Energy flow

1. Gross primary production is highest in:
    - prairie
    - tundra
    - a rainforest
    - a desert
2. In the carbon cycle, photosynthesis:
    - releases carbon dioxide into the atmosphere
    - 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
    - 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
    - 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
    - gross primary production
    - net primary production
    - productivity
6. A system's productivity is measured in:
    - kJ m^{-1} yr^{-1}
    - kJ m s^{-1}
    - kJ m^{-2} yr^{-1}
    - kJ m^{-2} s^{-1}
7. When light energy is absorbed by chlorophyll during photosynthesis:
    - chlorophyll combines with carbon dioxide to produce glucose
    - chlorophyll decomposes to form glucose and water
    - chlorophyll is converted to ATP
    - a high energy electron is released from the chlorophyll molecule
8. In green plants, energy is stored mainly in:
    - cellulose
    - ATP
    - starch
    - glucose