At Junior Certificate level the student can:

**Understand the concept of measurement of Force, Energy and Heat**

### Learning Targets - This has been demonstrated by your ability to:

1. Measure length, area, mass and time using the correct instruments
2. Measure the volume of regular and irregular objects
3. Perform an experiment to show that the air has mass and occupies space
4. Investigate examples of friction and the effects of lubricants using practical everyday examples
5. Name six sources of energy
6. Classify sources of energy into renewable and non-renewable
7. Investigate experimentally the expansion of solids, liquids and gases when heated
8. Use a thermometer to measure and record different temperatures
9. Carry out experiments that involve changes of state: from solid to liquid and liquid to solid, and from liquid to gas and gas to liquid.
10. Identify six examples of energy conversion from everyday experience

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.