

Lesson plan chemical reaction

Business



Even at home, many chemical reactions occur.

Ask students for some example. Possible answers/additional answers:

Burning wood, lighting a stove, rusting of iron, cooking of egg. Shortly recall evidence of a chemical reaction. -color change, temperature change Some reactions occur spontaneously and some occur non-spontaneously. Define. For a reaction to occur, the molecules of each of the reactants must collide or interact with one another.

We know from previous lessons that molecules/particles are always constantly moving. And this is due to their kinetic energy.

So for a reaction to occur and for the molecules to collide, there must be sufficient Kinetic Energy. | Listen, answer questions | Whiteboard Marker, Whiteboard| 20 mins| | Now, why are we studying chemical reactions for a biology class? That is because inside all organisms, many chemical reactions occur that are necessary for the us to survive. Ask students for one example? Give clue: how plants make food.

Other reactions in the body are: glycolysis or breaking of sugar molecules.

Endergonic| Make students recall the requirements of a plant to live.

Asnwers: Light, water, air (CO₂), nutrients, soil Photosynthesis occurs because a plant needs nutrients to live. During photosynthesis, CO₂ + H₂O react because of the presence of sunlight, the result is a glucose + oxygen. During photosynthesis, we use up energy (light) to generate sugar.

Photosynthesis therefore is an example of an “endergonic reaction.” DEFINE. Sugar gives us energy, right? When sugar/nutrients are synthesized further, or the process known as Glycolysis, we “generate or produce” energy.

This is an “exergonic reaction” – energy releasing process. Metabolism| All these processes which occur inside an organism is what we call metabolism. It consists of a network of chemical reactions often called pathways.

Two general types of pathways:(1) catabolic- breakdown complex molecules into simpler molecules.