SECTION

HUMAN GENETICS AND PEDIGREES

7.4 Study Guide

KEY CONCEPT

A combination of methods is used to study human genetics.

VOCABULARY
pedigree
karyotype

MAIN IDEA: Human genetics follows the patterns seen in other organisms.

- 1. How does genetic inheritance follow similar patterns in all sexually reproducing organisms?
- 2. How are single-gene traits useful in studying human genetics?

MAIN IDEA: Females can carry sex-linked genetic disorders.

- 3. Who can be carriers of autosomal disorders?
- **4**. Why can females, but not males, be carriers of sex-linked genetic disorders?

MAIN IDEA: A pedigree is a chart for tracing genes in a family.

- 5. What is a pedigree?
- 6. How are phenotypes used in pedigree analysis?
- 7. What information on a pedigree can tell you whether a gene is on an autosome or on a sex chromosome?

Mc Do uga I Litt ell/ Ho ug hto n Mif flin Co mp any

Co

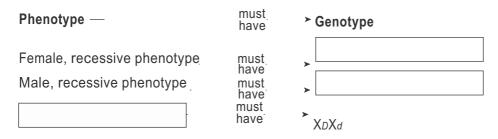
pyri ght

©

STUDY GUIDE, CONTINUED

8. Complete the chart to follow the logic necessary to fill out a pedigree for a sex-linked gene. Use X_D and X_d for the dominant and recessive X-linked genes, respectively.

Tracing Sex-Linked Genes



			-			>
C H	Parental Phenotype	must have	➤ Parental Genotype	cou		Offspring Genotypes
A P T	Female carrier, normal male	must have	>	could have	>	
E R 7	Female carrier, male with recessive phenotype	must have	>	could have	>	
	Female with recessive phenotype, normal male	must have	>	could have	>	
	Female with recessive phenotype, male with recessive phenotype	must have	>	could have	>	

MAIN IDEA: Several methods help map human chromosomes.

- 9. What are two methods that are used to directly study human chromosomes?
- **10**. What does a karyotype show about chromosomes?

Vocabulary Check

11. What is a karyotype?

48 Study Guide

Unit 3 Resource Book McDougal Littell Biology