

Heredity Mystery Game

On January 9, 1998, at 12 midnight 3 children were being born at General Hospital: one to the Smith's, one to the Jones', and one to the Green's. At 12:05, a bomb went off in the hospital. The hospital burned (but the TV series didn't end) and all records of the births were destroyed before ID bracelets could be attached to the wrist of the babies. All were saved, but no one knew which child belonged to which set of parents. (They didn't even know if the new babies were boys or girls.) Everyone drew straws to decide which child they would take home. Years passed, and all of the couples began to harbor secret doubts concerning the identity of the child they took home. Suddenly, Mr. Jones, a billionaire, died of a heart attack (actually coronary artery disease). In his will, he had left all of his fortune to his real child. The money could not be settled until the mystery could be solved. With your knowledge of genetics, you have been called in to solve the mystery. If you are successful, you will receive 10% of the will (or an A – whichever is cheaper!)

GOOD LUCK!

Instructions: Use the following clues to fill in the chart you have been given. Be careful.

Pay attention to detail.

Clues:

Mrs. Jones has attached ears, which show when she wears her diamond earrings.

Gerald can roll his tongue.

Jim has a widow's peak that shows when he swims.

Mr. Smith has had a bent little finger in his family for generations.

Sally is homozygous for free ears.

Mr. and Mrs. Green can roll their tongues, but both had one parent who could not.

Mr. and Mrs. Smith found that no matter how hard they tried, they could not taste PTC.

Gerald is heterozygous for free ears.

Mrs. Jones' little finger is bent, but her father's was straight.

Mr. Jones cannot taste PTC.

Mrs. Jones' family has been PTC tasters for generations.

Mrs. Green has attached ears, but Mr. Green's family has had free ears for generations.

Mrs. Green uses her little finger as a straight edge.

Mrs. Smith thinks her widow's peak is very attractive.

Mr. Jones had free ears, but his mother had attached.

Sally cannot taste PTC.

Mr. Green's finger is bent, but his father's was straight.

Mr. and Mrs. Smith have had free ears in both their families for generations.

Gerald put some PTC paper in his mouth, but could not taste it.

Jim's ears are attached.

Mr. Jones' little finger was straight.

Sally tried, but could not roll her tongue.

Mrs. Jones has a straight hairline.

Neither Mr. Green nor Mrs. Green has a widow's peak.

Both Mr. and Mrs. Smith are heterozygous for tongue rolling as both of their mothers could not roll their tongues.

Mr. and Mrs. Green can taste PTC paper, but both of their families' fathers cannot.

Gerald is a straight fingered boy and so is his hairline.

Jim practiced many hours but could not roll his tongue.

Sally is homozygous for bent little finger.

Both Mr. Jones and Mr. Smith hide their widow's peak by combing their hair forward. They are embarrassed as neither of their fathers had one.

Neither Mr. Jones nor Mrs. Jones can roll their tongues.

Sally has a widow's peak.

Jim has a bent little finger.

Mrs. Smith has a bent little finger, but her mother's was straight.

Jim can taste PTC.