

Constructables

Construction Planning Game – Cable-Stayed Bridge

Instructions:

1. Cut out the labels
2. Create your step-by-step program

 Design		
 Choose location	 Choose bridge type	 Make a build plan - Decide teams & assign roles
 Detailed Design	 Preliminary Design	 Safety and quality briefing
 Choose materials	 START	
 Construction		
 Construction TEAM 1	 Clear construction area	 Tie bowlines in string
 Construction TEAM 2	 Place weights at either end of the bridge	 Build horizontal beams outwards from tower
 Construction TOGETHER	 Build tower 1	 Attach strings to road deck
 Cut strings to correct length	 Tighten strings evenly	 Deliver materials
 Place concrete road slabs	 Mark tower locations	 Organize materials
 Attach tensioners to string	 Set up construction site	 Build tower 2
 Attach strings to top of towers	 Level the bridge deck	 Take a lunch break
 FINISH CONSTRUCTION	 Take an “Under Construction” photo	
 Testing Phase		
 Load the bridge with cars	 Earthquake test (how does the bridge move?)	 Bridge opening ceremony
 Wind test (use a fan)	 Weight test	 Inspect tower after construction
 Evaluation		
 Reflection Phase	 What was hard?	 Group photo (#Constructables)
 What worked well?	 How can we improve the bridge?	 Award Certificates