**MINERAL OF THE MONTH**

**CALCITE**

Found in sedimentary, metamorphic, and igneous geologic environments, calcite is one of the most important minerals of the sedimentary rock group. Calcite is the dominant mineral in limestone, a volumetrically-significant mono-minerallic chemical sedimentary rock. Calcite is the primary mineral in the metamorphic rock marble, which results from the metamorphic recrystallization of limestone. Calcite occurs as an accessory mineral in other rocks, primarily as inter-granular cement in sandstone and calcareous shale; it is also the chief component of the relatively rare igneous carbonatites. Calcite is notable for its polymorphic nature. Aragonite is a common high pressure polymorph of calcite and is best known as the nacreous compound that forms the gemstone pearl and mother-of-pearl in mollusk shells. In addition to its polymorphs, calcite also occurs as speleothems and travertine, rocks associated with cave formations.

Calcite is easy to identify based on its physical properties. It reacts readily with dilute hydrochloric acid, effervescing vigorously as it dissolves. Calcite cleaves into distinctive rhombohedra, which resemble slanted boxes. Optically clear calcite exhibits the property known as birefringence, where images viewed through the sample at the appropriate angle appear to be doubled or twinned.

Calcite can be found in many parts of Georgia. It occurs as flat-lying limestones in the Coastal Plain and as crystalline limestones in the Valley and Ridge physiographic provinces. In both cases the limestones are commonly fossiliferous, with the fossils themselves composed of calcite. Economically-important deposits of marble are located in the Piedmont province of north-central part of the state.

Most of the calcite samples in the tray this month were collected from localities in Georgia and elsewhere across the southeastern US.

**Technical Information:**

- Chemical Formula – CaCO₃
- Composition – Calcium carbonate
- Crystal Form – Trigonal-Hexagonal Scalenohedral Class:

![Crystal Form Diagram](image)

- Hardness – 3 (Mohs scale)
- Streak – White
- Cleavage – Perfect in three directions
- Mineral group – Carbonates

Images courtesy of the Florida Educational Technology Clearinghouse, Florida Department of Education