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**Knowledge Rich Curriculum Plan**

GCSE Design Core

Specialist Technical Principles - 2.2 Forces and stresses

 

| **GCSE Design Core** | **Specialist Technical Principles 2.2 Forces and stresses** |  |  |  |
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| **Lesson/Learning Sequence**  | **Intended Knowledge:***Students will know that…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this students, need to already know that…* | **Assessment**  |
| **Lesson:** **Tension and shear** | * Students will know how forces can be applied to products
* Students will know which types of forces are applied to products
* Students will know the difference between static and dynamic forces
* Students will know that static force is a motionless force and dynamic is a force that moves
* Students will know the types of forces Tension and shear
* Students will know that tension force is described as a pulling force from either end of the object
* Students will know that shear force is described as a ripping force from either end of the object
 | Force: strength or energy as an attribute of physical action or movement.Tension: the state of being stretched tight.Shear: break off or cause to break off, owing to a structural strain. | * ***Students need to already know basics of forces***
* ***Students need to already know how products can be impacted***
* ***Students need to already know that forces can move or be still***
 | Are there any forces being applied around this room?How are these forces similar to each other? |
| **Lesson:** **Torsion and bending** | * Students will know how forces can be applied to products
* Students will know which types of forces are applied to products
* Students will know the types of forces Torsion and bending
* Students will know that torsion force is described as a twisting force from either end of the object
* Students will know that bending force is described as a upward or downward force from either end of the object
 | Force: strength or energy as an attribute of physical action or movement.Torsion: the action of twisting or the state of being twisted, especially of one end of an object relative to the other.Bending: shape or force (something straight) into a curve or angle. | * ***Students need to already know the movement of bending***
* ***Students need to already know the twisting motion***
 | Are there any forces being applied around this room?How are these forces similar to each other? |