

Uses of Minerals

3.3

I. Gems

A. Properties of Gems

- Gems or gemstones – are highly prized minerals because they are rare and beautiful
- Most gems are a special variety of a particular mineral
- They are clearer, brighter or more colorful than common samples of that mineral



Birthstones

- January - Garnet
February - Amethyst
March - Aquamarine
April - Diamond
May - Emerald
June - Pearl
July - Ruby
- August - Peridot
September - Sapphire
October - Opal
November - Topaz, Citrine
December - Blue Topaz

B. Important Gems

- Cullinan 1 or Great Star of Africa – a Diamond that is part of the British Monarchy's crown jewels
- Blue Hope Diamond – reputation for bring its owner bad luck

C. Useful Gems

- Diamonds are used in industry in cutting tools because of their hardness 
- Rubies are used to produce specific types of laser lights 
- Quartz crystals are used in electronics as timepieces

II. Useful Elements in Minerals

A. A mineral or rock is an *ore* if it contains a useful substance that can be mined as a profit

B. Vein Minerals

- A weakness in rocks include natural fractures or cracks, and faults
- Mineral deposits that fill in the open spaces or cracks in rocks created by the weakness are called *vein* mineral deposits

C. Minerals Containing Titanium

- Titanium is a durable, non-toxic, lightweight, metallic element derived from mineral that contains this metal

D. Uses of Titanium

- Titanium is used in automobile body parts
- Aircrafts
- Eye glass frames
- Sports equipment
- Wheel chairs