

GENETICS WORKSHEET ANSWER SHEET

NOTE: Pages 1 & 2 are not included here since there are no problems on these pages.

Section I: Monohybrid Crosses

1. In tomatoes, red fruits are dominant over yellow fruits.

A. What letter would you choose to represent the red and yellow alleles.

RED ALLELE = R YELLOW ALLELE = r

2. Using your answers from #1, determine the genotypes of these organisms (remember, 2 letters for each trait).

A. homozygous red fruited plant = RR

B. heterozygous plant = Rr

C. yellow fruited plant = rr

D. What is the phenotype (appearance) of plant B ? RED

E. Why is it unnecessary to call plant C homozygous yellow fruited ?

yellow fruit is the recessive phenotype - must be homozygous recessive

3. For each of the answers in #2, list all the unique gametes that could be produced.

A. R

B. R & r

C. r

USE THE INFORMATION IN #1 - #3 ABOVE TO SOLVE THIS PROBLEM:

1. If you cross a homozygous red-fruited plant with a yellow-fruited plant, what is the appearance (phenotypes) and genotypes of the F₁ generation ?