

## Ramp Up for STEM Discoveries

- Introduction to Ramp Play
- Uncovering STEM Through Ramp Play

### What are ramps?

**A surface with Incline and slope.**

- Materials in motion

**Where in our environment do we see ramps?**

**What problems do ramps help solve?**

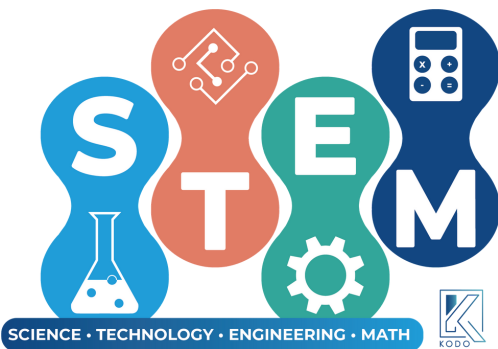
### Vocabulary:

- |                  |               |
|------------------|---------------|
| • Incline        | • Distance    |
| • Decline        | • Height      |
| • Slope          | • Length      |
| • Surface        | • Measurement |
| • Force          | • Friction    |
| • Motion         | • Smooth      |
| • Push           | • Rough       |
| • Pull           | • Round       |
| • Collide        | • Roll        |
| • Chain Reaction | • Sphere      |

### Cross Cutting Skills

- Persistence & Perseverance
- Communication
- Collaboration
- Creativity & Flexibility
- Decision Making

**The STEM Connection:** Ramp play supports cross curricular learning, fuels open-ended exploration, and encourages children to be creative problem-solvers.



- Science
  - Physical Science
  - Life Science
  - Earth & Space
- Technology
  - Tools
  - Investigating new tools and diverse ways to use materials as tools.
- Engineering
  - Planning
  - Designing & Constructing
  - Problem-Solving
  - Testing Solutions
  - Evaluating Designs
- Mathematics
  - Number Sense
  - Spatial Sense
  - Patterns
  - Measurement
  - Estimation
  - Matching & Sorting

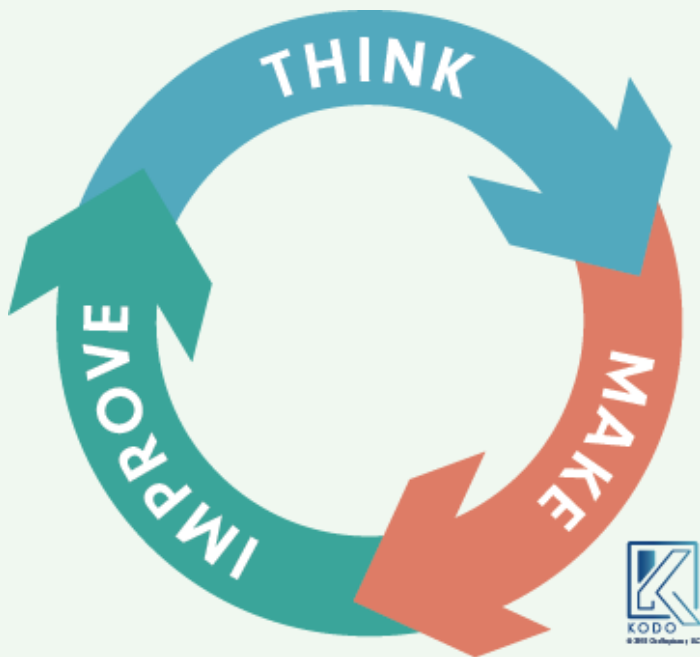
Notes:

# Ramp Up for Ramp Play

## Engineering Play Behaviors:

- Communicating Goals
- Designing & Constructing
- Creating Innovative Ideas
- Solving Problems & Replicating
- Testing & Evaluating Solutions
- Explaining How Things are Built & Work
- Following Patterns
- Thinking Logically
- Using Technical Vocabulary

## Think- Make - Improve



- Think Stage
  - Identify the Problem
  - Clarify the goal(s)
  - Predict Results
  - Pose Questions
  - Make a Plan
- Make Stage
  - Create Prototypes
  - Test Ideas
  - Engage in Trial and Error
  - Collect Data
- Improve Stage
  - Evaluate Data
  - Expand Thinking
  - Refine Design
  - Edit or Make Addition

## Enhance Ramp Play with Loose Parts :

- Tinker, Explore & Investigate
- Identify Physical Properties
- Use Materials as Tools
- Problem Solve
- Storytell
- Engage in Symbolic Play

Notes: