UVC is completely absorbed by the Earth's ozone layer.?How Chemical Filters Work: ?Chemical? sunscreens (also called organic filters) protect the skin by using molecules that absorb ultraviolet (UV) radiation and convert it into a harmless form of energy.It contains special ingredients called UV filters that either absorb, scatter, or reflect UV rays before they can penetrate the skin.Protects the Skin from UV Radiation ?Sunscreen shields the skin from both types of harmful UV rays: ?UVB rays – cause sunburn and play a major role in skin cancer.Absorption of UV Radiation ?Chemical filters contain molecules with chemical bonds that can absorb high-energy UV rays.Designed to Absorb Specific UV Ranges ?Each chemical filter absorbs certain wavelengths: ?UVA filters (e.g., avobenzone) absorb long wavelengths.Sunscreens come in different forms such as lotions, creams, sprays, gels, and sticks, and they vary in their level of protection (measured by SPF).Definition of Sunscreen ?Sunscreen is a skincare product designed to protect the skin from the harmful effects of the sun's ultraviolet (UV) radiation.Reduces the Risk of Skin Cancer ?Prolonged or repeated exposure to UV radiation damages DNA in skin cells.Sunscreen blocks or absorbs these rays, preventing redness, irritation, and peeling.?Types of Ultraviolet (UV) Radiation and Their Effects on the Skin: ?The sun emits three main types of ultraviolet radiation: UVA, UVB, and UVC.?UVA rays – penetrate deeper into the skin and cause aging, wrinkles, and contribute to cancer.?Using sunscreen regularly reduces the amount of UV radiation that reaches the skin's cells.Sunscreen helps prevent this damage, lowering the risk of: ?Basal cell carcinoma ?Squamous cell carcinoma ?Melanoma (the most dangerous type) ?3.UVB Radiation ?Medium-wavelength UV radiation (280–320 nm).?Only artificial UVC from devices (e.g., sterilization lamps) can be harmful.?These filters do not form a physical barrier; instead, they interact with UV rays at the molecular level.?Step 3: The molecule releases the energy safely ?The absorbed UV energy is released as: ?Heat, or ?A very low-energy vibration that is harmless to skin cells.Prevents Sunburn ?UVB rays can cause painful sunburns that damage skin cells.UVA Radiation ?Long-wavelength UV radiation (320–400 nm).?Affects mainly the outer layer of the skin (epidermis).UVC Radiation ?Short-wavelength UV radiation (100–280 nm).?: Importance of Sunscreen ?1.?2.?1.?2.?3.?Highly dangerous, .but...?No.?1.?2.?3

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