Section 1-1

1. heredity
2. c
3. a
4. b
5. c
6. pistil; stamens
7. He knew that the offspring would always have the same form of the trait as the parents.
8. short; tall; tall; short
9. d
10. round; wrinkled
11. a, b, c
12. true
13. c

Section 1-1 continued

14.a
15.b
16.capital
17.lowercase
18.Tt
19.false
20.true

Section 1-1

Mendel's Work

Mendel and Genetics

SCIENCE EXPLORER

Work with your table and make a list of characteristics people inherit.

Make a list of characteristics people don't inherit.

Mendel and Genetics

SCIENCE EXPLORER

Traits –

Physical characteristics

Heredity –

The passing of traits from parents to offspring

Genetics –

The scientific study of heredity

Purebred –

One that always produces offspring with the same form of a trait as the parent

Mendel and Genetics

SCIENCE EXPLORER

Genes –

The factors that control traits

Alleles –

The different forms of a gene

Dominant Allele –

One whose trait always shows up in the organism when the allele is present

Recessive Allele –

Is covered up when the dominant allele is present

Hybrid –

Has two different alleles for a trait

Mendel and Genetics

SCIENCE EXPLORER

Genetics of Pea Plants

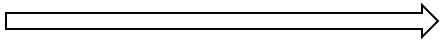
Traits	Seed Shape	Seed Color	Seed Coat Color	Pod Shape	Pod Color	Flower Position	Stem Height
Controlled by Dominant Allele	 Round	 Yellow	 Gray	 Smooth	 Green	 Side	 Tall
Controlled by Recessive Allele	 Wrinkled	 Green	 White	 Pinched	 Yellow	 End	 Short

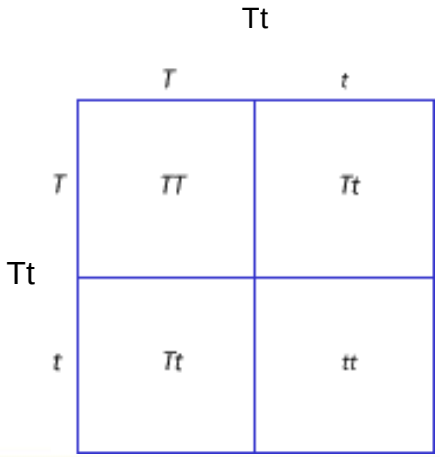
If a pea plant has a tall stem, what possible combinations of alleles could it have?

TT or Tt

SCIENCE EXPLORER

Section 1-2

1. probability
2. a, b, c
3. false
4. No, the results of the first five tosses do not affect the results of the sixth toss.
5. He always found that three fourths of the plants had tall stems and one fourth of the plants had short stems.
6. predict
7. Punnett square
8. 



Section 1-2 continued

9. 1 in 4 or 25%
10. TT and Tt
11. b
12. c
13. a
14. d
15. hybrid
16. true
17. The offspring have both black and white feathers.
18. heterozygous

SCIENCE EXPLORER

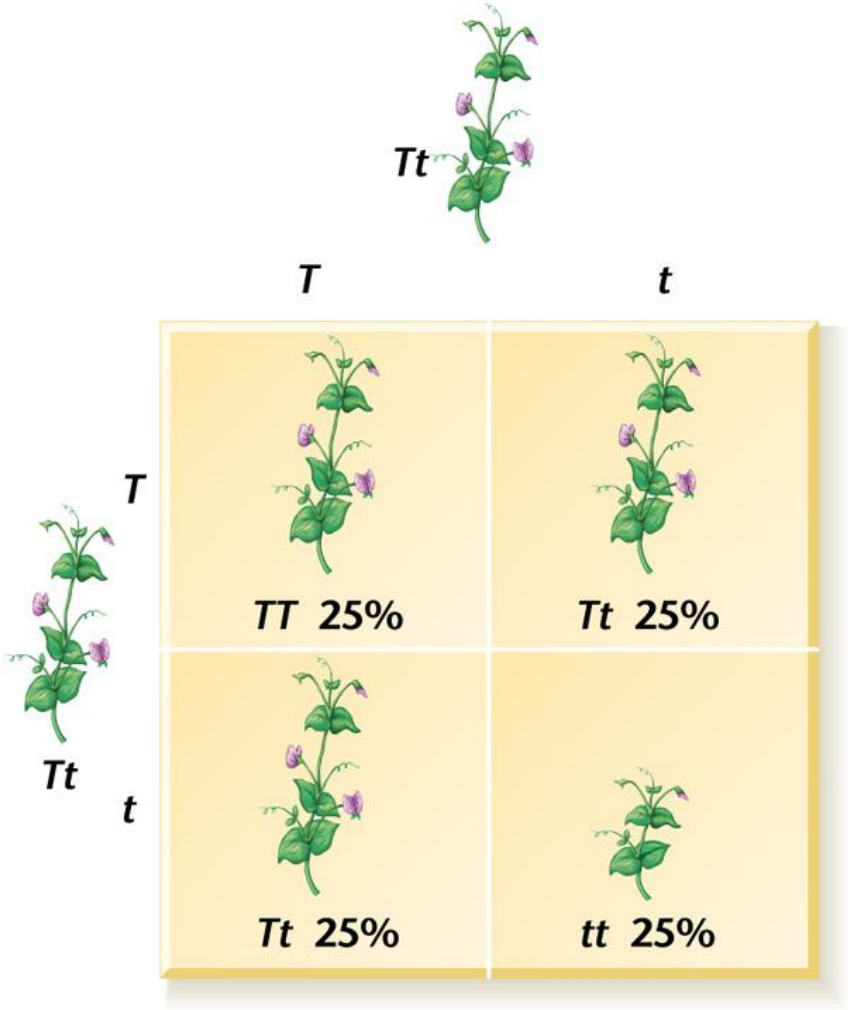
Section 1-2

Probability and Genetics

Predict how many times a coin tossed 20 times would land "heads up."

Predict how many times it would land "tails up."

Test your prediction by tossing a coin 20 times and recording the results.



Mendel and Genetics

SCIENCE EXPLORER

Genotype –

Genetic makeup or allele combination

Phenotype –

Physical appearance or visible traits

Homozygous –

Having two identical alleles for a trait

Heterozygous –

Having two different alleles for a trait

Codominance –

The alleles are neither dominant or recessive and both are expressed in the offspring (blended)

Genotype	Phenotype	Dominant or Recessive Shown
TT	Tall	Dominant
Tt	Tall	Dominant
tt	Short	Recessive