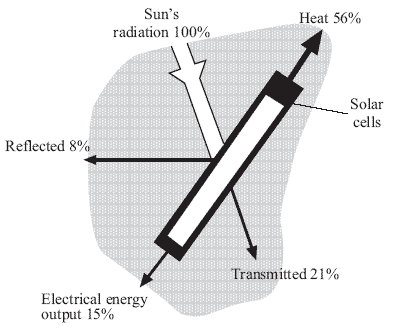
**\_\_\_\_/15 = \_\_\_\_\_\_% NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Chapter 3 Assignment #5 – Energy Term 2 – C2 (4%)**

1. What is the main energy transformation that takes place in the following? (3)  
   1. A wood fire: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transforms into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. A television: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transforms into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Hydroelectric dams: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transforms into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. A hydroelectric dam has an efficiency of 52%. How much kinetic energy from the water is needed to produce 900J of electrical energy? (2)
3. Jan works out the efficiency of one of a windmill. The mechanical energy of the air hitting the blades of the windmills is 25 000 J each second. The energy transferred to the power lines is 5000 J each second. What is the **energy efficiency of the windmills?** (2)
4. A hairdryer **wastes** 346J for every 1500J of electrical energy it uses. How efficient is the hairdryer? (2)



1. What is the overall efficiency of the transfer of light energy from the Sun to **electrical energy**? (2)
2. Each square metre of the solar panel receives 500 W. The area of the panel is 5m2. How much energy falls on the panel in 2.5 hours? (Joules or kWh your choice) (2)
3. Another panel of solar cells has an efficiency of only 8%. What is the electrical output of this panel when the input power is 2500 W? (2)