Energy flow

- 1. Gross primary production is highest in:
 - o prairie
 - o tundra
 - a rainforest
 - o a desert
- 2. In the carbon cycle, photosynthesis:
 - o releases carbon dioxide into the atmosphere
 - o releases carbon dioxide from the oceans
 - fixes carbon in biomass
 - fixes carbon in carbonates
- 3. In the water cycle, photosynthesis:
 - converts liquid water into solid water
 - converts gaseous water to liquid water
 - fixes hydrogen from water into biomass
 - o converts glucose into water
- 4. The main reason why green plants cannot use nitrogen directly from the air is:
 - the triple bonds holding the nitrogen atoms together in the molecule require too much energy to break them
 - nitrogen gas dissolves in water to produce a strongly acidic solution which would damage the plant cells
 - the nitrogen molecule is too unstable
 - o nitrogen molecules are insoluble in water
- 5. The rate at which energy from sunlight is made available to consumers by green plants is known as a system's:
 - growth rate
 - o gross primary production
 - net primary production
 - o productivity
- 6. A system's productivity is measured in:
 - o kJ m-1 yr-1
 - \circ kJ m s⁻¹
 - kJ m⁻² yr⁻¹
 - o kJ m⁻² s⁻¹
- 7. When light energy is absorbed by chlorophyll during photosynthesis:
 - o chlorophyll combines with carbon dioxide to produce glucose
 - o chlorophyll decomposes to form glucose and water
 - o chlorophyll is converted to ATP
 - a high energy electron is released from the chlorophyll molecule
- 8. In green plants, energy is stored mainly in:
 - o cellulose
 - o ATP
 - starch
 - o glucose