



The Science of Diamonds

Exploration and Mining

Mining diamonds is obviously a very involved process. Once a diamond-bearing kimberlite or lamproite pipe is found, many steps are needed to extract rough diamonds. With a process that goes from excavation, blasting and removing ore material to tunneling, crushing and finally processing, it's little wonder diamonds are so valuable.

Industry and Technology

Remarkably, eighty per cent of the diamonds mined each year are used in industry, and four times of that production is grown synthetically for industry — that's a total of over 500 million carats, or 100 metric tons! In industry, diamonds are used for cutting, abrasion, and grinding and polishing. Diamonds are also used to fashion stones, ceramics, metals and concrete, as well as eyeglasses, gems and computer chips. Increasingly, diamonds are being used for specialized purposes such as blades used in critical surgery, specialty windows and heat spreaders.