

Class set

Name

Period

Date

CHAPTER 9 OPTIONS FOR INQUIRY

Genetic Screening

A combination of pedigree analysis and DNA testing is used to screen for genetic diseases. In this investigation you will use a pedigree and a restriction map to determine who in a family is a carrier of a genetic disorder.

Problem

Which members of the family are carriers of the genetic disorder?

MATERIALS

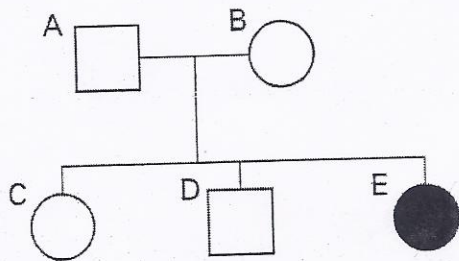
- paper
- pencil

PROCESS SKILLS

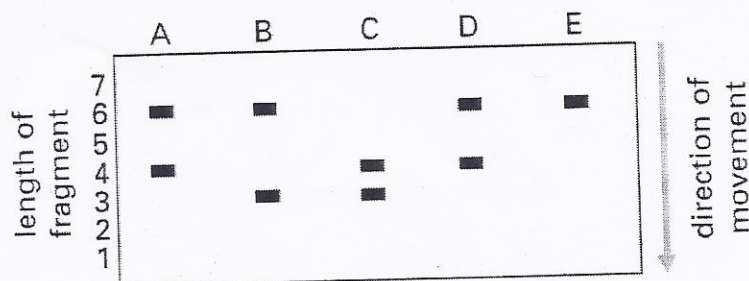
Analyzing

Procedure

1. Below is a pedigree of family.



2. Look at the gel below. The letters on the gel correspond to the letters of people on the pedigree. Write on your pedigree the alleles that each person has, as shown by the lengths of DNA fragments on the gel. **Hint:** person E has two copies of one allele.



3. Person E's phenotype is given. Determine the phenotypes of the other people—non-carrier or carrier—and show them on the pedigree with the shading conventions you learned in Chapter 7.

Analyze and Conclude

1. **Analyze** How many people are carriers?

2. **Infer** Is the disorder sex-linked or is it related to a gene on an autosome? Explain.



	A	B	C	D	E
To right marker	10	10	10	10	10
To left marker	10	10	10	10	10