

Name _____

Date Due: _____

UNIT 4
Topic 4

STRUCTURES and FORCES
Forces, Loads, and Stresses

1. In what three ways can a small object's motion change after it has been kicked?
2. What is meant by "external forces" ?
3. What effect can external forces have on a structure?
4. What is a deformation?

External Forces:

5. What is a "dead load" on a structure. Give an example.
6. What is meant by a "live load" on a structure? Give an example.
7. What are impact forces? Give an example.
8. What caused the Leaning Tower of Pisa to tilt?
9. Define and diagram the following:

Tension Forces

Compression Forces

Shear Force

Torsion Force

10. What forces combine to produce a bending force?

11. Read "Did You Know" p. 313. What material is the strongest material known?

What spider produces a web strong enough to trap a bird?

Resisting Stress- The Inside View

12. Why does steel have high tensile strength?

13. Why does graphite have low shear strength?

14. Why does rubber have high torsion strength?