

Tinker Space Exhibit

DESCRIPTION:

Tinker Space provides an array of different building materials and blocks to allow little hands to create structures and contraptions in an exciting environment. Tinker Space is also the home to Amazing Airways a free standing jumble of connected tubes. Children feed colored balls into the starting box, where a fast moving air current pushes them through a series of twists and turns until the balls emerge to drift back to earth. Visitors can use valves to change the airflow, teaching children about pneumatics and movement.

KEY WORDS:

- Engineering
- Dimensions
- Architecture
- Technology
- Spatial Concepts: over, under, side, behind, etc.

LEARNING ACTIVITIES:

- **CREATE** a pattern of red, yellow, and blue. Repeat that pattern 3 times. How many legos does it take to make this pattern? (Math + Cognition)
- Challenge your preschooler to **EXPERIMENT** with building straws. Can they make a tall skyscraper? How about a rounded top for the building? (Math + Physical Development + Social Emotional)
- Using Amazing Airways, **OBSERVE** together how the balls move through the tubes. **ADJUST** the air directions and **PREDICT** which way the balls will come out after each adjustment. Ask your preschooler: how do the balls move through the tubes? (Math + Self-Regulation)

DRDP

APPROACHES TO LEARNING:

- Attention Maintenance
- Curiosity/Initiative
- Self-Control
- Engagement/Persistence
- Shared use of Space

LANGUAGE AND LITERACY:

- Emergent Writing

ENGLISH-LANGUAGE DEVELOPMENT:

- Receptive English
- Symbol Letter Knowledge

COGNITION, INCLUDING MATH AND SCIENCE:

- Spatial Relationships
- Classification
- Number Sense of Quantity
- Patterning
- Cause & Effect
- Inquiry Observation Investigation

PHYSICAL DEVELOPMENT AND HEALTH, WELLNESS:

- Perception Motor/Movement
- Gross Locomotion Movement
- Fine Motor Manipulative
- Safety
- Active Physical Play

KANSAS EARLY LEARNING STANDARDS

SCIENCE STANDARDS:

- S.p.4.1: Describes and compares the effects of common forces (e.g., pushes and pulls) on objects and the impact of gravity, magnetism and mechanical forces (e.g., ramps, gears, pendulums and other simple machines).

COMMUNICATIONS AND LITERACY STANDARDS:

- CL.SL.P3.3: Uses some basic qualitative (e.g. wet/dry, hot/cold) and quantitative (e.g. more/less, empty/full) concepts to describe familiar people, places, things and events.
- CL.SL.P4.3: Uses some basic spatial (e.g., front/back, top/bottom) and temporal (e.g., first/last, before/after) concepts to describe familiar people, places, things and events.
- CL.SL.P4.1: Demonstrates an emerging command of the conventions of standard English grammar and usage when writing or speaking.

MATH STANDARDS:

- M.CC.P3.1 Know number names and count sequence
- M.CC.P4.4 Count to tell the number of objects
- M.CC.K.1 Compare numbers

- M.OA.K.1 Understand addition as putting together and adding to and understand subtraction as taking apart and taking from
- M.MD.K.1 Describe and compare measurable attributes
- M.MD.K.3 Classify objects and count the number of objects in each category
- M.G.K.1 Identify and describe shapes
- M.G.K.4 Analyze, create, compare and compose shapes

MISSOURI EARLY LEARNING STANDARDS

LITERACY STANDARDS:

Symbolic Development:

- Represents feelings and ideas in a variety of ways

Speaking/Expressive Language

- Uses language to communicate

Listening/Receptive Language

- Listens for different purposes

MATH STANDARDS:

Number and Operations:

- Uses number to show quantity
- Uses language to represent number objects
- Solves problems using numbers
- Uses numerical representation

Geometry and Spatial Sense:

- Investigates positions and locations
- Explores shapes in the environment

Patterns and Relationships:

- Makes comparisons
- Uses measurements

SCIENCE STANDARDS:

Physical Science:

- Explores physical properties of objects and materials
- Investigates properties of objects and materials
- Solves problems involving physical properties of objects and materials
- Represents observations of the physical world in a variety of ways

K-2 KANSAS STATE STANDARDS

SPEAKING AND LISTENING STANDARDS:

SL.K.1b: Continue a conversation through multiple exchanges.

SL.K.3: Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

SL.1.1b: Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

SL.2.1c: Ask for clarification and further explanation as needed about the topics and texts under discussion.

PRESENTATION OF KNOWLEDGE AND IDEAS:

SL.K.4: Describe familiar people, places, things, and events and, with prompting and support, provide additional

SL.K.6: Speak audibly and express thoughts, feelings, and ideas clearly.

SL.1.4: Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

COUNTING AND CARDINALITY STANDARDS:

K.CC.2. Count forward beginning from a given number with the known sequence.

K.CC.4. Understand the relationship between number and quantity; connect counting to cardinality.

K.CC.5. Count to answer "how many?" questions about as many as 20 things arranged in configurations.

K.CC.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.

NEXT GENERATION SCIENCE STANDARDS

PS1.A: STRUCTURE AND PROPERTIES OF MATTER:

Different properties are suited to different purposes. (2-PS1-2), (2-PS1-3)

A great variety of objects can be built up from a small set of pieces. (2-PS1-3)

Pushes and pulls can have different strengths and directions. (K-PS2-1), (K-PS2-2)

Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS2-1), (K-PS2-2)

PS2.B: TYPES OF INTERACTIONS:

When objects touch or collide, they push one another and can change motion. (K-PS2-1)

PS3.C: RELATIONSHIP BETWEEN ENERGY AND FORCES:

A bigger push or pull makes things speed up or slow down more quickly. (K-PS2-1)