# **KEVA Planks**





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## **KEVA** Planks

The KEVA Planks kit enables hands-on STEAM learning through construction and design. Students use uniform wooden planks to construct structures and explore concepts in engineering, geometry, and spatial reasoning. The kit supports projects that foster creativity, problem-solving, and critical thinking.



## **Grade Level**

K - 8th grades

**Group Size** 

Up to 4 students per group

## **Time Duration**

30 - 90 minutes

## **Content of Kits**

#### Components

- Bulk KEVA Planks
- Ping pong balls
- KEVA Plank activity guide



## Usage

## **Getting Started**

- 1. **Understand the Basics:** Familiarize yourself with the uniform size and properties of KEVA Planks.
- 2. **Start Building:** Begin by creating simple structures and gradually move to more complex architectural forms, geometric shapes, and large-scale models.
- 3. Explore Physics and Engineering: Experiment with balance, leverage, and stability to learn about physics and engineering principles.
- 4. **Creative Freedom:** Encourage students to create innovative designs, using the planks to bring artistic visions to life or solve building challenges.

## Storage

Store the planks in a dry, organized environment to maintain their condition and ensure longevity.

## Troubleshooting

- Check for any damaged or warped planks and replace them as necessary.
- Encourage students to create innovative designs, using the planks to bring artistic visions to life or solve building challenges.



## **Activity Guide**

#### Beginner

#### **Basic Structures**

Students will begin by constructing simple structures like towers and walls, learning about balance and weight distribution. This foundational activity introduces them to the core principles of structural design, helping them understand how materials work together to maintain stability.

#### Intermediate

#### **Complex Geometric Forms**

Students will experiment with creating various geometric shapes, such as cubes, pyramids, and triangles. By combining these shapes, they will build more complex structures, enhancing their understanding of geometry and spatial relationships in design.

#### Advanced

#### **Architectural Models**

Students will take on the challenge of designing and building detailed models of buildings or bridges. They will focus on architectural principles such as aesthetics, proportion, and functionality, as well as exploring the structural integrity of their creations.

#### **Extension Activity:**

#### **Engineering Challenges**

Students will participate in engineering challenges that encourage friendly competition, such as building the tallest tower or a bridge that can hold the most weight. These challenges promote teamwork, problem-solving, and critical thinking as students apply engineering principles to real-world scenarios.

## Mid-Valley STEM-CTE HUB

## **Learning Extensions**

### **STEAM Connections: Structural Engineering - Design**

### Learning Objectives:

- Enhance spatial awareness
- Refine motor skills
- Develop an understanding of structural integrity.
- Foster creativity and problem-solving skills.

### **Career Connections:**

- Architecture Builds spatial awareness and structural understanding, essential for designing buildings and urban spaces.
- **Engineering** Reinforces problem-solving and structural integrity concepts, applicable to civil, mechanical, and structural engineering fields.
- Industrial Design Encourages creativity and prototyping skills, foundational for careers in product design and manufacturing.
- **Construction Management –** Develops planning and organizational skills, relevant for overseeing building projects and infrastructure development.

### Essential Employability Skills:

- Critical thinking
- Creativity
- Problem-solving
- Innovation
- Teambuilding





## **Resources and Accessibility**

## **Safety Guidelines**

- While KEVA Planks are safe for all ages, always supervise younger children to avoid potential hazards.
- Maintain a clear and safe workspace to prevent accidents during construction activities.

## **Library Catalog**



## **Library Resources**



- be inclusive, offering different ways to participate that accommodate various abilities.
- Provide larger, easily handled blocks for students with fine motor skill challenges if available.



## Feedback

QR to feedback survey

