

# Ap chapter 15 the chromosomal basis of inheritance answers

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**What is the chromosomal basis of inheritance answer?** Boveri and Sutton's chromosome theory of inheritance states that genes are found at specific locations on chromosomes, and that the behavior of chromosomes during meiosis can explain Mendel's laws of inheritance.

**What is the chromosome theory of inheritance chapter 15?** What is the chromosome theory of inheritance? According to the chromosome theory of inheritance, Mendelian genes have specific loci (positions) along chromosomes, and it is the chromosomes that undergo segregation and independent assortment, accounting for inheritance patterns.

**Why can you say all calico cats are female?** Because the genetic determination of coat colors in calico cats is linked to the X chromosome, calicoes are nearly always female, with one color linked to the maternal X chromosome and a second color linked to the paternal X chromosome.

**What is the chromosome theory of inheritance quizlet?** The chromosome theory of inheritance states that inherited traits are controlled by genes residing on chromosomes faithfully transmitted through gametes, maintaining genetic continuity from generation to generation. Both the chromosome theory of inheritance and Mendel's findings are the same.

**What is the chromosomal theory of inheritance short answer?** The chromosomal theory of inheritance was given by Boveri and Sutton in the early 1900s. It is the fundamental theory of genetics. According to this theory, genes are the units of heredity and are found in the chromosomes. Chromosomal Theory of

Inheritance came into existence long after Mendelian genetics.

**What is the chromosome inheritance?** Define the chromosome theory of inheritance as “genes are located on chromosomes” Use phenotypic ratios to determine if genes are sex-linked. Predict possible offspring types and phenotypic ratios in the case of sex linkage. Apply pedigree analysis to distinguish between dominant, recessive, and sex-linked traits.

**What is chromosome 15 responsible for?** Chromosome 15 is estimated to contain around 630 genes that provide instructions for making proteins. These proteins perform a variety of different roles in the body.

**What is the defect in chromosome 15 inherited from the mother?** What is Prader-Willi syndrome? Prader-Willi syndrome (PWS) can happen when a baby gets both copies of a part of chromosome #15 from the mother. But AS most often happens when a chromosome #15 from each parent is present, but part of the father's chromosome is deleted. Then only the mother's part is present.

**What is chromosomal theory of inheritance pdf?** Chromosome Theory of Inheritance. It was proposed independently by Sutton and Boveri. The theory was expanded by Morgan, Sturtevant and Bridges. This theory proposes that chromosomes are vehicles of hereditary information and expression as genes are present over them. Resolve all Your Biology Doubts from Physics Wallah ...

**Is calico cat a rare gender?** Calico refers to a pattern (rather than a breed) featuring three colors that can appear in various cat breeds without affecting the cat's personality or lifespan. Male calico cats are extremely rare, occurring in only about one in 3,000 male cat births due to a genetic anomaly that gives them an extra X chromosome.

**Why can't male cats be calico?** Male calico cats are typically considered intersex or have a genetic abnormality. The calico coat pattern is linked to the presence of two X chromosomes (XX) in cats. Since male cats typically have one X and one Y chromosome (XY), they usually do not inherit the calico coat pattern.

**What gender is a three color cat?** Two X chromosomes are needed for a cat to have that distinctive tri-color coat. If a cat has an XX pair, she will be female. Male

cats have an XY chromosome pair, so they can't be Calicos.

**What are the 5 key principles of the chromosome theory of inheritance?** The chromosome theory of inheritance follows three principles: fertilization, the law of segregation, and the law of independent assortment. Unique examples of the chromosomal theory of inheritance include mutations, sex-linked genes, linked genes, and chromosomal disorders.

**Which best describes the chromosomal theory of inheritance?** Final answer: The statement that best describes the Chromosomal Theory of Inheritance is 'Chromosomes are the structures that carry genes'. This theory states that genes are located on chromosomes, and those chromosomes, not just their genes, follow Mendelian principles during sexual reproduction.

**Why are females carriers and not males?** This is due to the fact that, in general, females carry two X chromosomes (XX), while males carry one X and one Y chromosome (XY). Therefore, females carry two copies of each X-linked gene, but males carry only one copy each of X-linked and Y-linked genes.

**What is the basis of genetic inheritance?** One copy is inherited from their mother (via the egg) and the other from their father (via the sperm). A sperm and an egg each contain one set of 23 chromosomes. When the sperm fertilises the egg, two copies of each chromosome are present (and therefore two copies of each gene), and so an embryo forms.

**What is the chromosomal mechanism of inheritance?** Basic features of mechanism of inheritance of traits: One form of the gene may be dominant over the other form. Genes are present on chromosomes. An individual bears two forms of a gene, either similar or dissimilar. The two forms of the gene separate independently during gamete formation.

**What is the basis of chromosome?** In the nucleus of each cell, the DNA molecule is packaged into thread-like structures called chromosomes. Each chromosome is made up of DNA tightly coiled many times around proteins called histones that support its structure.

**What is the chromosomal basis of genetic disorder?** Genetic disorders can be:  
Chromosomal: This type affects the structures that hold your genes/DNA within each cell (chromosomes). With these conditions, people are missing or have duplicated chromosome material. Complex (multifactorial): These disorders stem from a combination of gene mutations and other factors.

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