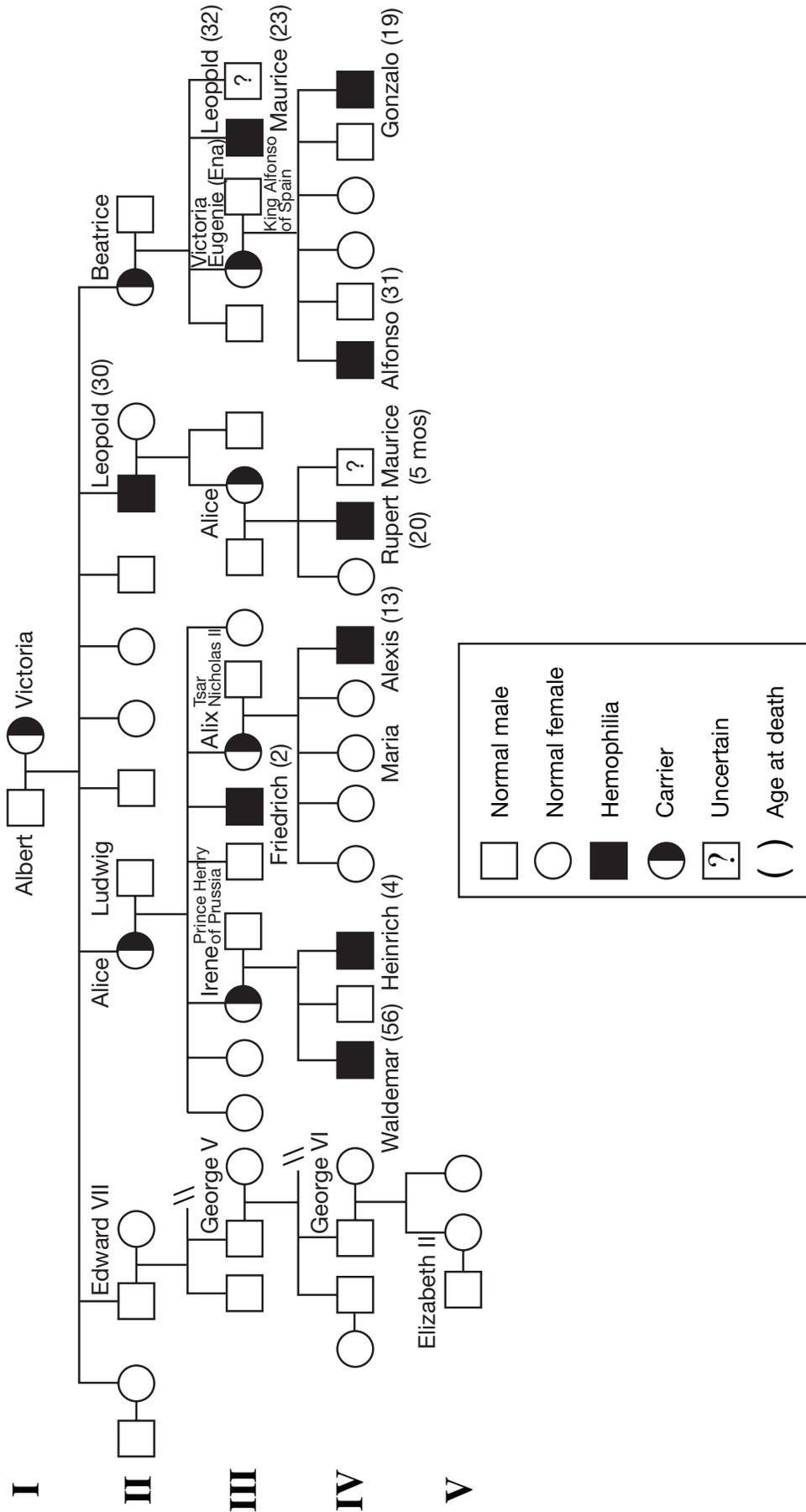


Queen Victoria's Pedigree Chart

Answer Key



Tracking Traits with Pedigree Charts

Narration:

Queen Victoria (Generation I) was the Queen of Great Britain from 1837 to 1901. She was married to Prince Albert and had nine children. Queen Victoria was a carrier of *hemophilia*, which is a sex-linked recessive trait in which one or more of the proteins required to clot blood is absent.

Victoria's second daughter Alice (G II) was also a carrier of the disease. She married Prince Ludwig of Hesse (part of modern-day Germany) and had seven children. Alice's second son Friedrich (G III) had hemophilia and died after a fall at two years of age. Irene (G III), Alice's third daughter, was a carrier. Irene married Prince Henry of Prussia and had three sons. Only Irene's middle son was spared from the disease. Her youngest, Heinrich (G IV), died at age four after a fall. Even though Irene's eldest son Waldemar (G IV) lived to the age of 56, his death was directly caused by hemophilia when he was not able to receive a needed blood transfusion during World War II.

Alice's fourth daughter Alix (G III) was a carrier. She married Tsar Nicholas II of Russia. They had four girls and one son, Alexis (G IV). Alexis had hemophilia. Whether or not the daughters were carriers is unknown because the entire family was executed in 1918 during the Russian Revolution. The third daughter, Maria, may have been a *symptomatic carrier* (one who exhibits some blood clotting impairment without the diagnosis of hemophilia) because she experienced severe bleeding during a tonsillectomy.

Queen Victoria's youngest son Leopold (G II) was the queen's only son with hemophilia. He married and had two children before he died at age 30 due to internal bleeding after a fall. His only daughter Alice (G III) was a carrier. Alice had three children. Her youngest son Maurice (G IV) died at 5 months of age, so it is unknown if he had hemophilia. Alice's oldest son Rupert (G IV) did have hemophilia and died at age 20 from injuries sustained in a car accident.

The youngest offspring of Queen Victoria, daughter Beatrice (G II), was a carrier. She had four children. Her second son Leopold (G III) died at age 32 from complications due to hemophilia during a knee operation. Beatrice's youngest, Maurice (G III), was killed in action during World War I at age 23. Whether or not Maurice had hemophilia is in question. Some believe he would not have been allowed to go into combat if he had the disease.

Beatrice's only daughter Victoria Eugenie (called Ena) married King Alfonso XIII of Spain. Ena (G III) was a carrier and passed the trait to her oldest son Alfonso (G IV) and to her youngest son Gonzalo. They died in separate car accidents at the ages of 31 and 19, respectively, due to severe internal bleeding.