Energy stores and systems

1 **Complete the gaps with the following words. The words can only be used once.** (3 marks, ★★★)

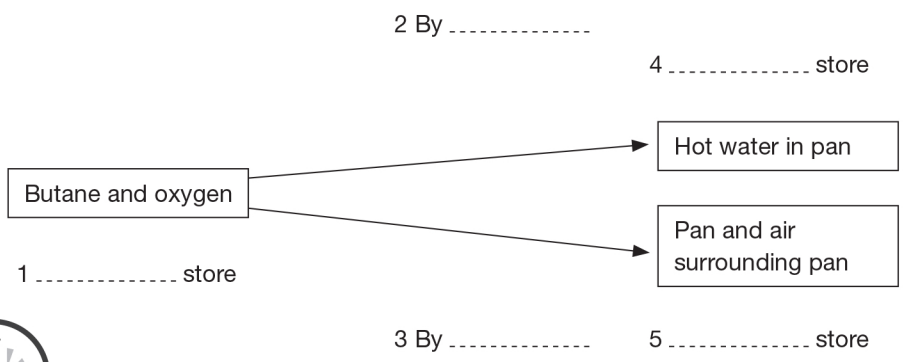
A system is an object, or group of objects. The _____ in a system is a numerical _____ that tells us whether certain _____ in the system could, or could not, happen. The total _____ of energy in a system is always the _____ no matter what changes happen in the system, but the energy available can be _____ in different parts of this system.

amount	form	different	energy	changes	
same	redistributed	kinetic	decreases	value	

2 **Match the following energy stores to where they are found. Two have been done for you.** (3 marks, ★★)

1 Gravitational potential	**a** Fuel
2 Kinetic	**b** A position in the gravitational field
3 Thermal	**c** In a stretched or compressed spring
4 Nuclear	**d** In a warm object
5 Magnetic	**e** In two separated magnets that attract/repel
6 Elastic potential	**f** In two separated charges that attract/repel
7 Electrostatic	**g** Large unstable nuclei such as plutonium and uranium
8 Chemical	**h** In a moving object

3 **Complete the flowchart below for someone making a cup of tea at a campsite with a saucepan and butane burner.** (5 marks, ★★)



NAILIT!

Use a mnemonic to learn the energy stores: **T**hermal, **N**uclear, **E**lectrostatic, **C**hemical, **G**ravitational potential, **E**lastic potential, **M**agnetic. The first letter of the mnemonic is the first letter of each energy store: **T**homas **N**ever **E**ats **C**arrots **G**ranny **E**ats **M**any.

DOIT!

Think about different situations and the changes in the energy stores that take place. Can you identify the useful energy stores or pathways? For example, a boy flicking an elastic band, a girl climbing up some stairs, or a sky diver on his descent.