Year 7 Energy Fact Sheet

Energy stores	
1. State the units for energy	Joules (J)
2. List types of energy store	• Chemical • Gravitational Potential • Elastic Potential • Magnetic • Kinetic (movement) • Thermal (Heat)
3. Name a source of chemical energy	• Food • Fuels • Battery • Biofuels
4. What form of energy is in food?	Chemical
5. When do objects have gravitational energy?	When they are above the ground
6. When do objects have elastic energy?	When they are stretched
Energy transfers	
7. List types of energy transfer	• Light • Sound • Electrically • Heating • Mechanically
8. Describe the changes in energy when water is boiled in an electric kettle 	Electrical → thermal + sound (Transfer) (Store) (transfer)
9. Describe the energy changes for a TV 	Electrical → sound + light + thermal (Transfer (Transfer) (Transfer) (Store)
10. Describe the energy changes for an electric drill 	Electrical → kinetic + sound + thermal (Transfer) (Store) (Transfer) (store)

Efficiency	
11. Energy cannot be _____ or _____	**Created or destroyed**
12. What happens to energy that is not usefully transferred?	**Wasted**
13. State the useful and wasted energy from a light bulb	**Useful: light** **Wasted: thermal (heat)**
14. If a device doesn't waste much energy, we say it is very …….	Efficient
15. How do you calculate efficiency if you know energy values?	**Efficiency = useful output energy ÷ total input energy**
16. An electric drill has an energy input of 200J. Its useful energy output is 50J. Calculate its efficiency as a decimal and a percentage (4)	*Efficiency = useful energy out ÷ total energy input (1)* *50 ÷200 (1)* *0.25 (1) 25% (1)*
Energy in the home	
17. How do you calculate energy transferred?	Energy transferred = power x time
18. What are the units for power?	Watts (W)
19. An electrical device has a power of 10W and is used for 300 seconds. Calculate the energy which it has transferred (4)	Energy = power x time = 10 x 300 3,000 J
Non-renewable energy	
20. What do we call energy resources which cannot be replenished? (they will run out)	**Non-renewable**
21. Name 3 fossil fuels	**Coal, oil, gas**
22. Are fossil fuels renewable or non-renewable?	**Non-renewable**
23. What do we do with fossil fuels to make electricity?	**Burn them**
24. What does a power station do?	**Generate electricity**

25. Why do power stations needs to burn fossil fuels	• To release heat • To turn water into steam
26. Which part of a power station does the steam turn?	Turbine
27. Which part of power station generates (makes) electricity?	Generator
28. How does electricity get from the power station to our homes?	National Grid
29. State an advantage of using fossil fuels	**We can make electricity whenever we want**
30. State a problem of using fossil fuels	• **They will run out** • **Burning them makes carbon dioxide**
Renewable energy	
31. What do we call energy resources that can be replenished? (they won't run out)	**Renewable**
32. Which energy resource uses energy from the Sun?	**Solar**
33. Which energy resource is using heat from the ground?	Geothermal
34. Which energy resource uses water flowing down a mountain?	Hydroelectric
35. State the advantages of using solar panels, wind turbines, geothermal and hydroelectric power stations	• They are renewable • They do not make carbon dioxide
36. State a disadvantage of solar power	**It is not always sunny**
37. State a disadvantage of wind turbines	**It is not always windy**
38. State a disadvantage of hydroelectric	• **It can only be used where there are mountains** • **Loss of habitat**
39. State a disadvantage of geothermal	**It can only be used where the ground it hot**