Flow of Matter in Ecosystems The chemical elements that make up the molecules of living things pass through food webs and are combined and recombined in different ways. At each link in a food web, some energy is stored in newly made structures but much is dissipated into the environment At times, environmental as heat. Continual input of energy from Plants alter the Earth's conditions are such that plants sunlight keeps the process going. atmosphere by removing carbon dioxide from it, and marine organisms grow Energy faster than decomposers can Flow of Energy using the carbon to make recycle them back to the sugars and releasing environment. Layers of oxygen. energy-rich organic material have been gradually turned into great coal beds and oil pools. Food provides molecules that The idea of atoms explains the serve as fuel and building conservation of matter: if the number material for all organisms. of atoms stays the same no matter Over a long time, matter is ① Energy producing & how the same atoms are rearranged, transferred from one consuming reactions Flow of Energy then their total mass stays the same. organism to another ① Conservation of Mass repeatedly and between Conservation of Matter organisms and their physical environment. As in all material systems, the total Organisms that eat plants break amount of matter remains down the plant structures to constant, even though its Atoms may stick No matter how produce the materials and energy Plants use the energy form and location change. together in well substances within a they need to survive. Then they from light to make defined molecules, closed system are consumed by other organisms. sugars from carbon or may be packed interact, the total Relationships are complex dioxide and water. together in large mass of the system ① Energy② Flow of Energy The cycles continue Energy arrays. Different remains the same. indefinitely because Flow of Energy arrangements of Conservation of organisms are atoms into groups compose all mass decomposed after Conservation of death to return food All organisms including the human substances. Matter Plants can materials to the Particle theory species, are part of and depend on One of the most general use the food environment. two main interconnected global food Flow of Energy they make distinctions among webs. One includes microscopic Atoms & Carbon and organisms is between immediately ocean plants, the animals that feed Molecules hydrogen are plants, which use or store it for One organism Conservation on them and finally the animals that common sunlight to make their later use. may scavenge feed on those animals. The other elements of of Matter own food and animals, Flow of or decompose web includes land plants, the animals Chemical living matter. which consume energy Energy another. that feed on them and so forth. Reactions rich foods. States of Relationships are complex ① Energy① Relationships are The environment Matter Flow of Energy complex Living things don't exist in isolation Flow of Energy Insects and various Air is a substance that surrounds other organisms us and takes up space. depend on dead Atoms & Molecules plant and animal Conservation of Matter States of Matter material for food. Almost all kinds of From food, people obtain energy and materials for animals' food can be body repair and growth. traced back to plants. Over the whole Earth, Flow of Energy Flow of Energy organisms are growing, dying, decaying and new organisms are being produced by the old ones Plants and animals both need to Most living things need take in water and animals need water, food and air. to take in food. In addition, Living things plants need to take in light. Flow of Energy Animals eat plants or other Flow of Energy Cell Functions animals for food. Flow of Energy plants food web matter cycle making food