INSTRUCTIONS
Click on the mode of transport, for a link to helpful information. Place an ‘X’ alongside each ‘mode’, as you complete each exercise.

1. WHAT IS A STATIC LOAD? Include a sketch.
2. WHAT IS A DYNAMIC LOAD? Include a sketch.
3. DESCRIBE A PRACTICAL APPLICATION OF INTERNAL RESISTANCE
4. WHAT IS THE DIFFERENCE BETWEEN TENSION & COMPRESSION?
5. HOW DOES TORSION AND SHEAR FORCE DIFFER? Include labelled diagrams
6. STRUTS AND TIES PLAY A ROLE IN THIS PLANE. WHAT ARE STRUTS AND TIES? (notes and diagrams required)
7. WHAT ARE THE FORCES ACTING ON A GIRDER BRIDGE? Answer with a labelled sketch.
8. WHAT IS POTENTIAL ENERGY? Include a practical example. Include a sketch / diagram.
9. WHAT IS KINETIC ENERGY? You must describe a practical example.
10. WHAT IS AN OBJECTS ‘CENTRE OF GRAVITY’? HOW DO YOU FIND THE CENTRE OF GRAVITY? Sketches required.
11. WHAT IS THE FUNCTION OF A LEVER? Include a diagram and make reference to it.
12. DRAW A BRAKE LEVER AND IDENTIFY THE LEVER AND FULCRUM
13. EXPLAIN THE 3 CLASSES OF LEVER. Include a diagram for each one.
14. FOR EACH CLASS OF LEVER, SKETCH AND DESCRIBE A PRACTICAL APPLICATION
15. HOW DID THE EGYPTIANS USE LEVERS TO HELP THEM BUILD THE PYRAMIDS?