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Abstract	:	Heavy metals are the major contributors to pollution due to their enduring presence and poisonous characteristics. Wastewater that contains heavy metals is classified as harmful and has the potential to contaminate the environment. Large-scale disposal of heavy metal discharged into the environment causes significant environmental harm. Commonly seen heavy metals in water deposits include non-biodegradable metals such as Cadmium (Cd), Copper (Cu), Lead (Pb) and Iron (Fe). To mitigate the adverse effects of environmental contamination, it is necessary to handle wastewater containing heavy metals properly and optimally. Photocatalysis is a technology that involves the breakdown of pollutants with the use of light. This study aims to synthesize and characterize the nanocomposite of ZnO-Zeolite photocatalyst on the degradation of Cd (cadmium), Cu (copper), Fe (iron), and Pb (lead) heavy metals. The ZnO-Zeolite nanocomposites were characterized by using SEM-EDX, XRD, and BET methods. The degradation caused by exposure to ultraviolet (UV) light occurs within the time of between 60 to 120 minutes, with a pH range of 6-8. The removal of heavy metals proceeds within a time frame of one hour and two hours, resulting in an optimal percentage removal of metals that approaches 100%. The composite showed a surface area of 19.436 m2/g, a pore size of 17.227 Å, and a total pore volume of 0.112 cm3/g. The heavy metals Cu, Fe, and Pb exhibited the highest rates of degradation, reaching their maximum percentages after 60 minutes when exposed to ultraviolet radiation under ideal conditions at varying pH levels (pH 6-8). More precisely, the degradation percentage of Cu metal was 95.4% at pH 7, Fe metal achieved 96.1% at pH 6, while Pb metal obtained 95.5% at pH 8.