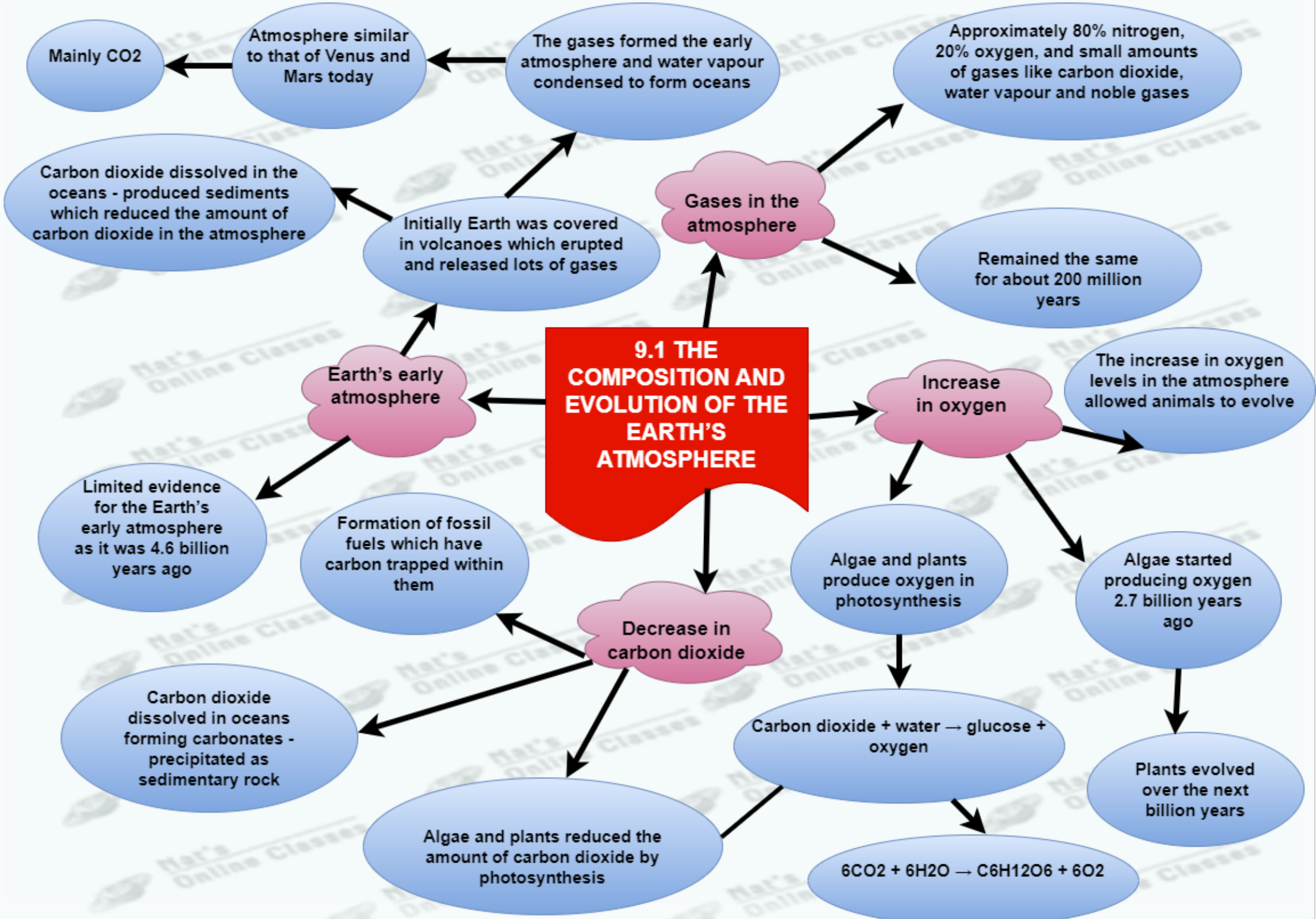
9.1 THE COMPOSITION AND EVOLUTION OF THE EARTH'S ATMOSPHERE
Gases in the atmosphere
Approximately 80% nitrogen, 20% oxygen, and small amounts of gases like carbon dioxide, water vapour and noble gases
Remained the same for about 200 million years
Earth's early atmosphere
Initially Earth was covered in volcanoes which erupted and released lots of gases
The gases formed the early atmosphere and water vapour condensed to form oceans
Atmosphere similar to that of Venus and Mars today
Mainly CO2
Carbon dioxide dissolved in the oceans - produced sediments which reduced the amount of carbon dioxide in the atmosphere
Limited evidence for the Earth's early atmosphere as it was 4.6 billion years ago
Increase in oxygen
The increase in oxygen levels in the atmosphere allowed animals to evolve
Algae and plants produce oxygen in photosynthesis
Algae started producing oxygen 2.7 billion years ago
Plants evolved over the next billion years
Carbon dioxide + water → glucose + oxygen
6CO2 + 6H2O → C6H12O6 + 6O2
Decrease in carbon dioxide
Formation of fossil fuels which have carbon trapped within them
Carbon dioxide dissolved in oceans forming carbonates - precipitated as sedimentary rock
Algae and plants reduced the amount of carbon dioxide by photosynthesis