

Newspaper Tower

Name: _____

Problem: _____

Key Words: compression, dead load, live load, shear, tension, torsion

Hypothesis: _____

Materials: 6 sheets newspaper meter stick
 40 cm masking tape electric fan

Procedures:

1. View the video "San Gimignano"
2. What is meant by a "load bearing wall"? _____

3. What are a few problems with "thick walls"? _____

4. Create the tallest free standing tower using only 2 sheets of newspaper. You may fold, bend or tear the newspaper. **** DO NOT USE THE TAPE ****

5. Describe any difficulties that you experienced while creating your tower. _____

6. What did you do to overcome these difficulties? _____

7. How tall is your tower? _____ cm

8. You may now use 20cm masking tape to make your tower taller. You may **NOT** use the tape to anchor the tower to the table. It must remain free standing.

9. Describe how your tower was improved. Please be specific. _____

10. Set the electric fan 1m from your tower. Turn the fan to the lowest speed and aim the breeze toward your tower. Describe what happens. _____

11. Repeat step 10 two more times, increasing the wind speed each time. Describe how the change in wind speed affects your tower. _____

12. How can you change your design, using 2 more sheets of newspaper and 20cm of tape, to better withstand the force of wind? _____

13. Change your tower to test your hypothesis developed in step 12.

14. Test your changes by using the fan at different speeds.

15. Explain how your changes improved or did not improve your original design. _____
