ca/diseases-maladies/asthma-asthme/children-enfants/index\\_e.php](http://www.lung.ca/diseases-maladies/asthma-asthme/children-enfants/index_e.php)

**Asymmetry**

Asymmetry= not the same type of damage to the left and right sides of the body

**At risk**

It is important to note that, for the purposes of this course, the term “at risk” does not refer to safety only. The term “at risk” includes ESTABLISHED, BIOLOGICAL and ENVIRONMENTAL conditions that could place a child at risk for developmental delays.

**Auditory and verbal therapy**

Auditory and verbal therapy refers to techniques that use both signs and language to communicate with children; therapists may blow bubbles, use special books and

materials with animated images and different textures to stimulate language production in the child.

### **Auditory stimuli**

All sounds made by human, animals or objects. May include words, music, noises from the environment like rain, or a car honk, fire alarm, etc.

## **B**

### **Babble**

Putting consonant and a vowel together. Babies will first repeat the consonant-vowel combination once (i.e. ba, da...), and then will repeat it over and over again (i.e. babababa, badabaga...).

*Source:* Coleman, 2006.

### **Behavior Intervention Plan (BIP)**

A Behavior Intervention Plan (BIP) utilizes observations that have been completed by a specialized teacher through a special form of assessment known as [Functional Behavioral Assessment](#). The information collected through the Functional Behavioural Assessment is then discussed with parents and teachers or ECE service providers and then a plan is conceived to manage the child's behaviour that will include activities and specific routines.

### **Beliefs**

Family beliefs develop in the broader social and cultural context. They influence how we interpret the beliefs of the broader social and cultural context. They are seen as truth by family members, i.e. "This is the way things are because this is the way they are".

*Source:* HPERF 258 Lecture – Indiana University

[www.indiana.edu/~hperf258/lectures/Beliefs.ppt](http://www.indiana.edu/~hperf258/lectures/Beliefs.ppt)

### **Belief systems**

Parents' attitudes towards rearing their child are based on their own previous experiences and how they were raised as children.

### **Blindness**

Includes legally blind and totally blind:

- "Legally blind" indicates that a person has less than 20/200 vision in the better eye or a very limited field of vision (20 degrees at its widest point); and
  - "Totally blind" students learn via Braille language or other non-visual media.
- (IDEA)

### **Blood transfusion**

A blood transfusion is a safe procedure in which blood is given to you through an intravenous (IV) line in one of your blood vessels.

### **Boards of Education**

The provincial government and B.C.'s 60 elected Boards of Education co-manage the education system in British Columbia. The province establishes the amount of grant funding for public education annually, and uses a funding formula to allocate these funds to Boards of Education. Boards manage and allocate their allotment based on local spending priorities. In addition, the province provides capital costs and funding for special programs through supplemental government funds.

The funding allocation system provides financial resources for the operation of the K-12 system by using data collected from schools and districts and applying formulae to ensure equity across British Columbia.

Source: <http://www.bced.gov.bc.ca/k12funding/>

### **Brushfield' spots**

These are small white spots present on the iris (the colored part of the eye). These spots are harmless, and can be seen in people without Down syndrome as well.

Source: National Down Syndrome Society

[http://www.ndss.org/index.php?option=com\\_content&view=article&id=175%3Avision-and-down-syndrome&catid=60%3Aassociated-conditions&Itemid=88&limitstart=1](http://www.ndss.org/index.php?option=com_content&view=article&id=175%3Avision-and-down-syndrome&catid=60%3Aassociated-conditions&Itemid=88&limitstart=1)

## C

### **Captioned films/videos**

These are films and videos with subtitles (preferably in different languages).

### **Categories**

As they grow older, children learn to group objects that “belong” and leave out those that “do not belong” into categories; for example, all other blocks that are not red or of a certain shape need to be kept out of the container.

### **Cause for hearing loss**

This is also called “etiology.” This is a medical term and means “ the study of the causes” for a condition or disease.

### **Central auditory processing system (CAPD)**

Children with CAPD have problems with their central auditory processing system and even if they hear, they do not know what to do of the information they receive.

Source: <http://www.tsbvi.edu/seehear/spring00/centralauditory.htm>

### **Cerebral palsy**

Cerebral palsy (*CP*) is the term for a group of lifelong neurological disorders of varying severity that alter body tone and impair movement.

Source: Cerebral Palsy — The Dana Guide By Alexander H. Hoon, Jr. and Michael V. Johnston March 2007

### **Children with special needs**

A “student with special needs” means a student who has a disability of an intellectual, physical, sensory, emotional or behavioural nature, has a learning disability or has exceptional gifts or talents”. Ministerial Order 150/89 Special Needs Students Order

*Source:* <http://www.bced.gov.bc.ca/roundtable/snfunding.pdf>

### **Chromosomal analysis**

These are also called ‘cytogenetic analyses’ and consist of specialized lab tests that examine the appearance of all chromosomes and can pick up abnormalities other than fragile X syndrome that could cause intellectual impairment. Direct DNA analysis of the Fragile X gene can identify fragile X carriers and provide prenatal diagnosis.

*Source:* A.T. Taylor, M.D., PH. D.) In: The National Fragile X Foundation, [www.fragilex.org](http://www.fragilex.org)

### **Chromosomal disorder**

A **chromosomal disorder** is any syndrome characterized by atypical formations or functions in any of the body’s systems, caused by abnormal chromosome number or constitution. Normally, humans have 46 chromosomes arranged in 23 pairs. The pairs vary in size and shape and are numbered. Twenty-two of the pairs are autosomes, and one pair, pair 23, is the sex chromosomes. Any variation from this pattern causes abnormalities.

*Source:* Encyclopaedia Britannica

<http://www.britannica.com/EBchecked/topic/116049/chromosomal-disorder>

### **Chromosomal non-disjunction**

This means that the cells do not separate and results in an error in cell division. The embryo then has three copies of chromosome 21 instead of the usual two. Prior to (or during) the conception, a pair of 21<sup>st</sup> chromosomes in either the sperm or the egg fails to separate. As the embryo develops, the extra chromosome is replicated in



every cell of the body. This type of Down syndrome, which accounts for 95% of cases, is called Trisomy 21.

*Source:* National Down Syndrome Society

[http://www.ndss.org/index.php?option=com\\_content&view=article&id=60&Itemid=77](http://www.ndss.org/index.php?option=com_content&view=article&id=60&Itemid=77)

### **Class inclusion**

The understanding that some classes or sets of objects are also sub-class of a larger class. For example, roses are a sub-class of a larger class called flowers.

### **Cognitive behavioural therapy**

CBT is a psychological treatment that addresses the interactions between how we think, feel and behave. It is usually time-limited, focuses on current problems and follows a structured style of intervention.

*Source:*

[http://www.health.gov.bc.ca/library/publications/year/2007/MHA\\_CognitiveBehaviouralTherapy.pdf](http://www.health.gov.bc.ca/library/publications/year/2007/MHA_CognitiveBehaviouralTherapy.pdf)

### **Cognitive development**

The developmental area that involves thinking skills, including the ability to receive, process, analyze, and understand information.

### **Communicate with others**

This is in contrast to just talking to themselves or to repeating words or sentences without a purpose.

### **Comprehension deficit**

This means that children/adolescents have difficulty understanding the meaning of the information they receive; this is linked to CAPD.

### **Concrete operations**

Logical thinking is starting about objects, people and events. For example a child will understand that her dog is a poodle, that a poodle is a dog, and that a dog is an animal.

### **Conduct disorder**

A repetitive and persistent pattern of acting out behaviours which violate the rights of others and societal norms.

*Source:*

<http://download.cmha.ab.ca/Edmonton/Mental%20Illness%20in%20Children.pdf>

### **Congenital heart disease**

Congenital heart disease refers to a problem with the heart's structure and function due to abnormal heart development before birth. Congenital means present at birth.

*Source:* University of Maryland medical Center

<http://www.umm.edu/ency/article/001114.htm>

### **Cooperative play**

This involves two or more children playing together.

### **Cultural Safety**

Cultural Safety refers to making sure that people who receive services receive no threats to their identity. Maori nurses in New Zealand coined this terms for patients who received health services from health practices that were mainstream.

*Source:* <http://www.ruralhealth.utas.edu.au/indigenous-health/RevisedCulturalSafetyPaper-pha.pdf>

## **D**

### **Deaf**

Incidence: Hearing impairments are considered a low incidence disability; approximately 1 – 3% of the school population in North America (ages 5 – 19) are reported with having a hearing loss or deafness. The Early Hearing Screening program in BC is helping parents and service providers in identifying newborns with hearing loss and connecting them with the appropriate services.

*Source:*

<http://www.phsa.ca/AgenciesServices/Services/BCEarlyHearingPrgrs/default.htm>

### **Deafness**

A hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification (IDEA).

### **Deaf-blindness**

Concomitant [simultaneous] hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational needs that they cannot be accommodated in special education programs solely for children with deafness or children with blindness.

### **Developmental milestones**

Basic developmental skills that are usually achieved within a certain age range, including walking and talking, among many others.

### **Diagnosis**

A statement about what disease someone has, based on examining them.

*Source:* The Macmillan Dictionary online

<http://www.macmillandictionary.com/dictionary/british/diagnosis>

**Disruptive sleep pattern**

This means that by age 4 years children continue to wake up several times at night, without being sick or hurting. Children have nightmares or night terrors most of the time.

**District**

Every school belongs to a community of schools within a neighborhood or region. This is called a district and this is where the administration of this group of schools resides. Some of the services are provided at the district level, for example, alternate support workers, school psychologists, family workers and others.

**Divergent thinking**

Refers to having different ideas than the norm about a topic of discussion.

**Dual sensory loss**

Dual sensory loss means that the children have **two** senses that have been affected, vision and hearing.

**Dust mites**

Very little creatures that live in the surrounding home environment, including carpets, pillows, and mattresses.

**E**

**Early Learning Programs**

These programs aim at increasing school readiness and success in kindergarten. They also require that a parent is present when the child participates in the program.

Source: [http://www.bced.gov.bc.ca/improving\\_achievement.htm](http://www.bced.gov.bc.ca/improving_achievement.htm)

### **Echolalia**

The repetition of someone else's words or whole sentences, just for the sake of repetition. There is usually no comprehension or communication involved.

Repeating like an echo is very common in young children between one and two years old. Past this stage, however, echolalia is considered a serious red flag, in the development of children's language skills.

*Source:* Coleman, J. G. (2006). *The early intervention dictionary: a multi-disciplinary guide to terminology*. Bethesda, MD: Woodbine House. Additional reference: *The World Book Dictionary* (2003) <http://www.worldbook.com/>

### **Encopresis**

Encopresis refers to the voluntary or involuntary passage of stools causing soiling of clothes by a child over 4 years of age.

### **Environmental risk conditions**

Environmental risk conditions refer to those conditions present in the child's life and that are related to conditions at home, with his or her family, as well as conditions in his or her surrounding community.

*Source:* Sameroff, A. (1998). *Pediatrics*, 102(5), 1287-1292. Supplement November 1998.

### **Envirottype**

There is a social organization that regulates the way a human being fits into their society. This is created by culture and family patterns of socialization as well as language.

### **Epicanthal fold**

An epicanthal fold is skin of the upper eyelid -- from the nose to the inner side of the eyebrow -- that covers the inner corner (canthus) of the eye.

*Source:* US National Library of Medicine/National Institutes of Health  
<http://www.nlm.nih.gov/medlineplus/ency/article/003030.htm>

### **Epilepsy**

Epilepsy is a disorder that results from the generation of electrical signals inside the brain, causing recurring seizures.

*Source:* The Mayo Clinic online

<http://www.mayoclinic.com/health/epilepsy/DS00342>

### **Expressive language**

Refers to the ways children make themselves understood by others, first by pointing, then when using words (examples include labeling objects and asking questions).

### **Eye disorder**

A medical condition that affects the eye and may impact the vision; for example, near or far-sightedness; and many others.

### **Eye-hand coordination**

This is the children's ability to coordinate movement between what their eyes are seeing and what they want their hands to do. For instance, the ability to reach for the right toy, put the puzzle piece in the correct hole on the puzzle form and the ability to move the spoon from the plate to the mouth all involve good eye/hand coordination.

## **F**

### **Family-centred approach**

Family-centered help giving includes practices that treat families with dignity and respect; are individualized, flexible, and responsive to family concerns and priorities; include information sharing so that families can make informed decisions; honor family choice regarding any number of aspects of program practices and intervention options; use parent-professional collaboration and partnerships as a context for family--practitioner relations; and promote families'

abilities to obtain and mobilize resources and supports necessary for them to care for and rear their children in competency strengthening ways (Dunst, 1995; Shelton & Stepanek, 1994; Trivette & Dunst, 2000).

Source: Dunst, C., (2005) *Checklist for assessing adherence to family centered practices* [www.fippcase.org/casetools/casetools\\_vol1\\_no1.pdf](http://www.fippcase.org/casetools/casetools_vol1_no1.pdf)

### **Feeling “bad” about oneself**

This refers to negative “self-esteem”.

### **Fine motor skills**

The developmental area that involves skills which require the coordination of the small muscles of the body, such as the hands and face.

## **G**

### **Generalizing**

Refers to knowing how to use information in similar situations.

### **Genetic counseling**

Genetic counselors will provide parents who plan to have a baby about their chances to carry genes for certain inherited disorders.

Source: [www.kidshealth.org](http://www.kidshealth.org)

### **Genetic disorder**

A disorder that relates to heredity, or inherited to genes.

### **Genotype**

The genetic makeup of an individual, the biological make-up.

**Gestational Age**

The age of a baby at birth in terms of the number of weeks and days of a baby they spent in their mother’s uterus (or womb) since the time they were conceived.

**Goodness of fit**

This refers to the “match” between the temperaments of the adult/caregiver and the child.

*Source:* Bretherton, 1992.

**Government legislation**

This means that they need to follow the guidelines of the Ministry of Children and Family Development.

*Source:* MCFD [http://www.mcf.gov.bc.ca/child\\_protection/](http://www.mcf.gov.bc.ca/child_protection/)

**Gross motor skills**

The developmental area that involves skills which require the coordination of large muscle groups, such as those in the arms, legs and trunk.

**H**

**Hearing impairment**

An impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance (IDEA).

**Hierarchical**

Hierarchical means that skills follow a certain order; one must happen before the other one.



**High and low incidence group**

High incidence refers to conditions or diagnoses that are 5% or more in the school age (5 – 18 years) population; for example, learning disabilities, and attention deficit disorder. Low incidence refers to conditions or diagnoses that are less frequent in the school age population, for example Down Syndrome, 1 in 1000 students.

**how much” or “how many” words**

These are known as qualitative concepts.

**Humorous way**

This means that they use language for fun.

**Hyperflexibility or hypermobility**

Hyper mobile [or hyperflexible] joints are joints that move beyond the normal range with little effort. Joints most commonly affected are the elbows, wrists, fingers, and knees. From the Greek, hyper= more, an increase of...

*Source:* US National Library of Medicine/National Institutes of Health

<http://www.nlm.nih.gov/medlineplus/ency/article/003295.htm>

**Hypersomnia**

Hypersomnia - children may oversleep, most of the day and feel lethargic and with low energy.

**Hypertonia**

This means that muscles are too tight and do not move smoothly.

**Hypotonia**

This means muscles that are too loose, and children may not have full control over their muscles.

### **Hyperventilation**

This means that the child breathes too hard and does not get the right intake of oxygen.

## **I**

### **IDEA**

The Individuals with Disabilities Education Act (IDEA) is a federal law enacted in 1990 and reauthorized in 1997. It is designed to protect the rights of students with disabilities by ensuring that everyone receives a ***free appropriate public education*** (FAPE), regardless of ability. Furthermore, IDEA strives not only to grant equal access to students with disabilities, but also to provide additional special education services and procedural safeguards.

Source: <http://www.help4adhd.org/education/rights/idea>

### **Idiom**

Idiom is a manner of speaking that is natural to native speakers of a language.

Source: Princeton University Lexical database

[http://www.google.ca/search?hl=en&client=firefox-a&rls=org.mozilla%3Aen-US%3Aofficial&biw=1280&bih=818&as\\_st=y&q=idiom+definiton&aq=f&aqi=g-s1g-sx8g-msx1&aql=&oq=](http://www.google.ca/search?hl=en&client=firefox-a&rls=org.mozilla%3Aen-US%3Aofficial&biw=1280&bih=818&as_st=y&q=idiom+definiton&aq=f&aqi=g-s1g-sx8g-msx1&aql=&oq=)

### **Imitating**

This means they copy what others do; for example actions, sounds, gestures.

### **Impact**

This means that the level of support children require is specific to learning, task completion, and transition times. In contrast, “moderate” to “severe” degree impact refers to support require for daily routines including dressing, feeding, toileting, and/or mobility.

### **Impulse control**

The ability to control a sudden, spontaneous, irresistible urge, desire or action. For example: I found out that my sister was eavesdropping on my phone call and it made me really angry. I stopped to think, breathe, and then explained her calmly why she made me feel so upset.

### **Incest**

Incest is another form of child sexual abuse. Incest is sexual abuse of a child by an adult that is closely related to the child.

*Source:* Criminal Code of Canada

<http://sascwr.org/resources/pdfs/Legal/CRIMINAL%20CODE%20OF%20CANADA.pdf>

### **Inclusion**

The term inclusion/inclusive systems and programs refer to the full enrolment and participation of children with special needs in preschool, school or community-based programs

*Source:* Coleman, 2006, p. 202.

### **Individual differences**

For some children, developing or acquiring certain milestones, like walking, can take more time than other children at their same age. This does not necessarily mean that they are faster or slower. Children's rate of development varies from one child to the next. The learning of any skill usually falls within a certain range in months or years. If the child is not over or under that range, their development is considered to be typical, even if it occurs slightly earlier or later than other children. If a child's acquisition of certain skills is drastically faster or slower than other children, they are referred to as developing 'atypically' either too fast or accelerated, or too slow (developmentally delayed).

### **Insomnia**

This means that the child cannot sleep or sleeps very few hours every night.

**Insulin**

*Insulin* is a hormone that lowers the level of glucose (a type of sugar) in the blood.

Source: [www.kidslhealth.org](http://www.kidslhealth.org)

**Integration support**

This means that a special education teacher from the district meets with the Kindergarten classroom, the principal and parents and any other professional working with the child to plan transition into school. Usually this will include planning the Individualized Educational Program or IEP (see Module 3, special education teacher).

**Intelligence**

Intelligence is a combination of the ability to:

- Learn. This includes all kinds of informal and formal learning via any combination of experience, education, and training.
- Pose problems. This includes recognizing problem situations and transforming them into more clearly defined problems.
- Solve problems. This includes solving problems, accomplishing tasks, fashioning products, and doing complex projects.”

Source: Theories of intelligence <http://otec.uoregon.edu/intelligence.htm>

**Intimacy**

Intimacy refers to an involvement in a close relationship.

**Intonation**

This refers to the tone of someone’s voice (low or high or flat).

**Intrusive**

Children may touch other children’s genital parts, or try and penetrate (for boys) other girls or boys.

## J

### **Joint action**

The way a baby engages with his/her parent/caregiver in the same activity.

*Source:* Coleman, J. G. (2006). *The early intervention dictionary: A multi-disciplinary guide to terminology*. Bethesda, MD: Woodbine House.

### **Joint attention**

The way a baby pays attention to the same object, image or sound that the adult is paying his/her attention.

*Source:* Coleman, J. G. (2006). *The early intervention dictionary: A multi-disciplinary guide to terminology*. Bethesda, MD: Woodbine House.

## L

### **Language for social reasons**

This is in contrast to just talking to themselves or to repeating words or sentences without a purpose.

### **Lower level of intensity**

This means that children's daily activities are partially –but not totally—limited by their condition in terms of physical/health, learning, play, and social-recreational activities.

## M

### **Make inferences**

A mental process by which we reach a conclusion based on specific evidence. For example: if you see that the oven is on and it's on high temperatures then it is probably hot.

**Manic or “high” mood**

Persistently elevated or “high” mood.

**Matching**

As they grow older, children learn to match objects that are similar by one, two, three or more characteristics, or “attributes” (e.g., colour, shape, and size).

**Metabolic disturbances**

Metabolic disturbances refer to inherited metabolic disorders refer to different types of medical conditions caused by genetic defects — most commonly inherited from both parents — that interfere with the body's metabolism.

Source <http://www.mayoclinic.org/inherited-metabolic-disorders/>

**Midline**

Invisible line that separates the right side of the body from the left side.

**Milestones**

These are basic developmental skills that are usually achieved within a certain age range, including walking and talking, among many others.

**Misconception**

An incorrect conception, a mist.

**Modifying**

Refers to changing or adapting as needed.

**Mosaicism**

Mosaicism is another error in cell division. This time, when chromosome 21 does not divide - this is called nondisjunction in one-but not all-of the initial cell divisions after the sperm fertilizes the egg. When this occurs, there is a mixture of two types of cells. Some of the cells will have the usual 46 chromosomes; others will contain an

extra chromosome 21 - so a total of 47 chromosomes instead. One percent of all cases of Down syndrome are related to Mosaicism. Children with mosaic Down syndrome may have fewer characteristics of Down syndrome than those with other types of Down syndrome, like translocation or nondisjunction during the fertilization. At the same time, it is difficult to generalize - every individual with Down's Syndrome is unique in their range of abilities.

*Source:* National Down Syndrome Society

[http://www.ndss.org/index.php?option=com\\_content&view=article&id=60&Itemid=77](http://www.ndss.org/index.php?option=com_content&view=article&id=60&Itemid=77)

### **Motor coordination**

The inability to coordinate one's muscle, when one is using them. This may result for the child to look 'awkward' or 'clumsy', because he/she is doing what they are supposed to do in an uncoordinated manner.

*Source:* Coleman, 2006.

### **Motor planning**

The ability to plan and follow through with a certain sequence of movements, in order to carry out a certain task.

*Source:* Coleman, 2006.

### **Motor skills**

The learned ability to perform movements such as holding the body in an upright position, using the hands to handle small toys, eating with a spoon and moving the lips and tongue to express different sounds.

### **Muscle tissue**

The layers of muscles covering the bones.

### **Muscle tone**

The level of tension in a muscle, when this muscle is resting. Too much muscle tone is called hypertonia and involves very stiff muscles. Too little muscle tone is called hypotonia and involves very floppy muscles.

*Source:* Coleman, 2006.

### **Multi- or inter-disciplinary teams**

Multi-disciplinary and inter-disciplinary refer to working with others who may be trained in different careers or disciplines, for example, teachers, family workers, physicians, nurses, lawyers. In multi-disciplinary teams, every member does their work and report on their own; in inter-disciplinary, all members share the information and report this information together.

### **Mutism**

This means that the child refuses to talk; this is called “selective mutism.” The child may also not talk at all because of fear.

### **Myoclonic seizures**

Usually presents with rapid muscle jerks. These may be caused by:

- Benign (non-epileptic myoclonus): similar to the jerks one has when falling asleep.
- Benign myoclonic epilepsy: A rare disorder that starts between 4 months and 2 years
- Severe myoclonic epilepsy: A disorder that results in chronic progressive brain damage
- Lenox-Gastaut syndrome: A severe epileptic disorder, associated with atypical absence (atonic and myoclonic), slow spike wave complexes on EEG, and mental retardation.

*Source:* Child Brain <http://www.childbrain.com/seizure1.shtml>



## **N**

### **Nesting cups**

The ability to put a series of objects, usually small cups, into one another, in order of smallest to the largest one, as shown in this picture.

### **Neurobehavioural**

Neurobehavioural refers to a condition that affects the central nervous system and the behaviour or ways children behave and interact in their environments.

### **Neurodevelopment**

Neurodevelopment is a term that refers to the development of the nervous system that is related to all the skills a child acquires.

### **Neuromuscular**

Neuromuscular refers to a disease that affects the central nervous system and the control over muscles in the human body.

### **Neurotransmitters**

Communication of information between neurons is accomplished by movement of chemicals across a small gap called the synapse. Chemicals, called neurotransmitters, are released from one neuron at the presynaptic nerve terminal.

*Source:* <http://faculty.washington.edu/chudler/chnt1.html>

### **Non-Organic Failure to Thrive**

Infants and young children who fail to eat or drink without a known medical or health cause.

*Source:* <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1777114>

**Non-responsive environment**

This term refers to environments that do not meet children's needs for safety, affection, play and social interactions. This is even if children are fed, dressed, changed and put to sleep following routines.

**Non-verbal cues**

Refers to facial expressions and/or gestures with hands and other body movements that mean something; for example, shrugging one's shoulders means either not knowing or not caring in many cultures across North America and Europe.

**Non-verbal language**

Non-verbal language uses signs and gestures instead of words or numbers.

**O**

**Object permanence**

The understanding that an object continues to exist if it cannot be seen. Babies will first only continue to seek a disappearing object if part of it is visible. Only when they are older (at around six months of age) will babies fully understand that an object continues to exist, even if it is completely invisible.

*Source:* Coleman, 2006.

**Obsessive thoughts**

This means that the thoughts do not go away, they take over; for example, germs all over, cannot touch anything.

**One-to-one correspondence**

This refers to knowing that each object can and should only be counted once in a sequence. That is, when we are counting objects, we cannot skip an object or count an object twice...

### **Open-ended questions**

These are questions require longer answers, e.g. I played hopscotch and ball as opposed to just ball.

### **Oppositional defiant disorder (ODD)**

Negative, disobedient, or defiant behavior that is worse than the normal "testing" in children and adolescents.

Source: <http://www.minddisorders.com/Ob-Ps/Oppositional-defiant-disorder.html#ixzz11idw6xzW>

### **Over-generalizing**

Instead of naming cars, trucks, motorcycles and bikes by their names, children use car to group all of these means of transportation with wheels.

## **P**

### **Panic attack**

This means that the child freezes suddenly and may even feel they cannot breathe, when feeling fearful or nervous about something

### **Parent handbook**

A parent handbook has been produced by the Oncology/Hematology/BMT program and the Department of Patient/Family Education at Children's Hospital. It is an excellent source of information and is given to parents when their child has been diagnosed with cancer. Health care professionals will find valuable information in the handbook as well.

Source:

<http://www.bcchildrens.ca/Services/OncHemBMT/ForFamilies/Parentinformation.htm>

**Pattern**

As they grow older, children learn that objects can follow a certain order or “sequence” and this forms a pattern (e.g., colours, shapes, numbers, and others).

**Parallel play**

This involves two or more children playing on their own, side by side.

**Pediatric immunologist**

Pediatric immunologists treat serious medical conditions, such as autoimmune disorders or serious chronic conditions, also known as chronic ailments, like asthma and other respiratory conditions.

Source: [http://pediatrics.medicine.dal.ca/clinical/imm\\_clinical.htm](http://pediatrics.medicine.dal.ca/clinical/imm_clinical.htm)

**Phenotype**

The visible characteristics of an individual resulting from the interaction between its genetic make-up (genotype) and the environment.

**Phobia**

A *phobia* is a type of anxiety disorder. It is a strong, irrational fear of something that poses little or no actual danger.

Source: <http://www.nlm.nih.gov/medlineplus/phobias.html>

**Phoneme awareness**

Refers to recognizing the beginning, middle and ending sounds in word. Simple exercises: telling the difference between cat and bat; engaging in rhyming exercises (e.g. what rhymes with bat?); complex exercises: engaging in segmentation exercises (e.g. what sounds are in “cat”?); engaging in blending exercises (e.g. if I put 'ta' and 'ble' together, what do I get?).

**Phonemes**

The smallest segmental unit in the sound system of a language (for example, baby has four phonemes).

**Physical abuse**

May involve hitting a child a single time, or it may involve a pattern of incidents. Physical abuse also includes behaviour such as shaking, choking, biting, kicking, burning or poisoning a child, holding a child under water, or any other harmful or dangerous use of force or restraint. Child physical abuse is usually connected to physical punishment or is confused with child discipline.

*Source:* The National Clearinghouse on Family Violence.

**Physiological function**

When it comes to bowel and bladder control, it is the child's ability to control his/her bladder and rectal muscles. This function does not usually develop until the child is two years of age or older.

**Poor environmental conditions**

For example, ongoing loud noises may cause hearing loss; other toxic conditions (gases, being in touch with chemical products, including home cleaning products) may cause vision loss.

**Poverty line**

Example: A family earning less than \$37791 in 2004 would have been living below the *poverty line*. According to the LICO index (2005).

*Source:* Canadian Social Development Council

[http://www.ccsd.ca/factsheets/fs\\_lico04\\_bt.htm](http://www.ccsd.ca/factsheets/fs_lico04_bt.htm)

**Practices**

The ways in which each family raises their children; these include the way children learn to relate to others, or socialization patterns.

Source: Baker, L., Afflerbach, P. & Reinking, D. (1996). *Developing engaged readers in school and home communities*. Mahwah, NJ: Lawrence Erlbaum

### **Pragmatics**

This term refers to the practical aspect, or the social use, of language. Most children and grown-ups use language in order to communicate with another person. Using language to ask, label, or protest something and agree or disagree with someone are all part of the pragmatics of language

### **Pre-academic skills**

Language, motor, social, emotional and self-help skills learned before attending school. For example, before writing letters and numbers, the child needs to know how to hold and to manipulate an object (like a stick, a shovel or a paintbrush) in his hand.

### **Pretend play**

For example, pretending to be a super hero or imitating others while cooking or dressing-up.

### **Process information**

This is when children see and hear without any difficulty. However, even when they pay attention or listen to information, they cannot understand or make any meaning of it; children with these difficulties find it hard to learn while at school.

### **Professionals**

These include the following:

- Infant/child development consultants
- Aboriginal infant/child development consultants
- Speech and language pathologists
- Physio-therapists

- Occupational therapists
- Vision specialists
- Hearing specialists
- Social workers
- Family workers
- Child, Youth and family workers
- Behavior interventionists/consultants
- Psychologists
- Nurses
- Dieticians/nutritionists
- Infant mental health specialists
- Music/dance and movement/art/play therapists
- Special support workers (including special education assistants)

**Pronounce (or to articulate)**

To *pronounce* and to *articulate* are similar terms and refer to making the vowels and consonants in a word clear for others to understand.

**Proprioceptive system**

It is the child's sense of the position of his/her body in space. It system allows us to be aware of what our body is doing, in relation to the surrounding environment. It allows us to understand our body's position and movement in space.

*Source:* Coleman, 2006.

**Protective factors**

Protective factors buffer children from being abused or neglected. These factors exist at various levels. Protective factors have not been studied as extensively or rigorously as risk factors. However, identifying and understanding protective factors are equally as important as researching risk factors.

Source: Center for Disease Control

<http://www.cdc.gov/violenceprevention/childmaltreatment/riskprotectivefactors.html#2>

### **Psychoanalysis**

Psychoanalysis involves long-term psychotherapy and counseling for patients. In many cases, medications are administered to correct chemical imbalances that cause emotional problems.

### **Psycholinguistics**

The study of the natural language components.

### **Psychotherapy**

Psychotherapy involves regular discussions with patients about their problems; the psychiatrist/psychologist helps them find solutions through changes in their behavioral patterns, the exploration of their past experiences, or group and family therapy sessions.

### **Punish**

An action that is painful or humiliating that a more powerful person does to a less powerful one in hope of producing a change in behavior.

Source: Gershoff, E. T. (2002). Parental corporal punishment and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128, 539–579.

## **Q**

### **Quality of skills**

For example, a child may develop a certain cognitive skill, but may not master it the way other children do. For instance, a child may learn about colours, like red and



yellow, but may not always recognize them and/or confuse certain similar colours with each other when matching them, and/or when naming them.

### **Quantity of skills**

For example, a child may not ever acquire or develop a certain cognitive skill. For example, a child may never learn to distinguish that there are difference between shapes and colours and try and guess what are the different shapes or colours.

## **R**

### **Read and write**

This refers to difficulties with phonemic awareness; these are a part of the pre-literacy skills. For example, understanding that “b” is the beginning sound for the word “ball”.

### **Receptive language**

The ability to understand what is being expressed in verbal and non-verbal communication.

### **Recreational activities**

For example, swimming, playing baseball, or any other sports; or participating in arts and crafts activities.

### **Regulating**

The ability to organize and respond to internal stimuli, as well as environmental demands. Examples for this behavior are: control of body temperature, heart rate, respiratory rate, intended body movements and excitement level.

*Source: Coleman, J. G. (2006). The early intervention dictionary: A multidisciplinary guide to terminology, 3rd edition. Downsview, ON: Woodbine House.*

**Rejection**

Children are hypersensitivity to failure or rejection from peers and adults in their life.

**Repetitive rituals**

This means that the child can only do certain activities in a certain way; for example, go to sleep only in a certain pair of pajamas and the one pillow placed in a specific position.

**Resilient**

Refers to children and individuals who manage to survive and thrive under high stress conditions.

**Retaining**

“Retaining” is linked to memory and remembering what has been learned in the past, as well as new information.

**Risk factor**

This means that language delay may be related to other conditions that impact on the child’s development.

**Rough and tough play**

Physically and energetic behaviors such as chase, jump and play fight, that come with by positive affect from the players towards one another.

**S**

**Scribble**

The child uses the pencil or crayon to doodle on any surface (paper, board, or the wall!).

**Secondary level of intervention**

This is the next level of intervention, after prevention.

**Selective attention**

The ability to concentrate on relevant sensory input while ignoring irrelevant input. For example if they are busy playing a game with their friend they will ignore the TV sound from the other room.

**Self-esteem**

This is what the child thinks of him or herself

**Self-stimulatory**

Engaging in repetitive actions in order to obtain pleasure or gratification. They include persistent, repetitious abnormal behaviors, which interfere with the child ability to “sit still”. Examples include: hand flapping and rocking, or spinning the wheels of a toy truck without exploring it in other ways.

Source: Accardo, P. J. & Whitman, B. Y. (2002). *Dictionary of developmental disabilities terminology (2nd Ed.)*. Baltimore, MD: Paul H. Brooks Publishing Co.

Coleman, J. G. (2006). *The early intervention dictionary: A multidisciplinary guide to terminology, 3rd edition*. Downsview, ON: Woodbine House.

**Sensory integration technique**

These are techniques that help children organize the information they receive through their senses (vision, hearing, touch, smell and taste) Sensory integration therapy uses these techniques.

Source:

<http://www.canchild.ca/en/canchildresources/resources/Sensory%20Integration.pdf>

**Sentence**

Sentences have a subject (S), or someone doing the action, a verb, or action (V), and a predicate (P), or what happens or the content of the sentence: for example, “ My friend loves to read books” (S V P).

**Sexual abuse**

When a child is used for sexual purposes by an adult or adolescent. It involves exposing a child to any sexual activity or behavior.

*Source:* The National Clearinghouse on Family Violence.

**Sexual harassment**

Sexual harassment is unwelcome conduct of a sexual nature that that harms a victim. Sexual harassment can occur in the workplace or outside the workplace as tenants, students, and other people can also be victims of harassment. It can interfere with an employee’s ability to do a job, or create a hostile, intimidating, or offensive work environment. It can affect a tenant’s rental housing situation or a student’s education.

*Source:* The Canadian Bar Association, BC Branch

[http://www.cba.org/bc/public\\_media/employment/271.aspx](http://www.cba.org/bc/public_media/employment/271.aspx)

**Sexual molestation**

The act of subjecting someone to unwanted or improper sexual advances or activity (especially women or children).

*Source:* Princeton Lexical database

[http://www.google.ca/search?hl=en&biw=1280&bih=787&as\\_st=y&q=definition+molestation&aq=f&aqi=g-c2g1g-m1g-v1g-b3&aql=&oq=](http://www.google.ca/search?hl=en&biw=1280&bih=787&as_st=y&q=definition+molestation&aq=f&aqi=g-c2g1g-m1g-v1g-b3&aql=&oq=)

**Serotonin inhibitors**

Some research suggests that abnormalities in neurotransmitter activity affect mood and behavior. SSRIs seem to relieve symptoms of depression by blocking the reabsorption (reuptake) of serotonin by certain nerve cells in the brain. This leaves

more serotonin available in the brain. Increased serotonin enhances neurotransmission — the sending of nerve impulses — and improves mood. SSRIs are called selective because they seem to affect only serotonin, not other neurotransmitters.

*Source:* <http://www.mayoclinic.com/health/ssris/MH00066>

### **Sight words**

Words that the reader can recognize automatically without having to "sound them out" (for example: I, he, to, in).

### **Simian crease**

Single crease across the centre of the palm of children with Down's syndrome.

*Source:* National Down Syndrome Society

[http://www.ndss.org/index.php?option=com\\_content&view=article&id=60&Itemid=77](http://www.ndss.org/index.php?option=com_content&view=article&id=60&Itemid=77)

### **Simple procedures or operations**

The specific steps for putting a specific concept into effect.

### **Social anxiety**

Social anxiety refers to persistent feelings of anxiety, discouragement and frustration during social interactions.

### **Social behavior**

Refers to typical ways peers and adults greet, play, engage in conversations.

### **Social/emotional skills**

The developmental area that involves the development of self-concept and the skills that allow the child to function in a group that to interact properly with others.

**Social exclusion**

For children and families to experience lack of participation; i.e., not feeling welcome; having a perception of being alienated from a certain program or activity. Social exclusion may be related with different types of disadvantages including poverty and/or disability” Source and additional information available through the *Source: Organization of European Community Development (OECD)*

<http://www.oecd.org/dataoecd/20/21/1856939.pdf>

**Social reference**

This involves a child using an adult to determine whether or not they should approach a situation, e.g. with other children, or to engage in play with a certain toy. The child tries to "read" the parent (smile, frown) for approval or disapproval.

**Solitary play**

This involves a child playing by itself without needing someone to play with him/her.

**Spastic**

spastic= tense, contracted muscles

**Specialist of different disciplines**

This refers to professionals in different areas; these may include a child psychiatrist, a developmental pediatrician, a social worker, and family therapist, among others

**Standardized tests**

This refers to a test that shows specific tasks and steps to be completed. This type of test is based on norms that have been calculated based on many schools, communities, or different groups of people. This process of determining established norms and procedures for a test to act as a standard reference point for future test results is called standardization. This way, testers may complete measures that are comparable, or equivalent in different places (for example, countries, provinces, or

locations within a city or town). Examples of the most used standardized tests for children include the Stanford-Binet and the Wechsler Intelligence Test;

*Source:* Health of Children <http://www.healthofchildren.com/U-Z/Wechsler-Intelligence-Test.html>

### **Stock standard phrases**

These are short phrases with general content, that the child use over and over without paying attention to the content of the conversation; for example, “Afraid you were going to say that” “Against my religion” “Let’s agree to disagree’.

### **Stress**

How do we know if our family is experiencing stress? Probably the best way is through the individual impressions of family members. Thinking about the general pace of your family life can be helpful. Families under stress may report some of the following:

- sense of urgency

*Source:* University of Illinois <http://urbanext.illinois.edu/nibbles/getalong-stress.html>

- little time to spend together
- sense of frustration (too much to do)
- desire for the simpler life
- never time to relax
- explosive arguments
- bickering
- conversations centered on time and tasks, rather than people and feelings
- meals eaten in haste
- constant rushing from place to place
- escaping into work or other activity
- isolation in room
- sense of guilt

### **Supervision and training**

This means supervision of patients and/or other counselors.

### **Syllables**

Many words can be divided into two, three or more 'syllables,' for example: co-lour (two syllables); um-brel-la (three syllables); cal-cu-la-tor (four syllables) and others.

Short words like ball or dog cannot be divided into syllables.

## **T**

### **Team**

This refers to professionals from different fields working together, using an interdisciplinary approach where each one shares their skills (e.g., speech language therapist, medical specialists, teacher, social worker) together with parents.

### **Temperament**

This refers to the way children are, what makes up their 'personalities.'

### **Theory of mind**

Theory of mind is a cognitive skill that develops when the child is around 4 years old. The child is able to have understanding of other's people perspectives and feelings.

### **Thinking outside the box**

This is also called "divergent thinking skills" – The definition of divergent thinking refers to "generating many different ideas about a topic in a short period of time."

*Source:* University of Washington <http://faculty.washington.edu/ezent/imdt.htm>

### **Thrive**

Healthy children eat, drink and sleep regularly. Some children (but not all) may continue to eat, drink and sleep even during stressful health or environmental



conditions. Children who “fail to thrive” under these circumstances of high stress cannot eat, drink or sleep. These children are at-risk for delays in their growth and development.

### **Total communication**

Total communication is the using any means of communication -- sign language, voice, fingerspelling, lip-reading, amplification, writing, gesture, visual imagery (pictures). The sign language used in total communication is more closely related to English. The philosophy of total communication is that the method should be fitted to the child, instead of the other way around. Another commonly used term for total communication is simultaneous communication, known as sim-com.”

Source: <http://deafness.about.com/cs/communication/a/totalcomm.htm>

### **Tradition**

A very old custom, belief, or story.

Source: MacMillan Dictionary

<http://www.macmillandictionary.com/dictionary/british/tradition>

### **Transactional Model of Development**

Dr. Sameroff is best known for developing the transactional model of development, which describes the ways in which the child, parent, and environment affect each other and the child’s development. He has advised or participated in several prominent national research efforts focusing on early childhood mental health and development.”

Source: <http://www.zerotothree.org/about-us/board-staff/arnold-sameroff-bio.html>

### **Translocation**

This is the transfer of one part of a chromosome to another part of the same or a different chromosome, resulting in rearrangement of the genes.

### **Trauma**

Trauma means that the body and the emotional well-being of the child are impacted. Sometimes the child's basic functions, or physiological functions feel this impact and suffer changes. These may include not eating, not sleeping, going back, or regressing in toileting functions. The child may feel constantly anxious and as if on the edge.

### **Trigger**

These conditions or illnesses may cause for the mood disorder to show at a certain point in time.

### **Turn-taking skills**

The ability to be a part of an activity or conversation that requires at least two participants. In babies, this would involve the ability to play peek-a-boo and pat-a-cake. In young children, this involves the ability to play cooperatively with others and engaging in a meaningful conversation with another person.

*Source: Coleman, J. G. (2006). The early intervention dictionary: a multi-disciplinary guide to terminology. Bethesda, MD: Woodbine House.*

*Additional reference: Benson, J.B. & Haith, M. (2009). The Social and Emotional Development in Infancy and Early Childhood. San Diego, CA: Elsevier.*

## **U**

### **Unresponsive**

This means that children may get their basic needs met (food, changing, clothing and shelter), but do not get the affection and emotional response they need from their caregivers.

## V

### **Values**

These refer to the family's attitudes and preference towards different issues including race, disability, different lifestyles, and others.

*Source:* Beale Spencer, M. (1982). *Children's cultural values and parental child rearing experiences*. Available online since 2004 at:

[http://www.sciencedirect.com/science?\\_ob=ArticleURL&udi=B6WDH-4D702XJ-1X&user=1022551&coverDate=12%2F31%2F1983&rdoc=1&fmt=high&orig=search&origin=search&sort=d&docanchor=&view=c&acct=C000050484&version=1&urlVersion=0&userid=1022551&md5=9599a5f45af72b601a480e2322896d57&searchtype=a](http://www.sciencedirect.com/science?_ob=ArticleURL&udi=B6WDH-4D702XJ-1X&user=1022551&coverDate=12%2F31%2F1983&rdoc=1&fmt=high&orig=search&origin=search&sort=d&docanchor=&view=c&acct=C000050484&version=1&urlVersion=0&userid=1022551&md5=9599a5f45af72b601a480e2322896d57&searchtype=a)

### **Vestibular system**

This is the system that provides children with their sense of balance. The vestibular system is located in the inner ear and is responsible for allowing the child to stay balanced, when he/she stands, sits or walks. The vestibular system also allows the child to enjoy doing leaps and bounces when 'roughhousing' or rough playing, for fun, with siblings or peers.

*Source:* Coleman, 2006.

### **Very close**

This refers to "personal space" where children do not realize that others may not be comfortable.

### **Visual impairment**

Includes partially sighted and low vision:

- Partially sighted" indicates some type of visual problem has resulted in a need for special education.

- "Low vision" generally refers to a severe visual impairment, not necessarily limited to distance vision. Low vision applies to all individuals with sight who are unable to read the newspaper at a normal viewing distance, even with the aid of eyeglasses or contact lenses. They use a combination of vision and other senses to learn, although they may require adaptations in lighting or the size of print, and, sometimes, Braille (IDEA).

### **Voyeurism**

Voyeurism is viewing some form of nudity or sexual activity, accompanied by sexual arousal. To be classified as a sexual disorder, or a paraphilia, voyeurism must be characterized by observing unsuspecting individuals, usually strangers, who are naked or engaging in sexual activity, for the purpose of seeking sexual excitement.

*Source:* APA Diagnostic Statistics Manual, Quoted in Meg S. Kaplan and Richard B. Krueger, "Voyeurism: Psychopathology and Theory" in *Sexual Deviance: Theory, Assessment and Treatment* (New York: The Guilford Press, 1997), pp. 297-310, at p. 297. From the Justice Department, Government of BC

[http://www.justice.gc.ca/eng/cons/voy/part1\\_context.html](http://www.justice.gc.ca/eng/cons/voy/part1_context.html)

## **W**

### **Words that describe objects**

These are known as qualitative concepts

### **Words that describe space and/or distance**

These are known as spatial concepts