Punnett Square Practice Worksheet

Procedure: The Punnett Square for a Dihybrid Cross

Primary Learning Outcomes:
Students will compare Mendelian and Non-Mendelian inheritance in dihybrid crosses.

Materials

- Punnett square worksheet
- Colored pencils (for phenotype grouping)
- Index cards
- Counters (for probability tracking)
- Sample genetic problems

Step 1: Instruction (20–30 minutes)

- Review Mendelian inheritance and trait definitions.
- Introduce dihybrid crosses and discuss how independent assortment affects genetic outcomes.
- Demonstrate how to complete a 4x4 Punnett square step by step.

Step 2: Hands-on Activity (30 minutes)

- Students will work in pairs to complete a dihybrid cross problem and analyze the results.
- Groups will present their findings and compare observed ratios with expected Mendelian ratios (9:3:3:1).

Step 3: Discussion and Application (15 minutes)

- Discuss real-world applications of dihybrid crosses in agriculture, medicine, and animal breeding.
- Explore genetic probability and how traits are inherited in human populations.

Total Duration:
Approximately 60–75 minutes
Assessment & Wrap-Up

- Formative Assessment:
- Summative Assessment::