



**LITTLE BUILDERS**  
**A TRAVELING EXHIBITION**  
(1,000–1,500 sq. ft.)

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**EXHIBIT DESCRIPTION**

Young children become movers and shakers in *Little Builders*! Children ages 2 through 7 create, play, and learn as they explore the concepts of construction, motion, and simple machines. Hand operate a pulley or conveyer belt to explore cause and effect. Turn the wheels of a gantry crane to transport cargo and discover mechanical physics at work. Operate a child-sized crane to hook, lift, and move objects and materials. Build structures with blocks, pipes, Duplo® blocks, and gears, while learning about size, weight, shape, balance, gravity, and stability. Insert balls into air chutes and see them shoot through clear pipes to experiment with aerodynamics.

Throughout *Little Builders*, the open-ended nature of the materials and activities allows creativity to flourish. Children are encouraged to use the exhibit in their own unique ways and, thus, learning becomes personalized. *Little Builders* is also a learning laboratory for parents, teachers, and other care providers to observe, understand, and interact with their little builders.

The exhibit components include:

**ENTRANCE**

Children enter *Little Builders* and get ready to work by putting on hardhats and construction vests. They can see how they look in a full-length mirror and then grab a pushcart and some orange rubber cones before heading off to the Construction Site, Tool Wall, Cranes, and many other hands-on activities.

**CONSTRUCTION SITE**

Children explore the physics of movement and cause and effect in the Construction Site. They can start their workday by turning gears and then climb in, out, over, and under the four levels of the Construction Site.

**Pattern Wall**

Design and build a “brick” wall with large plastic blocks in a variety of colors. Use different sizes and colors of interlocking blocks to create patterns and construct a wall inside a molded frame.

**Paint Wall and Rollers**

Pretend to paint a wall. Experiment with real painting equipment to master the craft. Use fuzzy paint rollers and dip them into trays with imaginary “paint.”

**Pulley**

Transport objects in buckets to all four levels of the Construction Site using a hand-operated pulley.

**AERODYNAMICS**

Children experience and play with the characteristics of air and wind and how they affect objects.

**Power Toss & Catch**

Insert balls into vertical air chutes and watch them shoot through the clear pipes and pop into a basket.

**Air Effect**

At the Bernoulli blower, watch in amazement as plastic balls mysteriously float, bobbing up and down. Feel the force and pressure of air by experimenting with balls and the stream of air that flows up through the hollow cone.

**SIMPLE MACHINES**

Children can explore and experiment with simple machines.

**Conveyor Belt**

Work together to move materials back and forth by manipulating a hand-operated conveyor belt.

**Ball and Pipe Plumbing**

Drop plastic balls through a series of clear pipes and watch as they travel down a twisty path. Work with pipes, balls, and levels to explore the fundamentals of plumbing and gravity.

**Tool Wall**

Pound over-sized nails, turn over-sized screws, and twist over-sized bolts with plastic hammers, screwdrivers, and wrenches.

## **CRANES**

Children have opportunities to discover mechanical physics at work.

### **Mini-crane**

Turn a crank to operate a pulley system to raise and lower objects, use a friction brake to hold or release lifted objects, and use a set of pedals to rotate the crane on its base. Discover how the crane enables workers to move objects around the construction area.

### **Gantry Crane and Flatbed Car**

Move block cargo to a waiting flatbed car using a gantry crane.

## **STRUCTURES**

Children discover the concepts involved in building: size, weight, shape, balance, gravity, and stability as they design and build structures.

### **Building Blocks**

Discover the concepts involved in building, while designing and building structures out of many shapes and sizes of wooden blocks. Build a mini-community on a soft carpet covered with city streets.

### **PVC Pipe House**

Build three-dimensional structures using a variety of PVC pipe pieces and connectors at the four-sided PVC Pipe House.

### **Latch Houses (2)**

Crawl into miniature Latch Houses. Practice fine-motor skills by hooking and unhooking latches while opening and closing doors and shutters.

### **Big Building**

Build pathways, houses, or anything else imaginable with soft oversized blocks.

### **Gear and Duplo<sup>®</sup> Table**

Create a plan and build patterns with gears and Duplo<sup>®</sup> blocks of different colors.

### **Dump Truck**

Climb on board a stationary dump truck and “drive” construction materials to their destination. A fantastic opportunity for role-play...and for photos, too!

*Little Builders was created and is toured by the Oregon Museum of Science and Industry, Portland, Oregon.*

The following is a summary of the skills, concepts, and attitudes promoted in *Little Builders*:

### **INTELLECTUAL DEVELOPMENT**

- Science Process Skills (Observing, Inquiring, Comparing, Predicting, Theorizing, Experimenting, and Problem Solving)
- Mathematical Concepts (Number, Classification, Size & Shape, Space, Parts & Whole, Order & Pattern, Measurement)

### **PHYSICAL DEVELOPMENT**

- Large motor skills (pushing, pulling, lifting, turning, bending, stooping, stretching)
- Small motor skills (grasping, releasing, twisting, turning, pressing, pulling)
- Coordination, control, and strength
- Sensory development, perception and discrimination (visual, auditory, tactile)
- Developing attention span

### **EMOTIONAL DEVELOPMENT**

- Self-confidence (“I can do it!”)
- Pride in mastery of skills and materials
- Self-expression (verbal and nonverbal)
- Making choices, planning purposeful action
- Self-control and restraint
- Involvement and satisfaction in one’s work, sense of accomplishment
- ENJOYING ONESELF!

### **SOCIAL DEVELOPMENT**

- Communication (talking and listening)
- Awareness of others
- Cooperation (helping others, waiting for turns, sharing)
- Expressing feelings and desires in socially acceptable ways
- Understanding rules and expectations
- Role-playing/trying on new identities