

# Inheritance Of Blood Types Worksheet Answer Key PDF

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## Part 1: Building a Foundation

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**What antigens are present on the red blood cells of a person with blood type A?**

**undefined. A antigen ✓**

undefined. B antigen

undefined. Both A and B antigens

undefined. No antigens

A person with blood type A has A antigens on their red blood cells.

**What antigens are present on the red blood cells of a person with blood type A?**

**undefined. A antigen ✓**

undefined. B antigen

undefined. Both A and B antigens

undefined. No antigens

A person with blood type A has A antigens on their red blood cells.

**Which of the following statements about the Rh factor are true?**

**undefined. Rh-positive individuals have the Rh antigen. ✓**

undefined. Rh-negative individuals have the Rh antigen.

**undefined. Rh-negative individuals do not have the Rh antigen. ✓**

undefined. Rh-positive individuals do not have the Rh antigen.

Rh-positive individuals have the Rh antigen, while Rh-negative individuals do not.

**Which of the following statements about the Rh factor are true?**

**undefined. Rh-positive individuals have the Rh antigen. ✓**

undefined. Rh-negative individuals have the Rh antigen.

**undefined. Rh-negative individuals do not have the Rh antigen. ✓**

undefined. Rh-positive individuals do not have the Rh antigen.

Rh-positive individuals have the Rh antigen, while Rh-negative individuals do not.

**Explain the difference between genotype and phenotype in the context of blood types.**

**Genotype refers to the genetic makeup (e.g., AO, BO), while phenotype refers to the observable blood type (e.g., A, B).**

**Explain the difference between genotype and phenotype in the context of blood types.**

**Genotype refers to the genetic makeup, while phenotype refers to the observable characteristics.**

**List the possible genotypes for each of the following blood types:**

1. Blood Type A

**AA, AO**

2. Blood Type B

**BB, BO**

3. Blood Type O

**OO**

Blood Type A can be AA or AO, Blood Type B can be BB or BO, Blood Type O is OO.

**If a person has a genotype of AO, what is their blood type?**

**undefined. Type A ✓**

undefined. Type B

undefined. Type AB

undefined. Type O

A person with genotype AO has blood type A.

**If a person has a genotype of AO, what is their blood type?**

**undefined. Type A ✓**

undefined. Type B

undefined. Type AB

undefined. Type O

A person with genotype AO has blood type A.

## Part 2: Application and Analysis

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**A mother with blood type AB and a father with blood type O have a child. What are the possible blood types of the child?**

**undefined. Type A ✓**

**undefined. Type B ✓**

undefined. Type AB

undefined. Type O

The possible blood types of the child are A and B.

**A mother with blood type AB and a father with blood type O have a child. What are the possible blood types of the child?**

**undefined. Type A ✓**

**undefined. Type B ✓**

undefined. Type AB

undefined. Type O

The possible blood types of the child are A and B.

**Using a Punnett square, predict the possible blood types of offspring from a type A (AO) mother and a type B (BO) father.**

**The possible blood types are A, B, AB, and O.**

**Using a Punnett square, predict the possible blood types of offspring from a type A (AO) mother and a type B (BO) father.**

The possible blood types are A, B, AB, and O.

Which of the following scenarios can result in a child with blood type AB?

undefined. Type A mother and type O father

**undefined. Type AB mother and type B father ✓**

undefined. Type O mother and type O father

undefined. Type B mother and type O father

A child can have blood type AB if one parent has type A and the other has type B or AB.

Which of the following scenarios can result in a child with blood type AB?

undefined. Type A mother and type O father

**undefined. Type AB mother and type B father ✓**

undefined. Type O mother and type O father

undefined. Type B mother and type O father

A child can have blood type AB if one parent contributes an A allele and the other contributes a B allele.

Analyze the following genotypes and determine which can result in a blood type B phenotype.

**undefined. BB ✓**

**undefined. BO ✓**

undefined. AB

undefined. OO

Genotypes BB and BO can result in a blood type B phenotype.

Analyze the following genotypes and determine which can result in a blood type B phenotype.

**undefined. BB ✓**

**undefined. BO ✓**

undefined. AB

undefined. OO

Genotypes BB and BO can result in a blood type B phenotype.

**Explain how a child with blood type O can be born to parents with blood types A and B. Include a discussion of possible genotypes.**

**A child with blood type O can be born to parents with blood types A (AO) and B (BO) if both parents pass on the O allele.**

**Explain how a child with blood type O can be born to parents with blood types A and B. Include a discussion of possible genotypes.**

**A child with blood type O can be born to parents with blood types A and B if both parents carry the O allele.**

### Part 3: Evaluation and Creation

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**Consider a scenario where a couple is planning to have children. The mother is type A (AO) and the father is type B (BO). Evaluate the potential challenges they might face regarding blood type compatibility in future pregnancies.**

**undefined. Risk of Rh incompatibility ✓**

**undefined. Risk of ABO incompatibility ✓**

undefined. No risk of blood type incompatibility

**undefined. Need for genetic counseling ✓**

The couple may face risks of Rh incompatibility and ABO incompatibility in future pregnancies.

**Consider a scenario where a couple is planning to have children. The mother is type A (AO) and the father is type B (BO). Evaluate the potential challenges they might face regarding blood type compatibility in future pregnancies.**

**undefined. Risk of Rh incompatibility ✓**

**undefined. Risk of ABO incompatibility ✓**

undefined. No risk of blood type incompatibility

**undefined. Need for genetic counseling ✓**

Potential challenges include risks of Rh incompatibility and ABO incompatibility.

**Create a real-world scenario where understanding blood type inheritance is crucial. Discuss the implications and how knowledge of genetics can help in decision-making.**

**Understanding blood type inheritance is crucial in scenarios like organ donation, where compatibility is essential.**

**Create a real-world scenario where understanding blood type inheritance is crucial. Discuss the implications and how knowledge of genetics can help in decision-making.**

**Understanding blood type inheritance is crucial in scenarios like organ donation and family planning.**