

BUILDING BRIDGES

GRADE LEVEL: 4 - 8

OBJECTIVE:

The students will be able to explain the important concepts in building bridges by explaining their own bridge construction.

MATERIALS:

Soda straws (100 per group)
Straight pins
Masking tape

PROCEDURE:

1. Arrange the students in groups of four.
2. Position the tops of two desks two feet apart.
3. They will construct a bridge between two desks. The only materials they may use are soda straws, pins and tape. The finished product must be able to bear the weight of one book without falling down. If they construct a solid floor on their bridge then it should be able to stand the weight of model cars crossing it.
4. Compare the structures of each group when they are finished - width, height, suspension, pillars, and whatever other features they included.
5. Where did they get their ideas? What bridges have they seen that inspired their design? Let students choose the best design of the ones they have built. Have them decide which is the best for weight-bearing.

EXTENSIONS/EVALUATIONS:

6. Visit the Falls exhibit of the bridges and locks and dams. Have students report on the need for and use of the bridges and the lock and dam system on the Ohio River.
7. Let them debate the problem of where to put another bridge across the Ohio River between Kentucky and Indiana at Louisville.
8. Research different designs of covered bridges.
9. Research bridge designs and find out which designs are most appropriate in different sites.
10. Obtain photos of bridges across the Ohio River between Pittsburgh and Cairo, Illinois. Let students vote on the design they prefer.
11. Compare the new Natcher Bridge with the older bridge in Owensboro, Kentucky. Note the differences and similarities.



*ConnRail Bridge at the Falls:
The first bridge over the Ohio River – 1870.*