

MINISTRY OF EDUCATION
SECONDARY ENGAGEMENT PROGRAMME
GRADE 10
PHYSICS

WEEK 12: Work, Energy, Power

WORKSHEET 1

State the energy transformation that occurs in each situation

1. A coconut falling from a tree and striking the ground below without rebounding.
2. Hydroelectric power
3. A diesel-fueled electrical power station
4. A swinging pendulum, neglecting friction
5. An electric fan
6. A boy running up the stairs at constant velocity
7. An aircraft taking off
8. A microphone
9. A gasoline-fueled car accelerating on a level road
10. A gasoline-fueled car moving at constant velocity on a level road
11. A loudspeaker
12. A battery used by a crane to lift an object at constant velocity

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Worksheet – Answer Sheet

1. Gravitational potential energy → Kinetic energy → Thermal energy + Sound energy
2. Gravitational potential energy → Kinetic energy of falling water → Kinetic energy of spinning generator turbine → Electrical energy in generator coil
3. Chemical potential energy of diesel → Thermal energy → Kinetic energy of spinning generator turbine → Electrical energy in generator coil
4. Gravitational potential energy → Kinetic energy → Gravitational potential energy → Kinetic energy and so on
5. Electrical energy → Kinetic energy
6. Chemical potential energy → Gravitational potential energy + Thermal energy + Sound energy
7. Chemical potential energy → Gravitational potential energy + Kinetic energy + Thermal energy + Sound energy
8. Kinetic energy of vibrating air → Kinetic energy of microphone coil → Electrical energy in coil
9. Chemical potential energy → Kinetic energy + Thermal energy + Sound energy
10. Chemical potential energy → Thermal energy + Sound energy
11. Electrical energy → Kinetic energy of speaker → Kinetic energy of vibrating air layers
12. Chemical potential energy → Electrical energy → Gravitational potential energy