Material Matters 2.0

interesting materials, why they were chosen, how they held up
The Challenge

To create a gallery: Shipwreck Cove: A Pirate’s Life for 3 (and Under) that was mindful of safety, chemicals, aesthetics, cost, durability, and all the other exhibitions considerations we know and love.

Specifically interested in the creation of soft spaces.

Ready-made mat cost-prohibitive, had to go rogue.
The options

Denim: durable and soft, but too absorbent for baby drool. Also limited in colors.

Microfiber: also durable and soft, but too absorbent for baby drool.

Cotton prints: Great color options and price, but not durable, too thin, and not drool resistant.

Upholstery fabric: thick and durable, but not drool resistant. Mostly busy patterned fabrics.
The Solution

Neoprene!

- Drool-proof
- Durable
- Hoff-approved
The pros and cons

Nontoxic

Durable

Decent variety of color options

Rub test

Drool-proof

Thick and cushiony

Affordable

No way of knowing how it would hold up under extreme conditions (high traffic, regular cleaning, green spray, toddlers, etc.)

Could not sew in house (used marine upholsterer)

Seriously a pain to sew, seams looked iffy

Hard to add fine details

Can be pricey: 50”x80” sheet = $40 but if you buy in bulk, 8 sheets = $20
The Care

Hold up to daily green spray “mist”

Wash and spot treat with a special shampoo

Can go through a front loading washer

Cannot go through dryer--best left to air dry

Will fade in direct sunlight
**The Results**

Has held up remarkably well (2+ years out with no need for replacement)

Seams need occasional repair

Fun, bright colors

Stood up to drool, diapers, traffic, stains, daily dragging across floors, lots of hugs
High Density Polyethylene (HDPE)

Greg Belew, Principal
Hands On! Studio
HDPE Overview

HDPE is available as a sheet good

Sheet Size: 4’ x 8’ standard, with other sizes available

Sheet Thicknesses: 1/8” up to 2”

Cost: Approximately $100 per sheet per 1/4” thickness

Features:
- Available with an anti-microbial additive
- Available with ASTM E.84 Class A or B flame compliance
- Available in solid colors, multicolor composites, and textured options
Sample Color Choices

King ColorCore
White interior allows routing of designs and lettering

King Color Board
Solid coloring through the material

King Plastic Corp
www.kingplastic.com
Sample Color Choices

Origins
Solid & multicolored choices

Yemm & Hart
www.yemmhart.com
Sample Color Choices

JungleGEM
Solid color HDPE with textured surface options

ASI Gem Plastics
www.asi-gemplastics.com
HDPE In Use
HDPE In Use

Galvin Physics Forest at Kidspace
Outdoor science park exhibits
HDPE In Use

Science in Play at the Kentucky Science Center
HDPE In Use

Shangri La Nature Preserve
Weather-resistant mobile lab carts
with live specimen holders
Montshire Museum of Science
Sherlock Terry
Assistant Exhibits Director
After

Bubbles
Science in Soap
After
Solid Surface Materials
Design
Fabrication
Fabrication
Finished Exhibit
Accessibility
Accessibility
Accessibility
Opened 1998
Middletown, CT

100,000 visitors per year

Building: 13,500 sq. ft.

Exhibits: 8,500 sq. ft.