



The Sand Factory

Proludic[®]

The Sand Factory : a play area inspired by real life.

The Sand Factory has been specially designed for users between **2 and 8 years old** and includes a wide range of different workstations encouraging the extraction, transportation and moulding of sand. The different play functions draw their inspiration from activities found in real life factories and quarries (conveyor belts, mining carts, foundries etc).

The ergonomics of the play elements have been designed for optimal use by children and allow a huge range of play and learning experiences to be undertaken. **These play activities stimulate the senses and aid the development of key skills such as: motor, social and educational.**

Children play with and learn about the properties of sand through a range of different activities and processes.

The Sand Factory encourages social play.

The different activities are designed in a trail that allows interaction with other children. Children transport sand from one work station to another at which a new group of children are then responsible for the transformation of the sand. These different stages teach the children the benefits of teamwork and develop their organisational skills.

The educational benefits of sand

The movement and transformation of sand offers excellent learning opportunities for children.

Children discover a material that is not a solid object but made up of a combination of many different elements.

Children learn about and develop further understanding of processes and terms such as: emptying, filling, drying, rotating, soft, hard, fragile and solid.

This learning experience is facilitated by the use of the Sand Factory structures. Children make an important association between the fun of playing and the process of learning.



The Sand Factory work stations

Digger



Objective: extract and assemble the sand
Operation: fitted with a rotating seat, one lever operates the shovel and the other the lifting arm.
Skills developed: motor skills, coordination, inspection
Link to everyday life: digging machines, JCB

Conveyor Belt



Objective: transport the sand towards a bucket
Operation: turn a handle in order to set the belt in motion
Skills developed: motor skills, inspection, cooperation
Link to everyday life: industrial conveyor belts

Foundry



Objective: obtain the form of a frog by filling the mould
Operation: place the mould under the funnel in order to fill it
Skills developed: concentration, coordination, fine motor skills
Link to everyday life: industrial moulds

Stencil



Objective: design a frog by placing sand on the stencil
Operation: apply the sand and then remove the stencil
Skills developed: fine motor skills, concentration, organisation
Link to everyday life: all forms of stencils

Scales



Objective: weigh the sand
Operation: balance the sand on one side against the counterbalance of the frog
Skills developed: inspection, concentration, fine motor skills
Link to everyday life: the use of scales and weights



The form chosen for the moulds is the frog which is the emblem of Proludic

Crane



Objective: lift the sand from ground level on to the platform

Operation: fill the bucket and lift it with the chain

Skills developed: motor skills, cooperation,

dexterity

Link to everyday life: lift, waterwheel

Hoist



Objective: transport sand from one platform to another

Operation: move the bucket with the help of the guiding rail

Skills developed: motor skills, cooperation,

dexterity

Link to everyday life: industrial hoists, wells

Block mould



Objective: use the mould to create a 3-D frog

Operation: after filling the mould remove the tray

Skills developed: fine motor skills, dexterity, concentration

Link to everyday life: moulds (domestic, industrial)

Mining cart



Objective: transport the sand from a platform

Operation: push the cart that then automatically empties at the end of it's journey

Skills developed: motor skills, coordination, observation

Link to everyday life: tipping machines

Embosser



Objective: use the mould to create a 2-D frog

Operation: Pour the sand in to the mould. As the mould is pulled outwards, a small brush smooths the surface producing the finished form

Skills developed: Inspection, motor skills, observation

Link to everyday life: industrial moulds, quality control devices

Different configurations

J5000



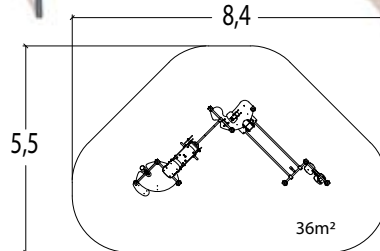
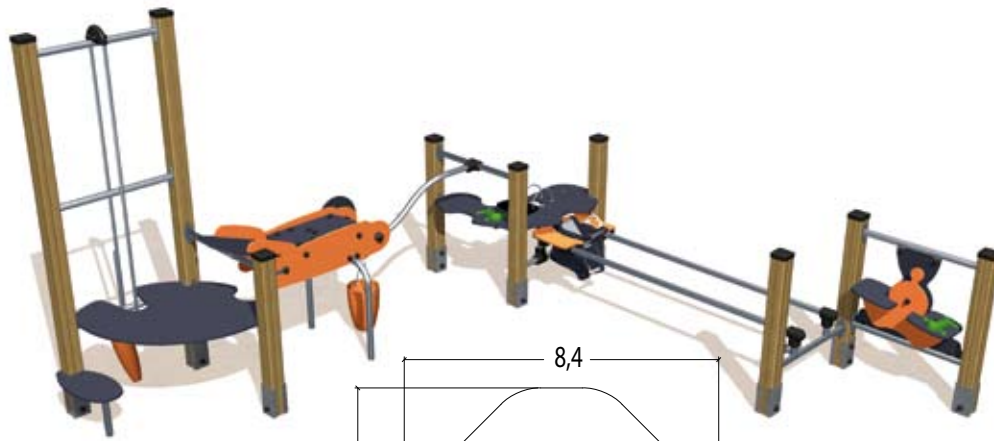
2-8



0,55 m



1 = 3,8 m
2 = 3,8 m
3 = 2,2 m



J5001



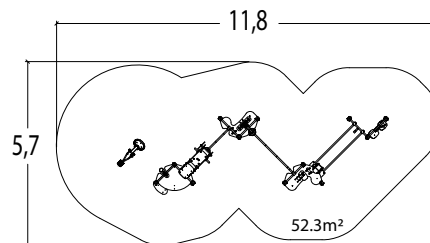
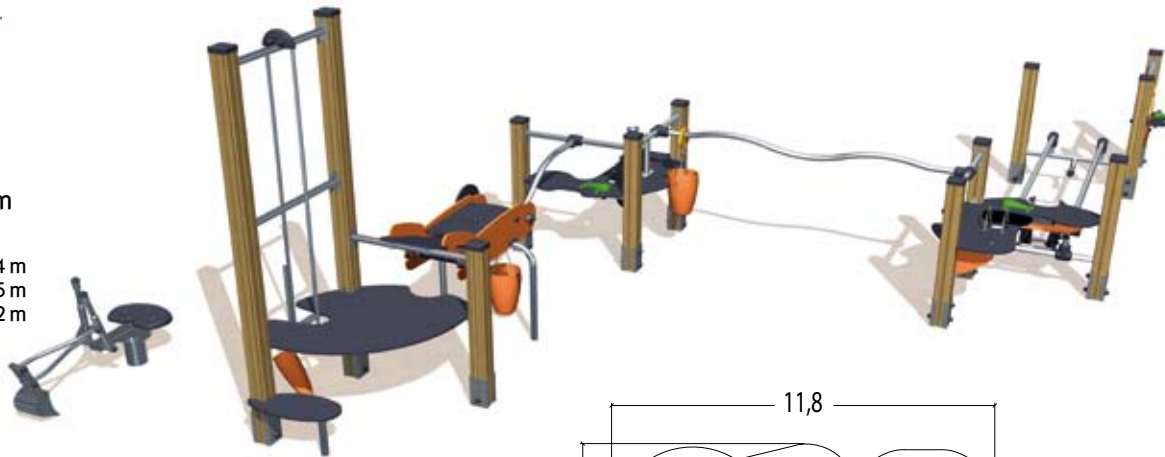
2-8



0,55 m



1 = 8,4 m
2 = 2,5 m
3 = 2,2 m



J5002



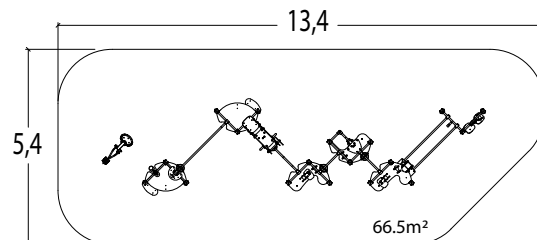
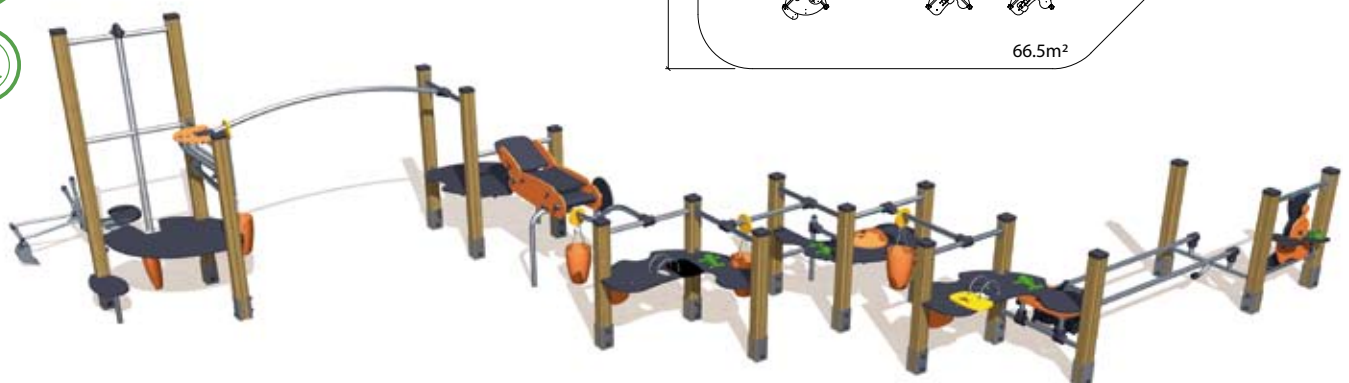
2-8



0,55 m



1 = 10,5 m
2 = 2,7 m
3 = 2,2 m



Educational play module



This document is designed for use by teachers and play development workers and was written in collaboration with educational professionals.

Designed to be easy to use, the guide provides information on how to organise made to measure educational play sessions according to the number of users as well as their age and ability levels.

The guide goes beyond the ordinary instinctive use of the equipment to structure sessions with learning outcomes such as familiarisation with the properties and usage of sand as well as introducing the notion of recycling.

Educational play data sheet

CRANE	
Required skills	Motor skills, coordination, dexterity Ability to follow instructions and work in a team
Terms and vocabulary to be explained	Lift, Crane, Bucket, Weight, Height
Number of users	3 children, 1 child to fill the bucket, 1 child to lift the bucket, 1 child to empty the sand on to the workstation
Duration	10 minutes
Age group	3 – 8 years
Operation	<p>The objective is to raise the sand from ground level to the platform so that it can be used in the sand factory.</p> <ul style="list-style-type: none"> - The first child loads the bucket either from the sand pit or from the digger located close by. - The second child standing on the platform then lifts the bucket once it is full by pulling the chain. - The third child then empties the bucket in to the transporting device located near to the workstation. <p>Configurations with the funnel: the sand should be poured in to the tube and will arrive directly on to the work station.</p>
Advice to be given	«Raise the sand from the ground to the platform using the crane and pour it here» (indicate the place for the sand to be deposited)
Learning outcomes and subjects to explore	<p>The success of the process depends on a number of factors that can be explored with the children.</p> <ul style="list-style-type: none"> - the weight of the sand (a bucket too full may be impossible to lift) - the coordination of movements (one hand must always be kept on the chain during the lifting process) - the flow of the sand (if using the funnel the sand should be fine and dry) <p>According to the ability levels of the children the theme of the weight of the sand can be further developed (force required to lift different weights of sand, link between quantity and weight)</p>



Proludic®

PROLUDIC LTD

The Pump House - Abbey Road - West Bridgford - Nottingham - NG2 5NE
Tel. 01159 823 980 - Fax. 01159 823 985 - E-Mail: info@proludic.co.uk
www.proludic.co.uk

