

# PENNSYLVANIA

Pennsylvania is called the Keystone State because it is located in the middle of the original thirteen colonies. The Pennsylvania Railroad uses a keystone as its logo. But keystones are also important architectural elements in the domes and arches of tall buildings. The mice want to practice their engineering skills by building a enormous arch. Help them out by using another famous local product, chocolate!

**Set-Up:** All team members must wash their hands.

**Challenge:** Create a big, open arch from chocolate.

**Time:** Part One: You will have 4 minutes to build an open arch as wide and high as possible on the top of a baking sheet using only the materials provided. You may not include the packaging materials from the chocolate or the icing in your construction.

Part Two: The appraisers will measure the width and height of the inside opening of the arch.

Part Three: The team may eat the solution. (Share with the appraisers!)

**Materials:** lots of chocolate chunks (like nuggets, a big broken bar or some types of baking chocolate) (“bricks”)  
one large tube of decorating icing (“mortar”)  
one large flat baking sheet (“the ground”)  
tape measure (for use by the appraisers)

**Scoring:** 5 points for each inch of width of the arch (inside dimension)  
5 points for each inch of height at the highest point of the arch (inside dimension)  
up to 25 points for technical innovation of the design  
up to 25 points for positive team work