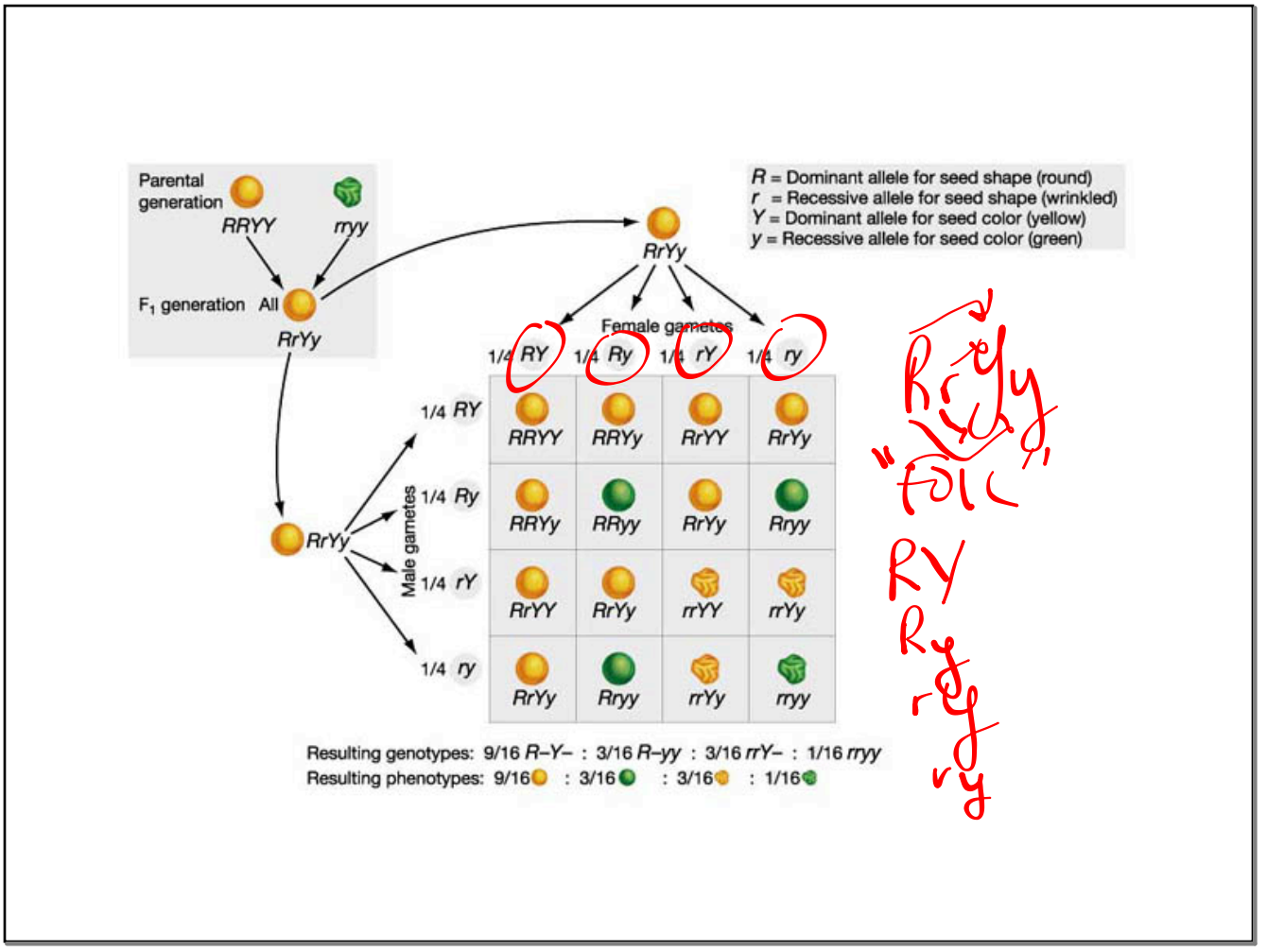
T = tongue roller

t = non-roller

Hybrid female crossed with a non-roller

1. Write out parental genotypes and do Punnet square
2. Predict genotypic ratio of offspring
3. Predict phenotypic ratio of offspring


Parental generation
RRYY
rryy
F1 generation All
RrYy
RrYy
R = Dominant allele for seed shape (round)
r = Recessive allele for seed shape (wrinkled)
Y = Dominant allele for seed color (yellow)
y = Recessive allele for seed color (green)
Female gametes
1/4 RY
1/4 Ry
1/4 rY
1/4 ry
Male gametes
RrYy
RRYY RRYy RrYY RrYy
RRYy RRyy RrYy Rryy
RrYY RrYy rrYY rrYy
RrYy Rryy rrYy rryy
Resulting genotypes: 9/16 R–Y– : 3/16 R–yy : 3/16 rrY– : 1/16 rryy
Resulting phenotypes: 9/16 : 3/16 : 3/16 : 1/16

Assign symbols:

1. T = tongue-roller
   t = non-roller
2. cross: Tt x tt
3.

	T	t
t	Tt	tt
t	Tt	tt

4. Genotype ratio: 0:2:2
5. Phenotype ratio: 2:2

Black fur dom, white fur is rec.

1. symbols: B = black fur
b = white fur

2 Hybrid parents cross

2. Cross: Bb x Bb

3.

	B	b
B	BB	Bb
b	Bb	bb

4. Genotype ratio: 1:2:1

5. phenotype: 3:1

Chickens – cross a black-feathered bird w/ A white ~~feathered~~ Bird result is BLACK+white speckled. BIRD.

Codominant!

1. symbols – B = black feathers
   W = White fur

2. Cross black feather bird w/ white feathered BIRD.
   – BB x WW

3.

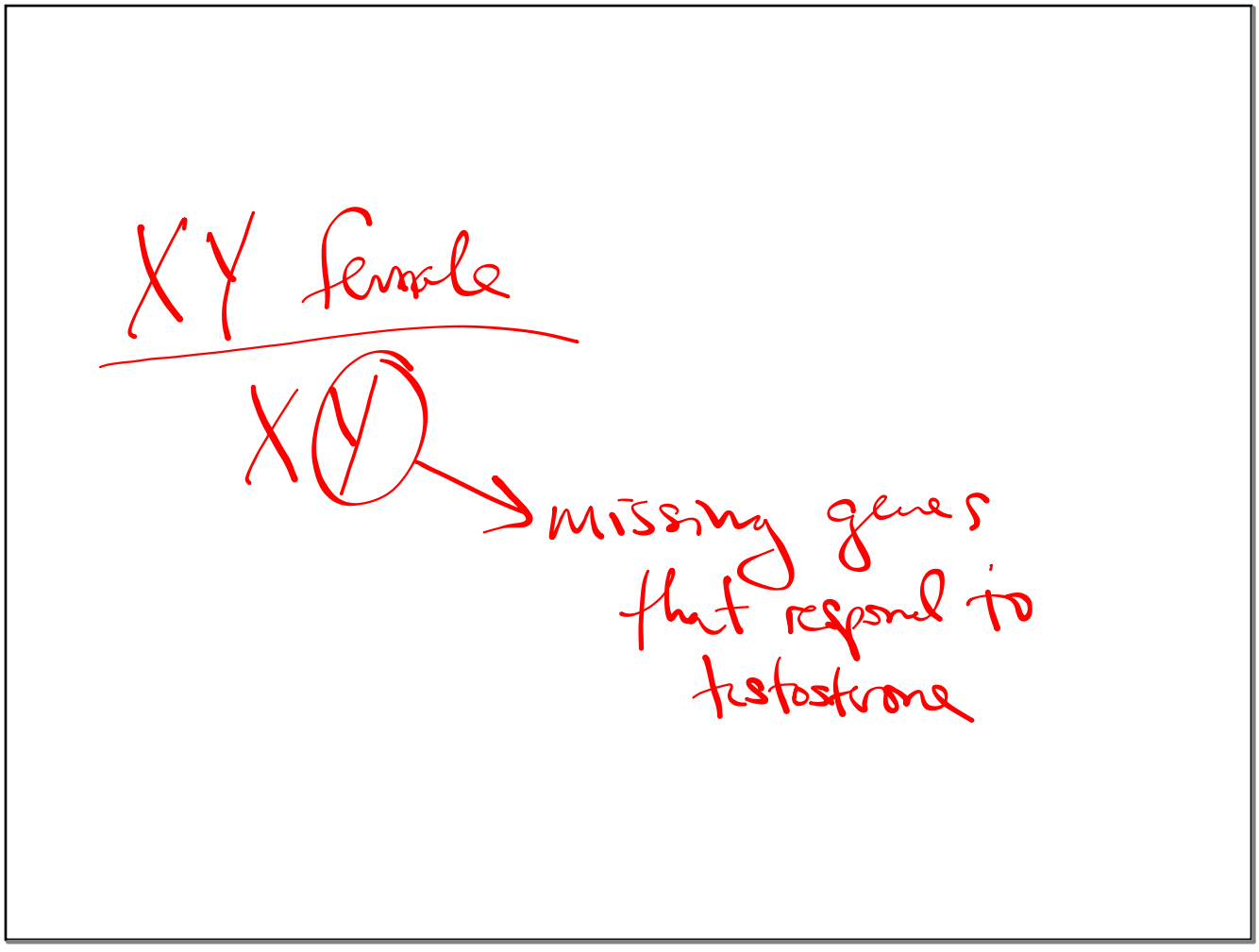
	B	B
W	BW	BW
W	BW	BW

0 : 4 : 0

4. Genotype ratio: ~~4 : 0 : 0~~

Nondisjunction
– abnormal # chromosomes in gametes

Down syndrome = trisomy @ #21.


XY female
XY
missing genes that respond to testosterone

Turner's syndrome

XO

Klinefelter's syndrome

XXY

Rh + — don/rec.

ABO $I^A = A$
$I^B = B$
$i = O$ = universal donor

Universal recipient - AB

June 03, 2014