

GEOLOGY 101

WHERE DO COLOURED STONES COME FROM?

PRIMARY DEPOSITS

GEMS MINED FROM ROCKS WHERE THEY WERE FORMED. GEM MATERIAL IS EXTRACTED THROUGH BLASTING OR DRILLING. HARD ROCKS ARE DIFFICULT TO MINE.



SECONDARY DEPOSITS

GEMS FOUND AWAY FROM THEIR PRIMARY SOURCE. GEMS ERODE FROM THE ROCKS THAT THEY WERE FORMED IN AND AMASS IN RIVER GRAVEL, MAKING MINING MUCH EASIER



TWO TYPES OF SECONDARY DEPOSITS:

ELUVIAL- GEMS FOUND CLOSE TO THE ORIGINAL SOURCE

ALLUVIAL - GEMS FOUND AWAY FROM THE ORIGINAL SOURCE



GEMSTONES FORM DURING THE ROCK CYCLE; WHERE OLD ROCKS ARE BROKEN DOWN AND NEW ROCKS ARE CREATED

THREE ROCK FORMATION PROCESSES

IGNEOUS

CRYSTALLIZATION OF MOLTEN MATERIAL TO FORM ROCK

EXAMPLES OF GEMS FROM IGNEOUS ROCKS:
MOONSTONE
TOPAZ
TOURMALINE



METAMORPHIC

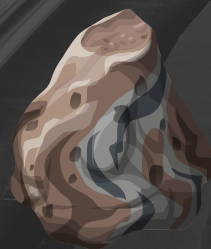
ROCKS ALTERED BY HEAT AND PRESSURE, CAN TAKE MILLIONS OF YEARS

EXAMPLES OF GEMS FROM METAMORPHIC ROCKS:
RUBY
SAPPHIRE
EMERALD
GARNET

SEDIMENTARY

ROCKS PRODUCED FROM WEATHERED EXISTING ROCKS

EXAMPLES OF GEMS FROM SEDIMENTARY ROCKS:
OPAL
QUARTZ
TURQUOISE



SOURCES:

GIA. (2018). COLORED STONES BOOK 1-5. GEMOLOGICAL INSTITUTE OF AMERICA
RADEN, A., & SMITHSONIAN INSTITUTION. (2016). GEM: THE DEFINITIVE VISUAL GUIDE.

