

### Answer Sheet: Genetics Worksheet-- Handout 1

1. c. homozygous, recessive  
d. homozygous, recessive  
e. heterozygous  
f. homozygous, dominant
2. a. brown eyes  
b. blue eyes  
c. brown eyes
3. a. (S-smooth pea pod s- wrinkled pea pod) P generation = Ss X ss  
b.+ c.

	S	s
S	<b>Ss</b>	<b>Ss</b>
s	<b>Ss</b>	<b>ss</b>

- d. 1 : 1 Ss : ss
- e. 1 : 1 smooth : wrinkled
- f. prediction: 25 seeds would have a wrinkled pod
4. a. (F- freckles f- no freckles) cross= Ff X Ff

	F	f
F	<b>FF</b>	<b>Ff</b>
f	<b>Ff</b>	<b>ff</b>

- b. There is a 25% chance that their first child will have no freckles.
- c. 1 : 2 : 1 FF:Ff:ff
5. (F-free ear lobe f-attached ear lobe) cross= FF X ff

	F	F
f	<b>Ff</b>	<b>Ff</b>
f	<b>Ff</b>	<b>Ff</b>

No, based on the Punnett square, they can only produce children heterozygous for free ear lobes. Therefore, all their children will have free ear lobes, but be a carrier for the attached ear lobe gene.