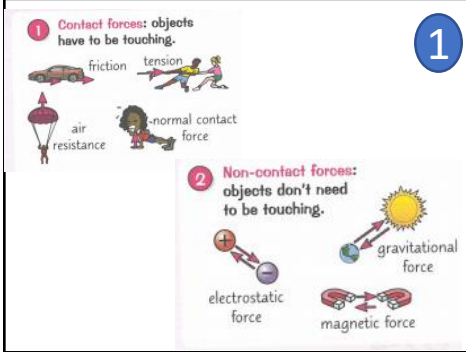
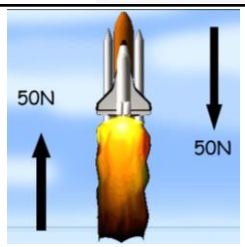
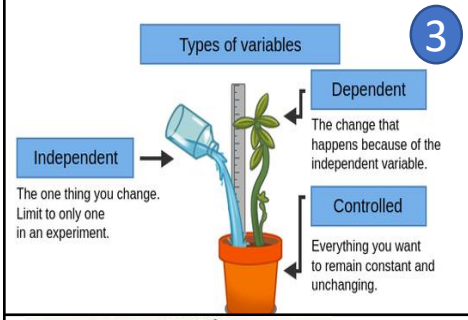
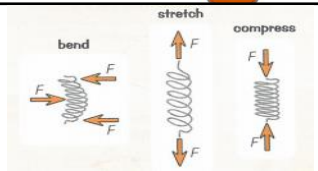
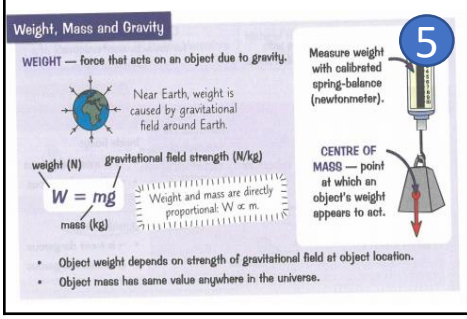
P	Topic	Y7

Rationale

Engineers analyse forces when designing a great variety of machines and instruments, from road bridges and fairground rides to atomic forces that holds our universe together. Anything mechanical can be analysed in this way. To understand how something happens in our universe, we need to know the forces involved. Recent developments in artificial limbs use the analysis of forces to make movement possible.

Diagrams	Keywords	Definitions
1 	Contact Force Non- Contact Force Newton	Forces applied with two or more interacting (touching) surfaces. When a force is applied but surfaces do not need to be interacting. **The unit of a force named after Sir Isaac Newton who first defined Forces.**
2 	Balanced Forces Unbalanced Forces Interaction pairs	Opposing forces are equal in size Opposing forces are not equal in size All forces work in pairs which are called **interaction pairs.**
3 	• Independent Variables. • Dependent Variables • Control Variables.	The thing that you change in an investigation. The thing that you measure/record in an investigation. The things that you have to keep the same in an investigation.
4 	• Spring Constant • Stretch • Compression • Elasticity	
5 	• Mass • Weight • Gravity	• Weight is a force which is measured in Newtons (N). • Mass is an amount of a substance. It is measured in kilograms (kg). • **Gravity** , is a natural phenomenon by which all things with mass—including planets, stars, galaxies, and even light—are attracted.