



## PlayGym Background Information

The PlayGym resource has been designed for early childhood educators, parents and caregivers of children under 5 years, to help combat the sedentary lifestyle which has been developing over time with TV's and computers.

There are many things changing in our society which means that our children under 5 years are not moving around as much as they did in the past. They are:

- ❑ Emphasis on technology – there is a perception that learning in the 21<sup>st</sup> century should be computer orientated.
- ❑ Safety restrictions – risk (something you can see and make a decision upon) v hazard (something that pops up unexpectedly and is unpredictable)
- ❑ Stranger danger – Someone is going to do something horrible to your child or take them away – it is now perceived to be unsafe to play in the park.
- ❑ Baby aids – jolly jumpers, baby walkers, exo saucers, back packs, front packs, car seats (when used outside the car) are now restricting the movements children can make – these gadgets are for adults benefits not the child's.
- ❑ Busy lifestyle – children in day care for long periods of time with parents/caregivers working.
- ❑ Single parent families – pressure on solo parent to earn
- ❑ Lack of extended families – more grandparents working and families living in different cities/countries

The PlayGym resource, which consists of a series of cards in a folder, has hundreds of activities to stimulate the learning in children under 5 years.

### The areas of learning are:

**Vision** – Vision is understanding what you see, if you haven't used your other senses to experience an object/subject such as a cow or cooked bacon, then visual perception does not develop. For example a newborn sees clearly for up to 10cms in front of its face but has no perception of vision because it has had very few experiences. Children need to touch, smell, taste, see and hear to gain experiences and develop visual perception.

Activities where the eyes move develop neural pathways (brain cell connections) and are needed for two main reasons:

- 1) Reading – The head needs to keep still while the eyes track along a page of text – this is called Fixation
- 2) Following an object – The eyes need to track an object as it moves through the air so that we can catch it/hit it or follow it – this is called Tracking

**Landing & Spring** – A child will jump from 2 feet to 2 feet anytime from 18 months old and is an important milestone. Spring & Landing is a daily activity for us all and we do it without noticing i.e. jumping off the pavement to cross the road safely. When talking about jumping, it is assumed that both feet will leave the ground at the same time. If a child is still not jumping two feet together this can be an indication that the child is still functioning in the bilateral stage of development (where neither side of their body is dominant). This is also an indicator that dominance (which hand do I write with) is also not fully established.

**Balance** – The Vestibular (or balancing) system is one of the 1<sup>st</sup> body systems to develop and starts 6 weeks after conception with the baby moving gently in the utero. Key Points are:

- ❑ It controls our sense of movement and balance.
- ❑ Children need to have lots of slow swinging, spinning, rolling, turning experiences to activate the Vestibular (balancing) system to develop fully.
- ❑ This system is the sensory system considered to have the most important influence on the other sensory systems and on the ability to function in everyday life.
- ❑ Directly or indirectly, the vestibular system influences nearly everything we do.
- ❑ It is the unifying system in our brain that modifies and coordinates information received from other systems.
- ❑ The vestibular system functions like a traffic officer, telling each sensation where and when it should go or stop.
- ❑ It tells us which way is up when we dive into water.
- ❑ It controls 20% of our vision
- ❑ It allows us to maintain our body position both stationary and while we are moving.
- ❑ It controls our body so that we can sit still and it is in full view when you see a top quality athlete for example, score a try – it looks great because they are on balance.
- ❑ Boys traditionally have Vestibular (balancing) systems that are slower to develop than girls because they tend to do everything at a faster pace i.e. walking across a plank suspended off the floor, boys would run and girls would walk.

Children with under developed Vestibular (balancing) systems are often the children who fidget and are easily distracted.

**Rotation** - Is our ability to turn around an axis.

There are 3 different axis we use:

- ❑ Longitude axis – around vertical (i.e. spinning on the spot)
- ❑ Transverse axis – around the horizontal (i.e. a forward roll)
- ❑ Medial axis – around middle axis (i.e. a cartwheel)

We use rotation every day – standing on the side of the road and turning your head to look for coming traffic is a longitudinal rotation.

Rotating stimulates the Vestibular (balancing) system – see above

**Swing** – Is the ability to turn around an external axis i.e. a bar or a tree.

Swing has the same mechanical principles as rotation i.e. the farther away from the centre of the body the slower the swing is – short arms make the swing faster!

Being able to hold your body weight and swing is ideal for developing upper body strength and after children have learnt to control their large motor skills (which developing the upper body helps) they can move on to learning to control their fine motor skills such as those used for writing.

Swing stimulates the Vestibular (balancing) system – see above

**Manipulative Skills** – The ability to send and receive objects such as throwing a ball, kicking a ball or catching a beanbag.

Vision is a key part to Manipulative skills. Fixation and Tracking (see Vision section) are required for hand eye coordination, foot eye coordination and hand foot eye coordination.

Manipulative Skills are required for all ball games i.e. rugby, netball, soccer.

Young children need many experiences of Manipulative Skills to develop depth perception and accuracy. They also require slow moving objects such as such as feathers to catch, to make the activity successful and for them to experience the actions.

**Spatial Awareness** - An organised awareness of the objects in the space around us, and also an awareness of our body's position in space.

Without this awareness, we would not be able to pick food up from our plates and put it in our mouths. We would have trouble reading, because we could not see the letters in their correct relation to each other and to the page.

Athletes would not have the precise awareness of the position of the other players on the field and the movement of the ball, which is necessary to play effectively.

Spatial awareness requires that we can integrate information from all of our senses.

Studies have suggested a link between a well developed sense of spatial awareness and artistic creativity, as well as success in maths. It can also be important in the development of abstract thought. The ability to organise and classify abstract mental concepts is related to the ability to organise and classify objects in space. Visual thinkers, in particular, will tend to use their visual imagination to organise abstract thought.

**Imaginative Play** - Imagery is a means of communicating with the young and storytelling is a form of engaging a child's mind and imagination.

Imaginative Play stimulates visualisation which is the ability to see a picture in our head.

Imaginative Play helps to combat the effects of spending too much time in front of screens - visualisation ability is often poor as all the information is always there for the child and the child does not have to imagine.