

# THE PHENOMENAL PROPERTIES OF GEMS

Phenomenal gemstones possess striking optical effects, making them truly a sight for sore eyes. Here is GIA's guide to understanding what makes each phenomenon so uniquely brilliant.



## ◀ ASTERISM

CROSSING BANDS OF REFLECTED LIGHT CREATE A SIX-RAYED STAR-LIKE APPEARANCE. ASTERISM OCCURS IN THE DOME OF A CABOCHON, AND CAN BE SEEN IN GEMS LIKE RUBIES AND SAPPHIRES.

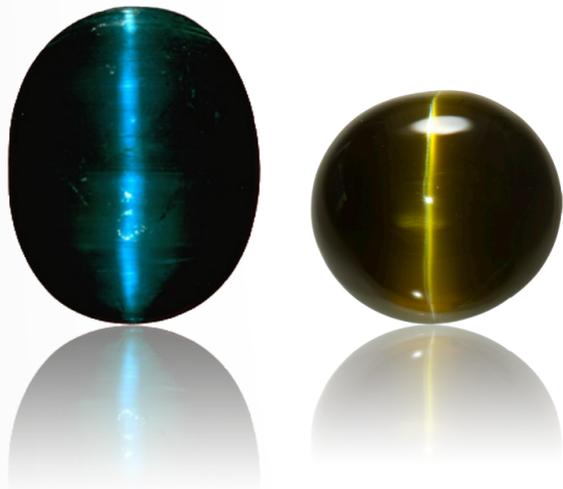
## ▶ ADULARESCENCE

THE SAME SCATTERING OF LIGHT THAT MAKES THE SKY BLUE CREATES A MILKY, BLuish-WHITE GLOW, LIKE MOONLIGHT SHINING THROUGH A VEIL OF CLOUDS. MOONSTONE IS THE ONLY GEM THAT DISPLAYS IT.



## ▲ AVENTURESCENCE

FOUND IN NATURAL GEMS LIKE SUNSTONE FELDSPAR AND AVENTURINE QUARTZ, IT DISPLAYS A GLITTERY EFFECT CAUSED BY LIGHT REFLECTING FROM SMALL, FLAT INCLUSIONS.



## ◀ CHATOYANCY

OTHERWISE KNOWN AS THE "CAT'S EYE" EFFECT, BANDS OF LIGHT ARE CAUSED BY THE REFLECTION OF LIGHT FROM MANY PARALLEL, NEEDLE-LIKE INCLUSIONS INSIDE A CABOCHON. NOTABLE GEMS THAT DISPLAY CHATOYANCY INCLUDE CAT'S EYE TOURMALINE AND CAT'S EYE CHRYSOBERYL.

## ▶ IRIDESCENCE

ALSO SEEN IN SOAP BUBBLES AND OIL SLICKS, IT'S A RAINBOW EFFECT THAT IS CREATED WHEN LIGHT IS BROKEN UP INTO DIFFERENT COLORS. LOOK FOR IT IN FIRE AGATE AND OPAL AMMONITE (KNOWN BY THE TRADE AS AMMOLITE).



## ◀ LABRADOESCENCE

A BROAD FLASH OF COLOR THAT APPEARS IN LABRADORITE FELDSPAR, IT'S CAUSED BY LIGHT INTERACTING WITH THIN LAYERS IN THE STONE, AND DISAPPEARS WHEN THE GEM IS MOVED. INSIDER'S TIP: THE MOST COMMON PHENOMENAL COLOR IN LABRADORITE IS BLUE.

## ▶ PLAY OF COLOR

THE FLASHING RAINBOW-LIKE COLORS IN OPAL THAT FLASH AT YOU AS YOU TURN THE STONE OR MOVE AROUND IT. THIS RARE AND TREASURED RESULT OCCURS UNDER JUST THE RIGHT COMBINATION OF CONDITIONS.



## ◀ COLOR CHANGE

A DISTINCT CHANGE IN GEM COLOR THAT SHOWS UNDER DIFFERENT TYPES OF LIGHTING. THOUGH OTHER STONES CAN DISPLAY IT, THE PHENOMENON IS SO FREQUENTLY ASSOCIATED WITH ALEXANDRITE THAT IT'S OFTEN CALLED THE "ALEXANDRITE EFFECT."



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