



TECHNOLOGY ACTIVITY



Bridge Building

Using TEAM Expo Parameters

NATIONAL STANDARDS

- #8 - Develop an understanding of the attributes of design
- #9 - Develop an understanding of engineering design
- #10 - Develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving
- #11 – Students will develop abilities to apply the design process
- #20 - Students will develop and understanding of and be able to select and use construction technologies

NATIONAL BENCHMARKS

(Grades 9-12)

- #8 – H,I,J,K
- #9 – I,J,K,L
- #10 – I,J,K,L
- #11 – M,N,O,P,Q,R
- #20 – L,K,N

(Grades 6-8)

- #8 – E,F,G
- #9 – F,G,H
- #10 – F,G,H
- #11 – H,I,J,K,L
- #20 – H,G,I

ACTIVITIES

- Students will develop an original working sketch for a bridge design
- Students will transfer sketches from paper to computer testing program
- Students will modify designs to accomplish vehicle to pass over bridge without failure
- Students will develop full-scale drawings of bridge design
- Students will build bridges on top of full scale drawings with provided materials
- Students will follow all parameters as stated on the TEAM Expo event sheet provided
- Students will follow proper safety procedures and clean up work area daily
- Students will use effective communication to work with a partner to complete all aspects of the bridge work
- Bridge will be tested using an approved weight bearing test device
- Students introduced the history of bridge building
- Students introduced to careers related to construction/bridge building

SHOW ME STANDARDS

Performance Standards:

- Goal #2 – 2,3,7
- Goal #3 – 1,2,3,4,5,6,7,8
- Goal #4 – 1,5,6,7

Knowledge Standards:

- Comm Arts - #3
- Math - #2,4,5
- Science - #1,7

ASSESSMENT

- Sketches complete showing front, top, side/end views
- Bridge passed computer simulation test
- Full scale drawings were produced
- Bridge work was done using approved methods for construction and adherence to Expo parameters
- Safety procedures followed and daily cleanup to teacher's satisfaction
- Communication with work partner was productive and goal oriented to given task
- Bridge was capable of holding weight
- Bridge followed original design and drawings
- Bridge was suitable for entry into State Expo competition