Name: Date: Score: / 8

Punnett Squares: Learn and Practice

Predict the traits of offspring

Read each question. Circle the best answer.

💡 Punnett Squares

- A Punnett square shows the possible gene combinations of offspring.
- Each parent passes on one allele for a trait.
- A capital letter stands for a dominant allele and a small letter for a recessive one.
- Tt crossed with Tt: 3 out of 4 tall

1 How many boxes are in a simple Punnett square for one trait?

A. 2 B. 4 C. 8 D. 16

2 Tall, T, is dominant over short, t. What will a plant with Tt look like?

A. Short B. Half tall, half short C. Tall

D. Medium height

3 🫛 Who is known as the father of genetics for his work with pea plants?

A. Gregor Mendel B. Isaac Newton

C. Robert Hooke D. Albert Einstein

4 A TT parent is crossed with a tt parent. What gene combination will all offspring have?

A. Tt B. tt C. TT D. T only

5 What does homozygous mean?

A. Three alleles B. No alleles at all

C. Two different alleles

D. Two of the same allele, like TT

6 In genetics, what does a capital letter like T usually stand for?

A. A mutation B. A dominant allele

C. A chromosome number D. A recessive allele

7 How many alleles for a trait does each parent pass to an offspring?

A. Four B. Three C. Two D. One

8 What does a Punnett square help predict?

A. The age of a fossil B. The weather

C. The speed of a cell

D. Possible traits of offspring

✏️ Explain it! Write two facts you learned about punnett squares.

ANSWER KEY

Punnett Squares: Learn and Practice (answers)

Predict the traits of offspring

Read each question. Circle the best answer.

1 How many boxes are in a simple Punnett square for one trait?

A. 2 **B. 4** C. 8 D. 16

Two alleles from each parent make a 2 by 2 grid, which has 4 boxes.

2 Tall, T, is dominant over short, t. What will a plant with Tt look like?

A. Short B. Half tall, half short **C. Tall**

D. Medium height

One dominant T is enough to show the tall trait. The short allele stays hidden.

3 🫛 Who is known as the father of genetics for his work with pea plants?

A. Gregor Mendel B. Isaac Newton

C. Robert Hooke D. Albert Einstein

Gregor Mendel bred thousands of pea plants in the 1800s and discovered patterns of inheritance.

4 A TT parent is crossed with a tt parent. What gene combination will all offspring have?

A. Tt B. tt C. TT D. T only

Every offspring gets a big T from one parent and a small t from the other, so all are Tt.

5 What does homozygous mean?

A. Three alleles B. No alleles at all

C. Two different alleles

D. Two of the same allele, like TT

Homo means same. A homozygous organism has two matching alleles, like TT or tt.

6 In genetics, what does a capital letter like T usually stand for?

A. A mutation **B. A dominant allele**

C. A chromosome number D. A recessive allele

Capital letters mark dominant alleles. Small letters mark recessive ones.

7 How many alleles for a trait does each parent pass to an offspring?

A. Four B. Three C. Two **D. One**

Each parent gives one allele, so the offspring ends up with two, one from each.

8 What does a Punnett square help predict?

A. The age of a fossil B. The weather

C. The speed of a cell

D. Possible traits of offspring

A Punnett square maps out every gene combination offspring could get from two parents.