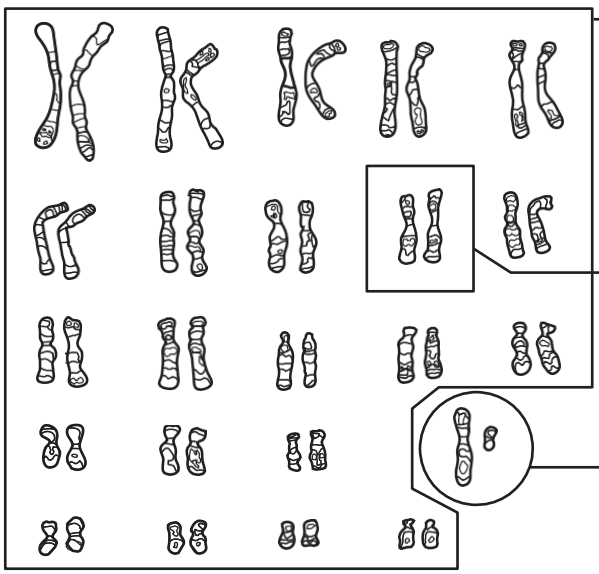
SECTION
6.1

CHROMOSOMES AND MEIOSIS

Power Notes

Somatic cells:	Gametes:
•	•
•	•

Identify the items in the karyotype and explain their characteristics.



1. Autosomes...

2.

3.

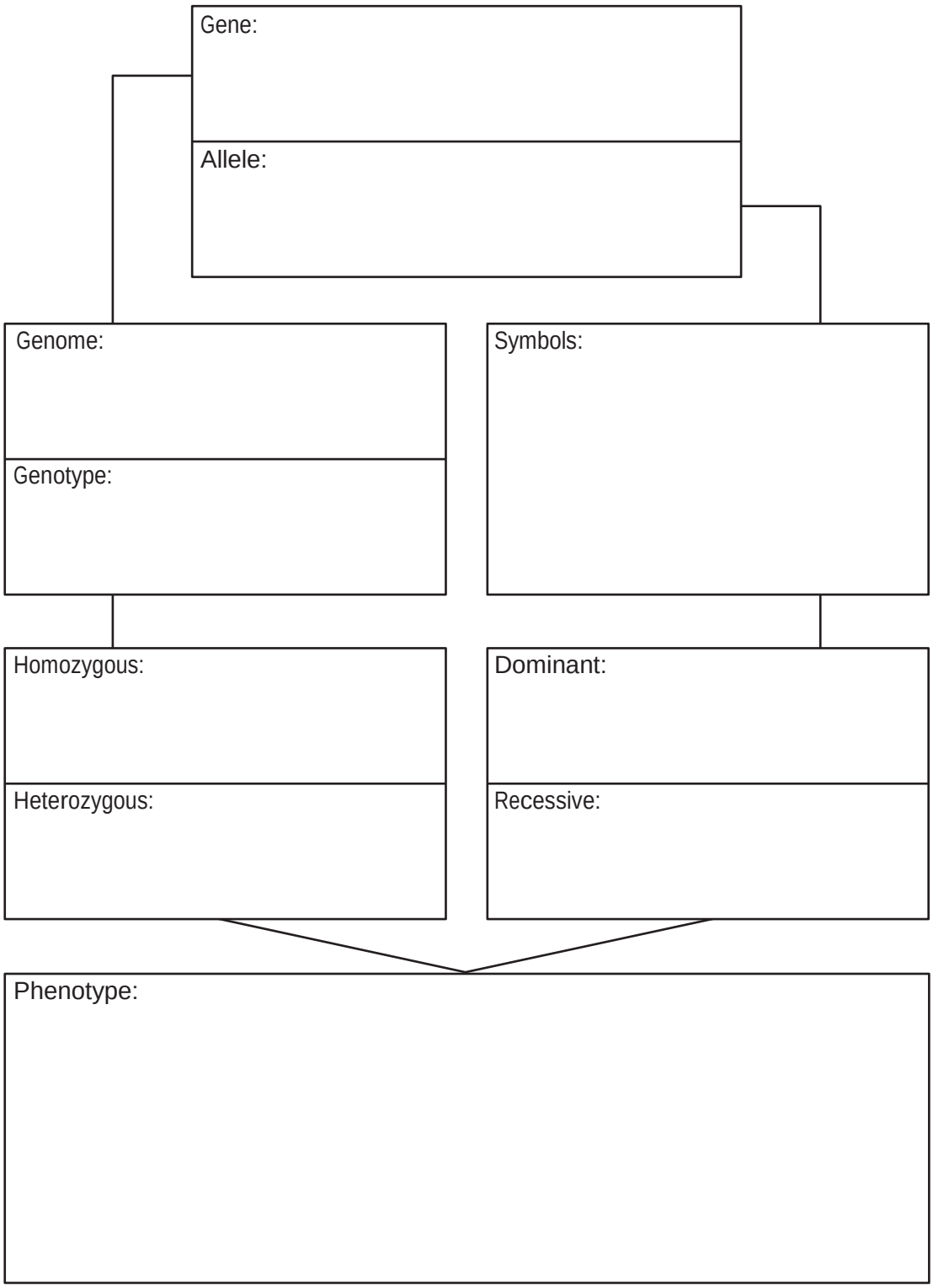
Diploid cell:	Haploid cell:

Mitosis	Meiosis
•	•
•	•
•	•
•	•

SECTION
6.4

TRAITS, GENES, AND ALLELES

Power Notes



SECTION
6.6

MEIOSIS AND GENETIC VARIATION

Power Notes

Genetic Diversity

- Fertilization:

- Meiosis:

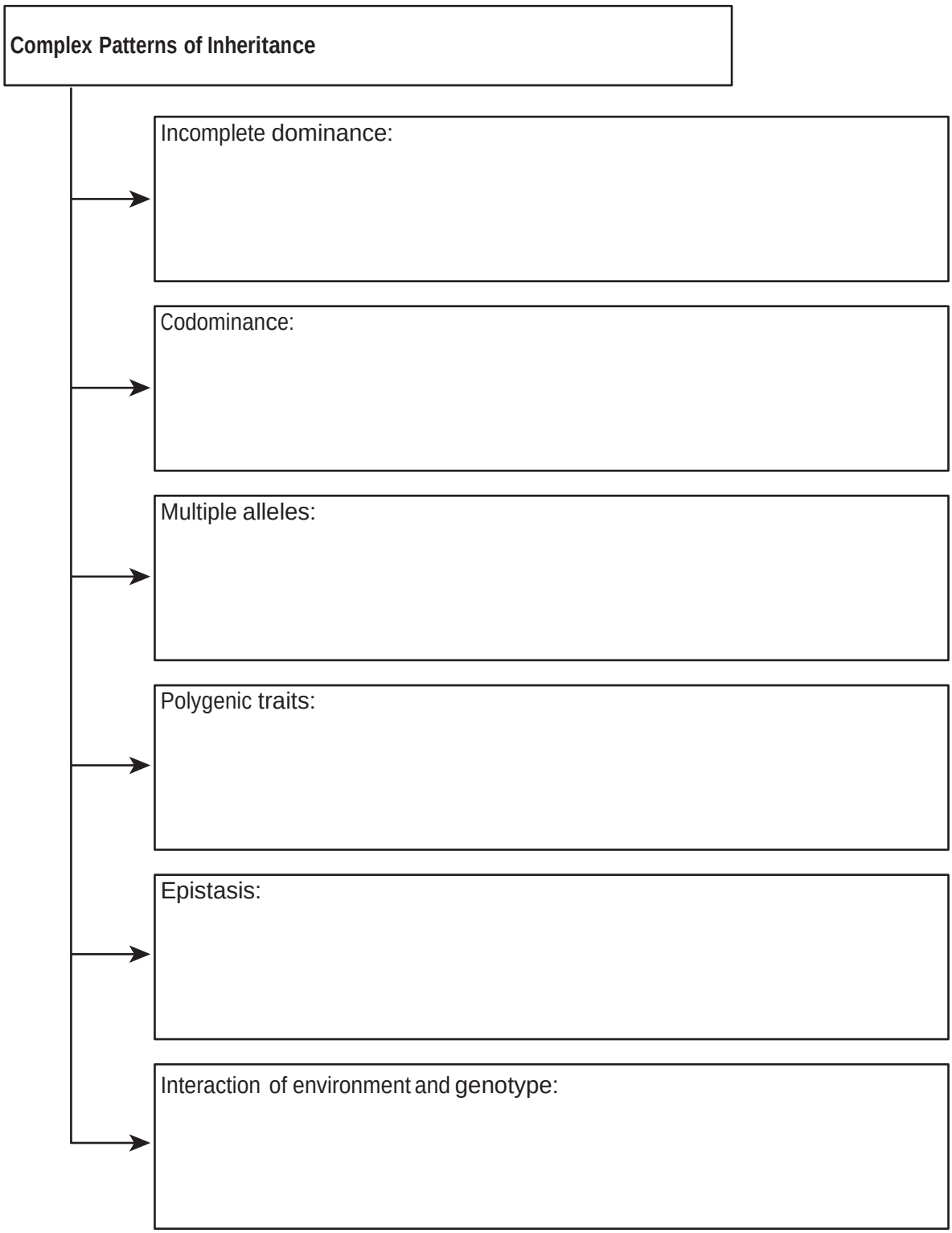
- Crossing over:

Fill in the final box to illustrate crossing over.

Genetic linkage:

COMPLEX PATTERNS OF INHERITANCE

Power Notes



Power Notes

Sex-Linked Disorders	
Males:	Females:

A pedigree chart is:

Tracing Autosomal Genes	Tracing Sex-Linked Genes
•	•
•	•
•	•
•	•
	•

A karyotype is:

A karyotype shows:

Notes: Genetics-Meiosis & Mendel

- 6.1 Power Notes: Chromosomes and Meiosis
- Coloring Diagram: Comparing Mitosis & Meiosis
- 6.6 Power Notes: Meiosis & Genetic Variation
- 6.4 Power Notes: Traits, Genes, and Alleles
- 7.2 Power Notes: Complex Patterns of Inheritance
- 7.4 Power Notes: Human Genetics & Pedigrees

CA State Standards we will cover:

2. Mutation and sexual reproduction lead to genetic variation in a population. As a basis for understanding this concept:
    - [ ] a. Students know meiosis is an early step in sexual reproduction in which the pairs of chromosomes separate and segregate randomly during cell division to produce gametes containing one chromosome of each type.
    - [ ] b. Students know only certain cells in a multicellular organism undergo meiosis.
    - [ ] c. Students know how random chromosome segregation explains the probability that a particular allele will be in a gamete.
    - [ ] d. Students know new combinations of alleles may be generated in a zygote through the fusion of male and female gametes (fertilization).
    - [ ] e. Students know why approximately half of an individual's DNA sequence comes from each parent.
    - [ ] f. Students know the role of chromosomes in determining an individual's sex.
    - [ ] g. Students know how to predict possible combinations of alleles in a zygote from the genetic makeup of the parents.
3. A multicellular organism develops from a single zygote, and its phenotype depends on its genotype, which is established at fertilization. As a basis for understanding this concept:
    - [ ] a. Students know how to predict the probable outcome of phenotypes in a genetic cross from the genotypes of the parents and mode of inheritance (autosomal or X-linked, dominant or recessive).
    - [ ] b. Students know the genetic basis for Mendel's laws of segregation and independent assortment.
    - [ ] c. Students know how to predict the probable mode of inheritance from a pedigree diagram showing phenotypes.
    - [ ] d. Students know how to use data on frequency of recombination at meiosis to estimate genetic distances between loci and to interpret genetic maps of chromosomes.