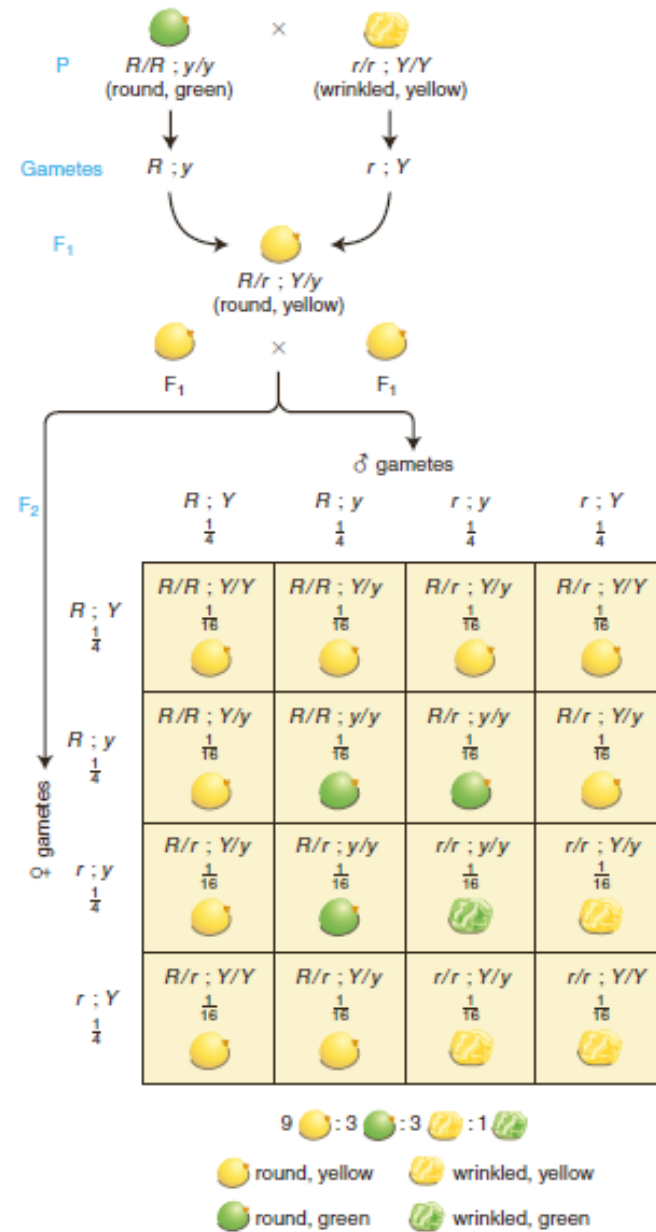
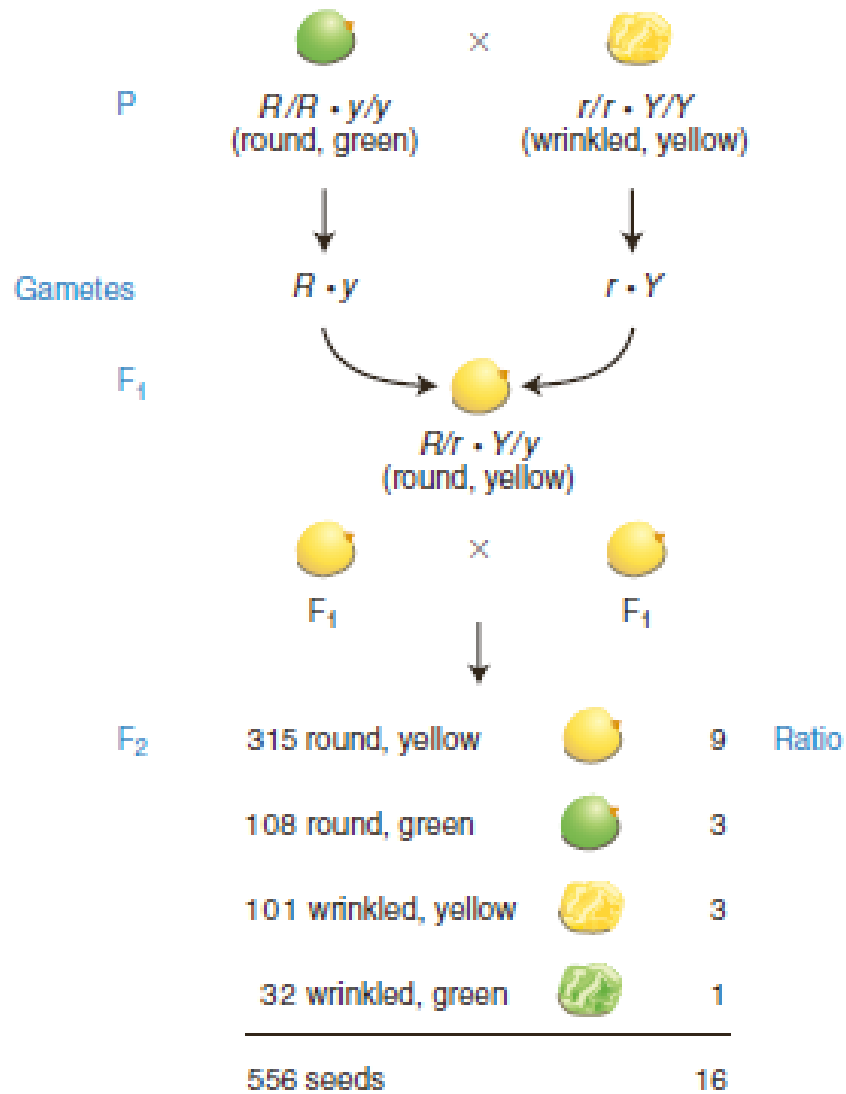
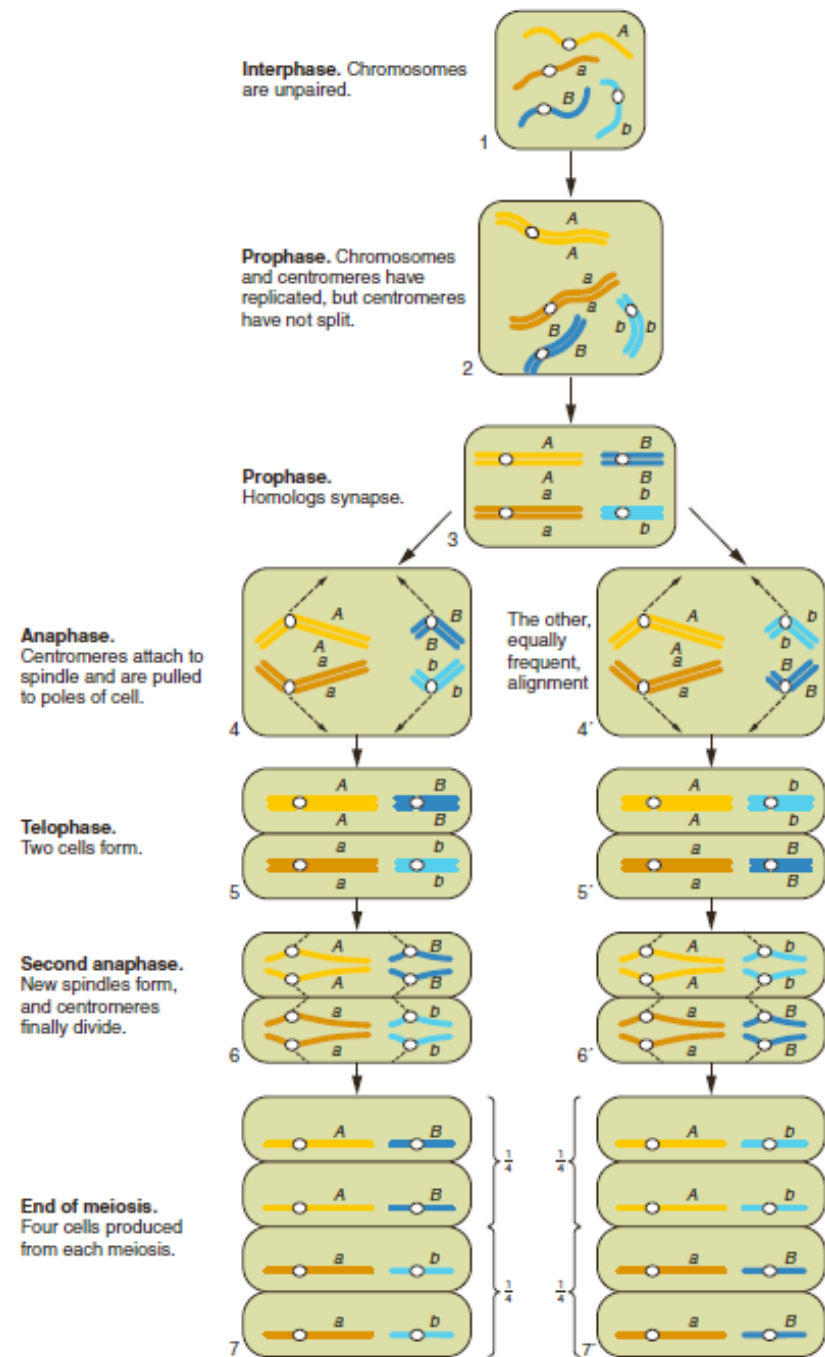
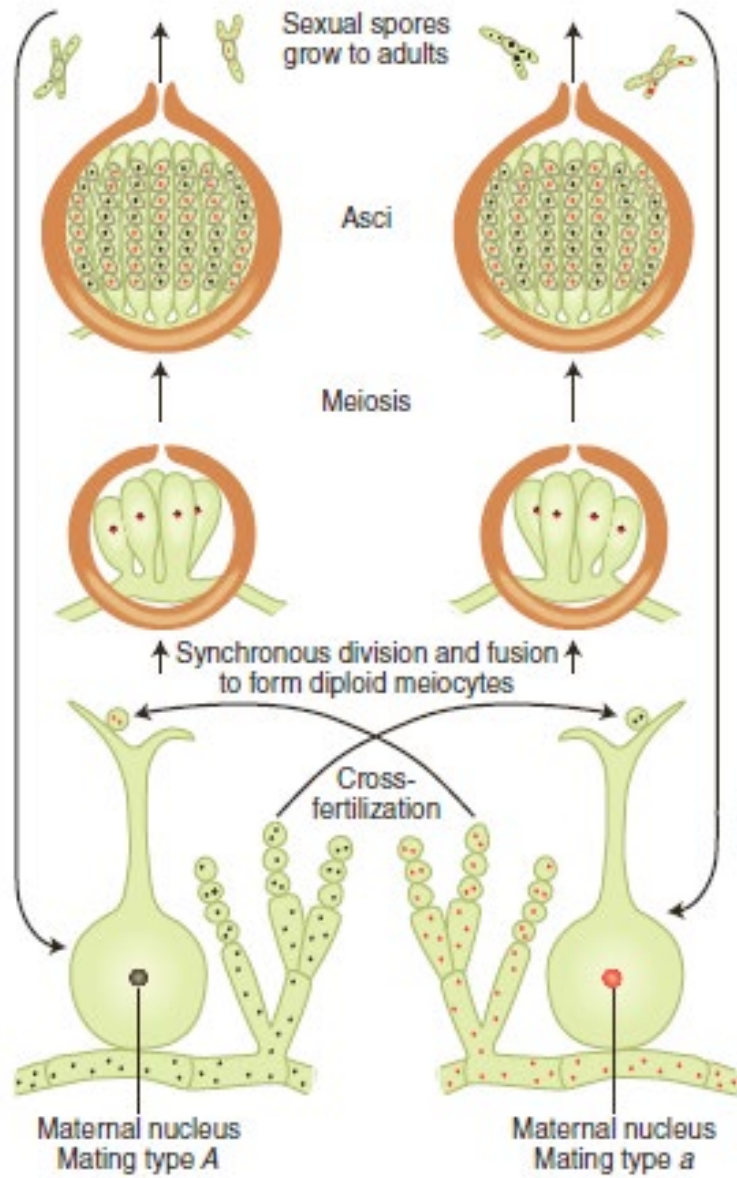


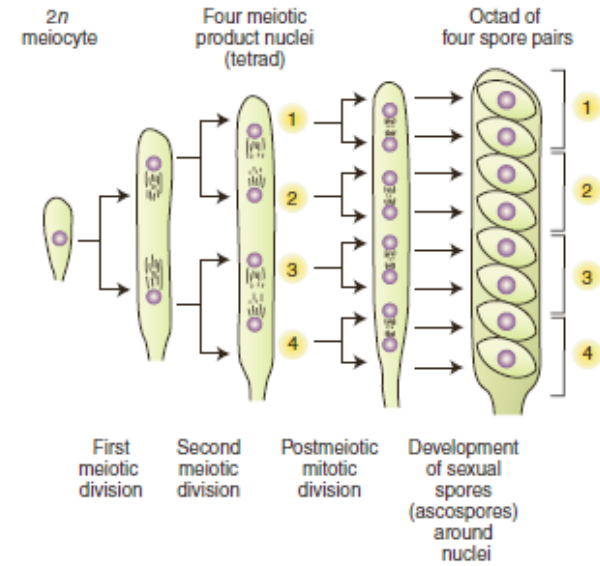
# 3. Genlerin Bağımsız Dağılımı



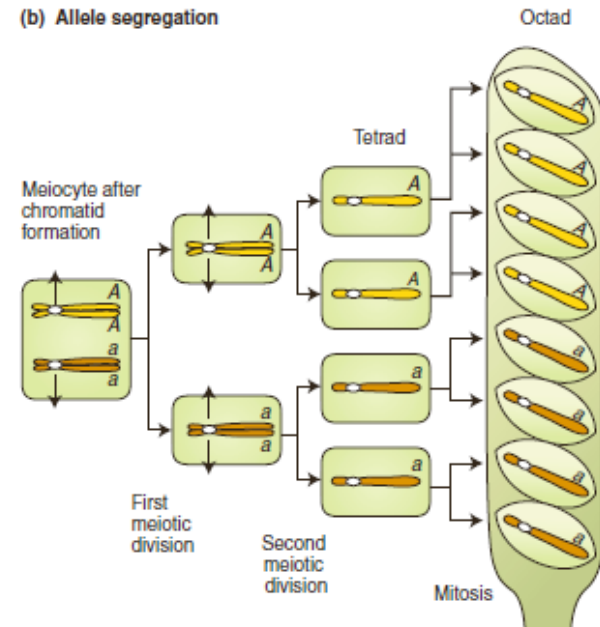


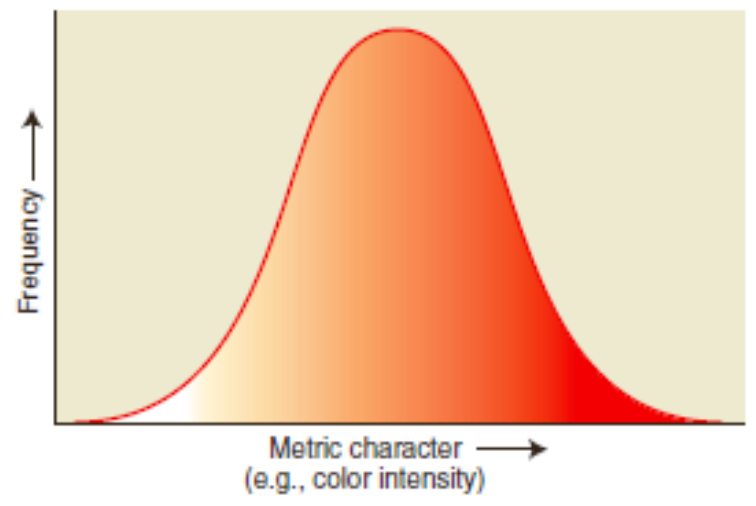
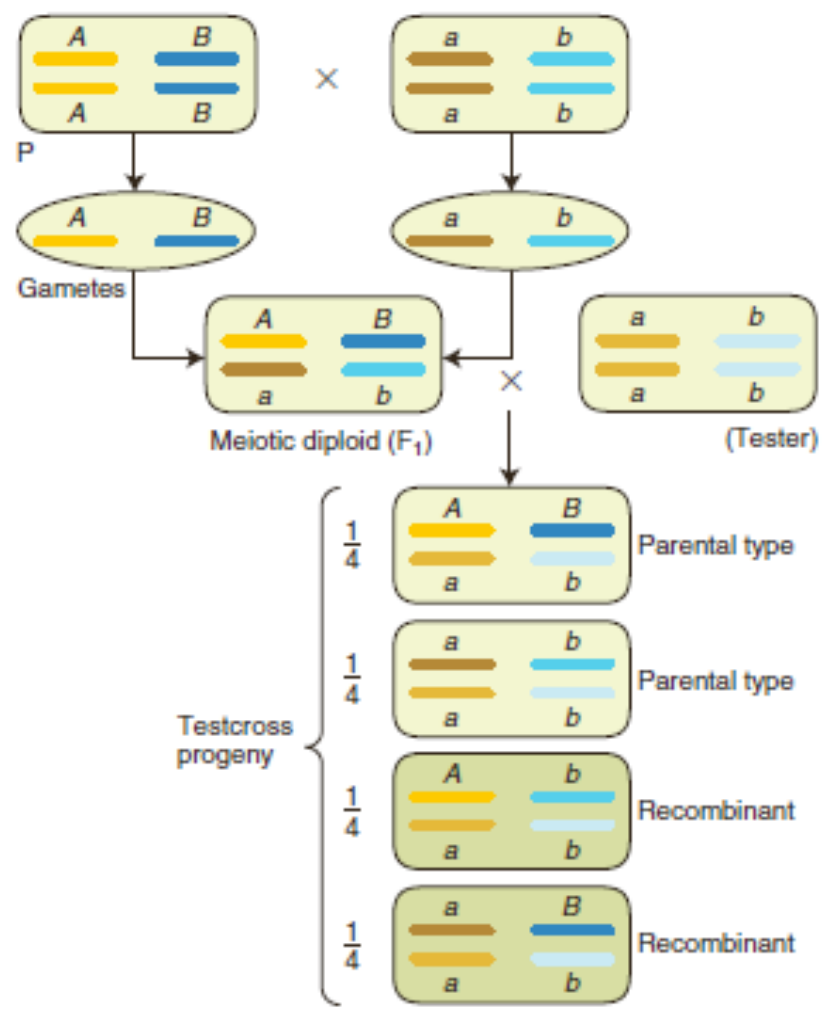
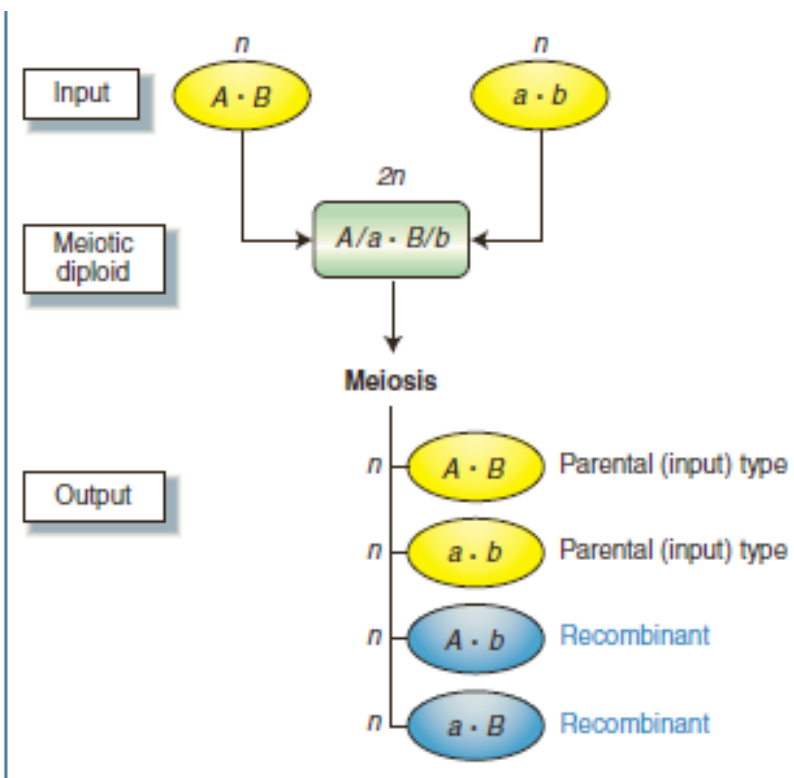


**(a) Nuclear divisions**



**(b) Allele segregation**

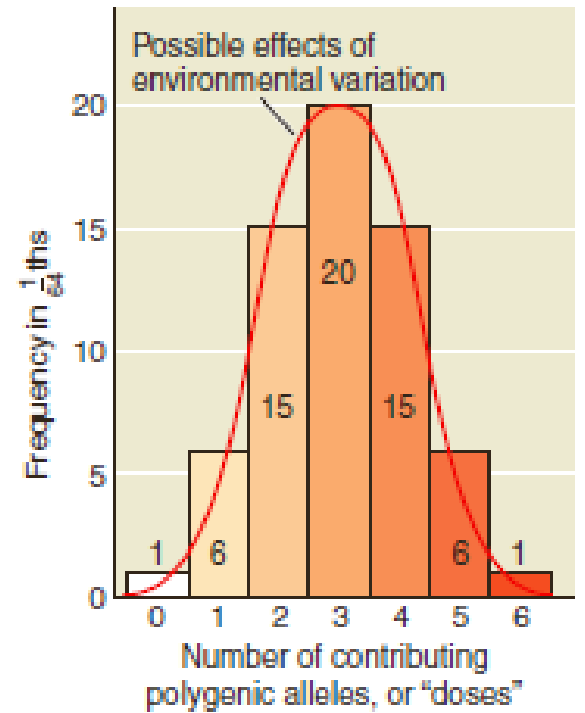
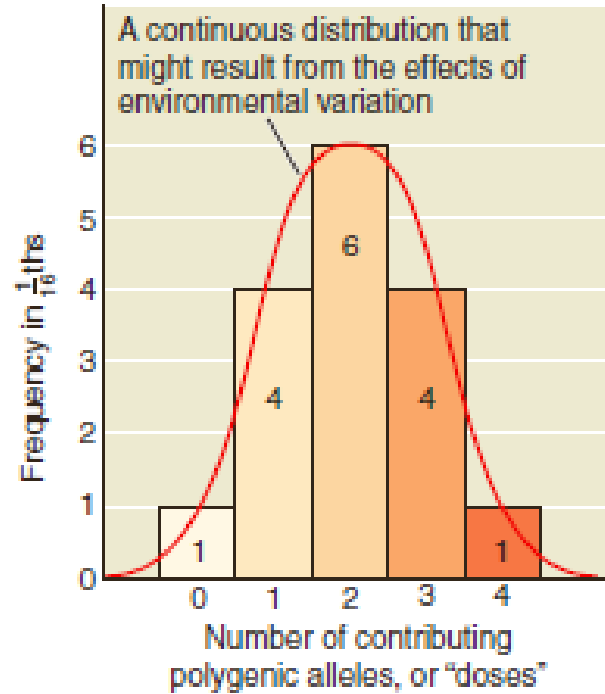


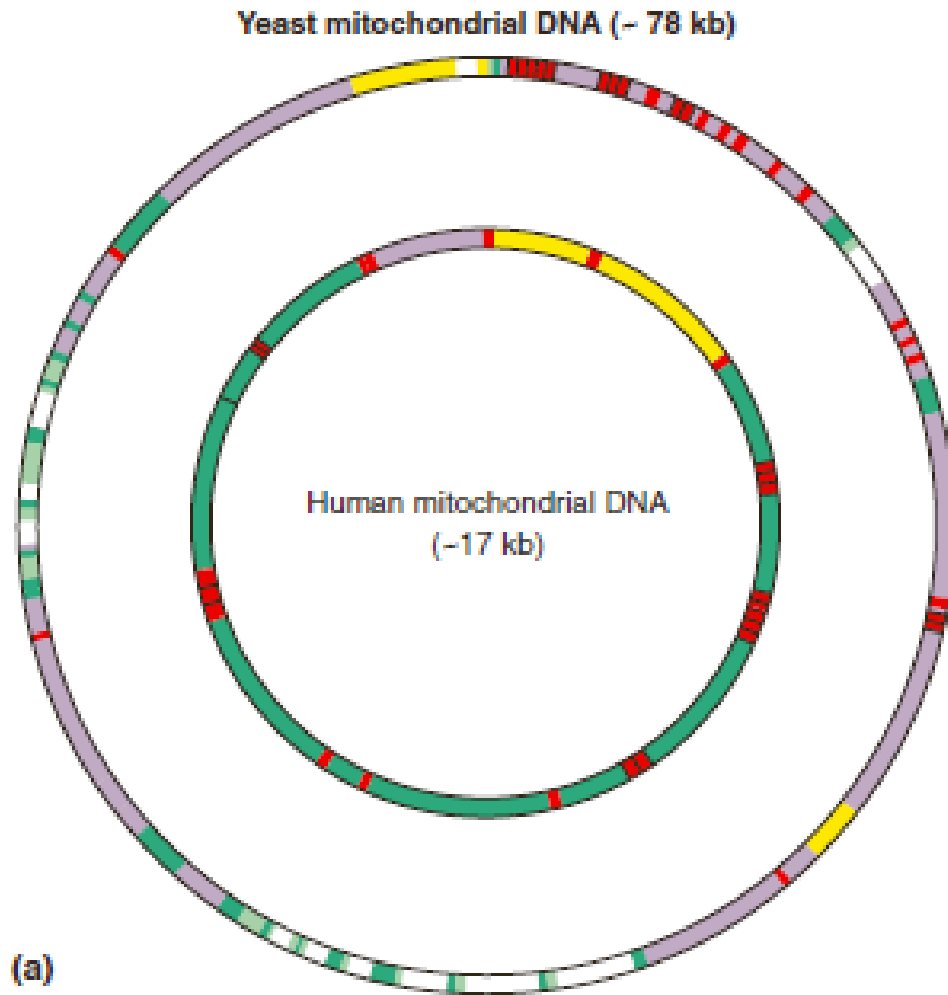


Self of  $R_1/r_1 ; R_2/r_2$

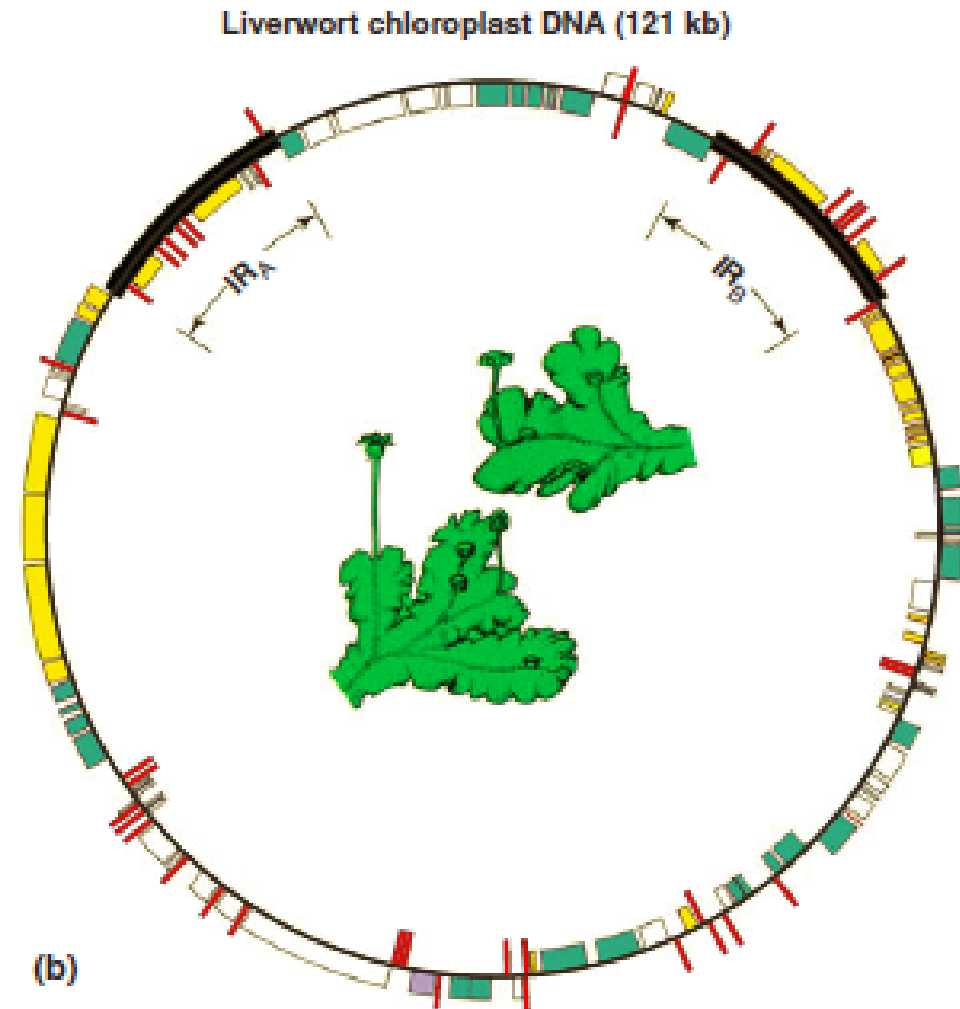
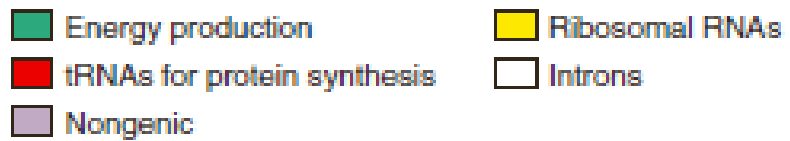
		♂ gametes		
		2 doses	1 dose	0 doses
		$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{4}$
♀ gametes	2 doses	4 doses $\frac{1}{16}$	3 doses $\frac{2}{16}$	2 doses $\frac{1}{16}$
	1 dose	3 doses $\frac{2}{16}$	2 doses $\frac{4}{16}$	1 dose $\frac{2}{16}$
	0 doses	2 doses $\frac{1}{16}$	1 dose $\frac{2}{16}$	0 doses $\frac{1}{16}$

Overall in progeny	4 doses	3 doses	2 doses	1 dose	0 doses
	$\frac{1}{16}$	$\frac{4}{16}$	$\frac{6}{16}$	$\frac{4}{16}$	$\frac{1}{16}$

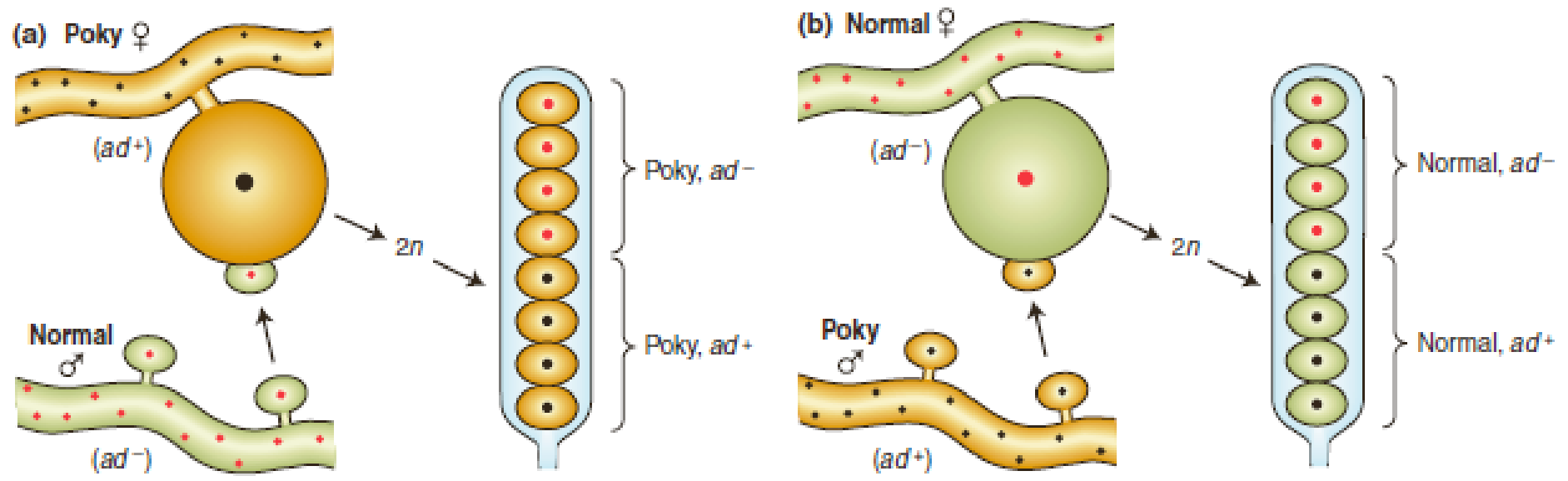




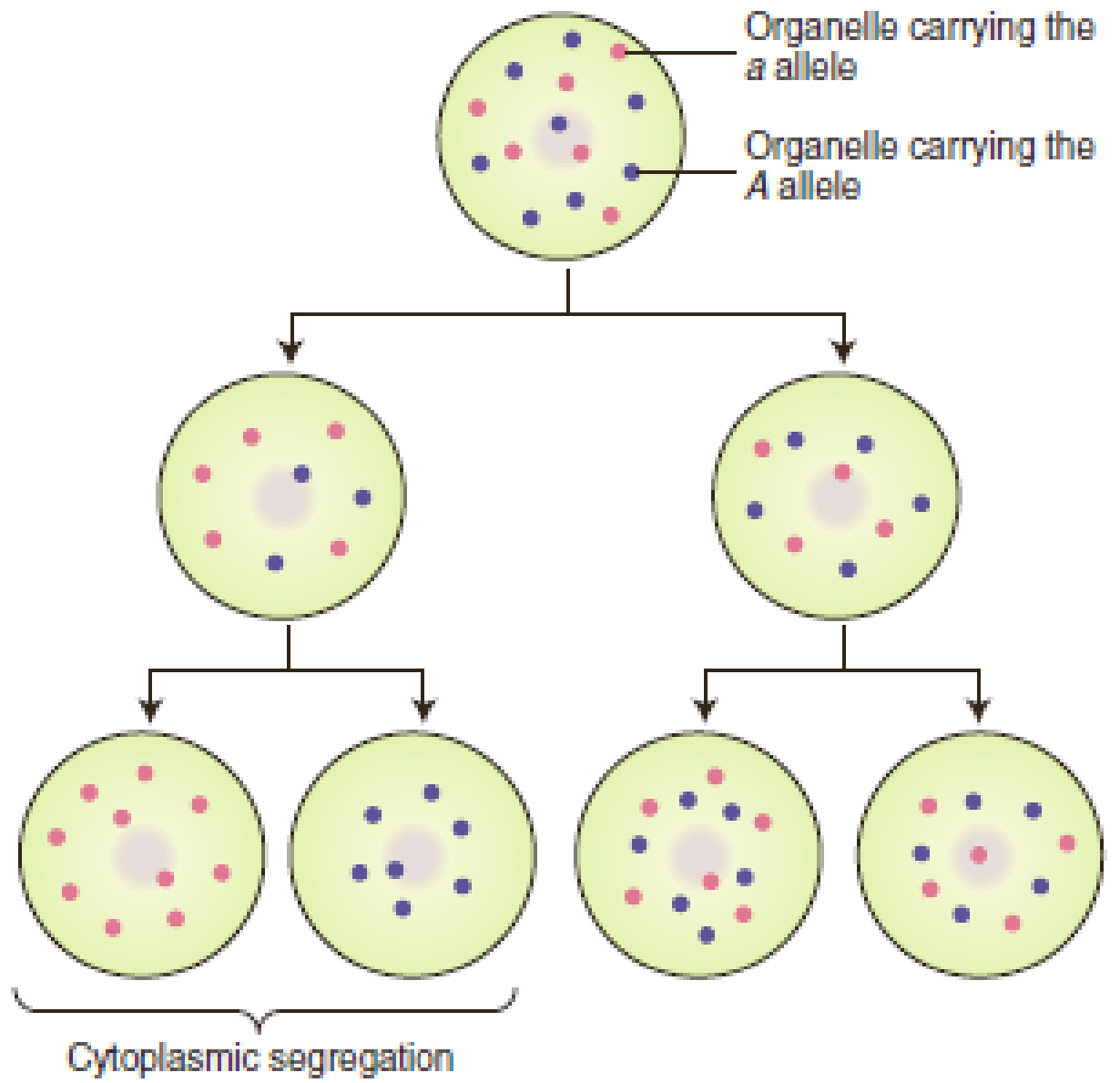
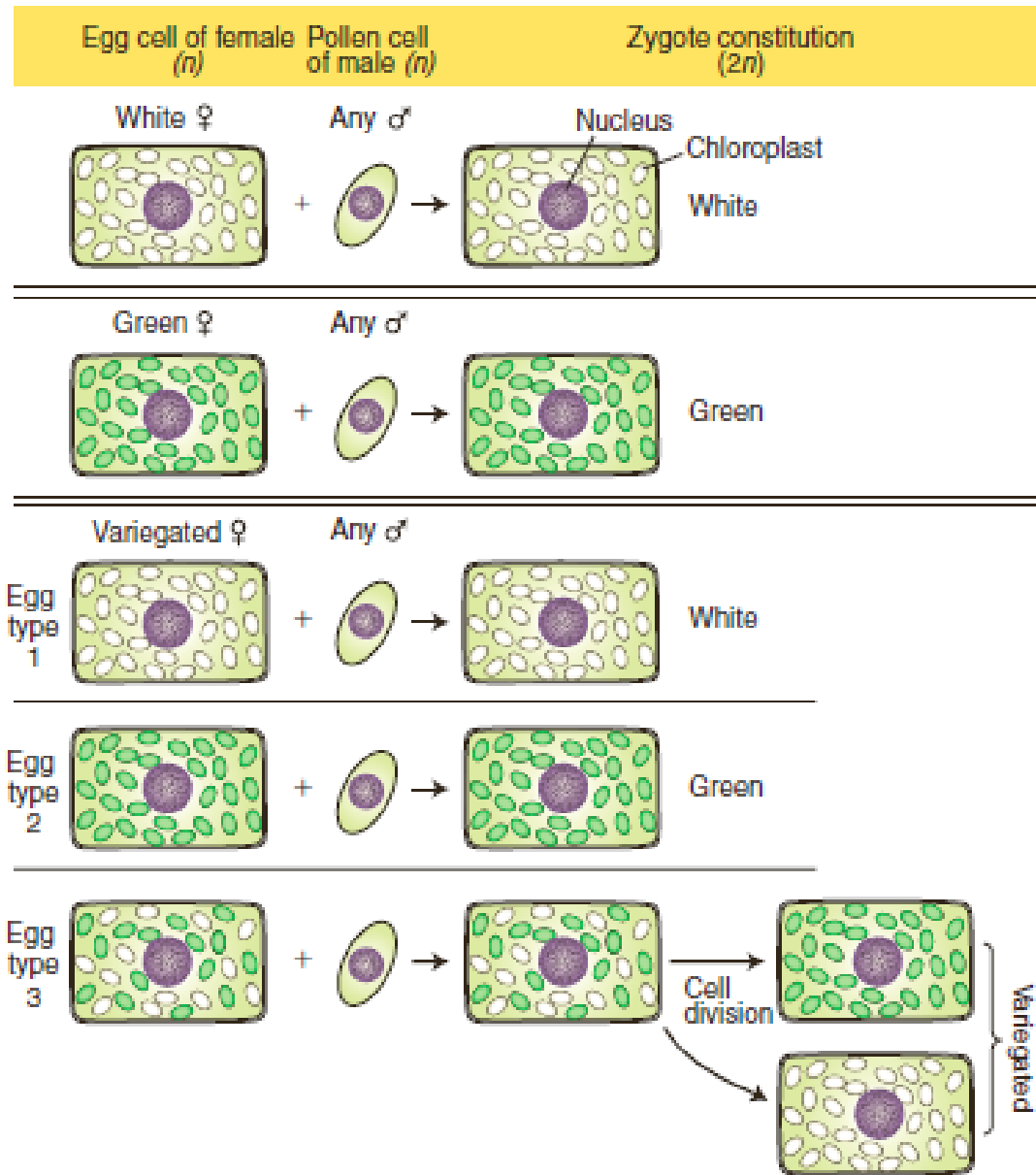
(a)

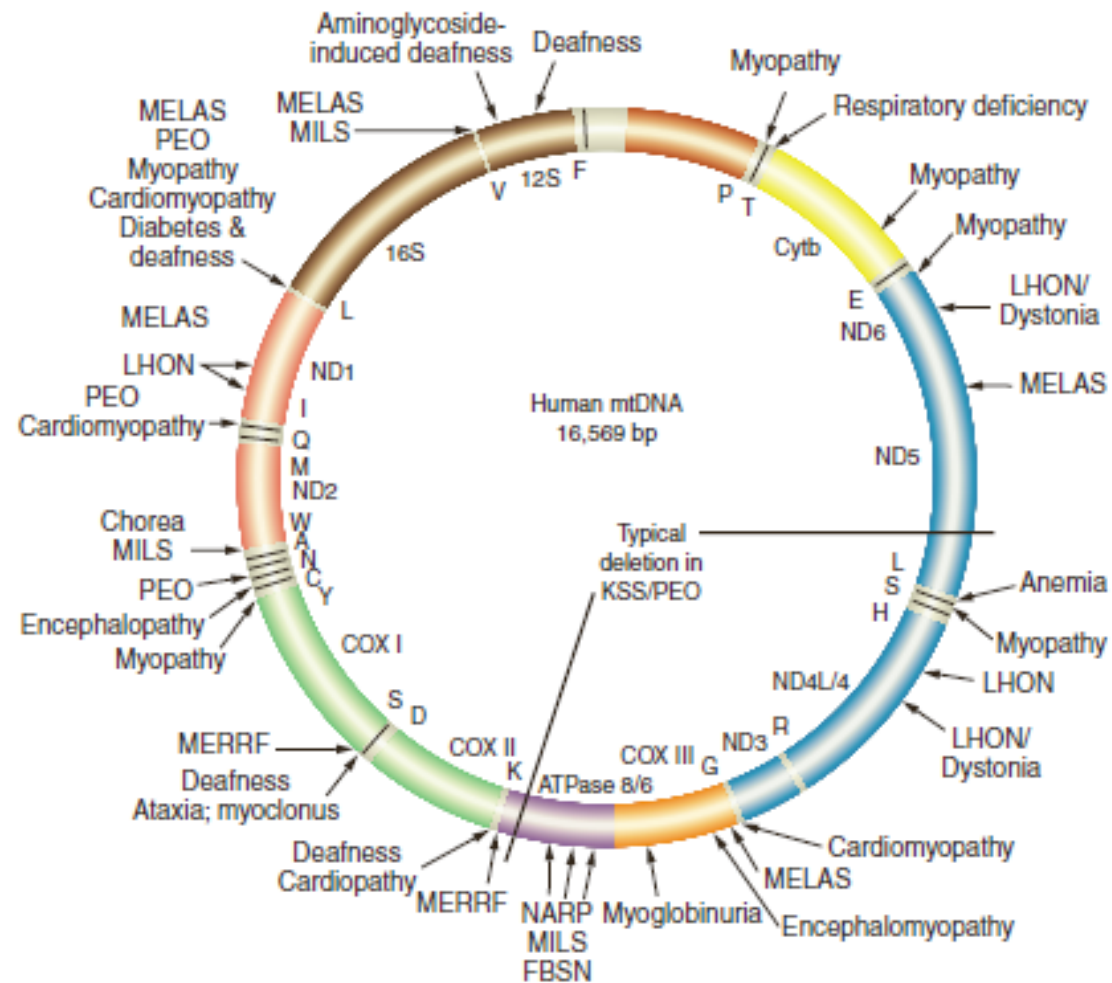


(b)









**Diseases:**

- MERRF** Myoclonic epilepsy and ragged red fiber disease
- LHON** Leber hereditary optic neuropathy
- NARP** Neurogenic muscle weakness, ataxia, and retinitis pigmentosum
- MELAS** Mitochondrial encephalomyopathy, lactic acidosis, and strokelike symptoms
- MMC** Maternally inherited myopathy and cardiomyopathy
- PEO** Progressive external ophthalmoplegia
- KSS** Kearns–Sayre syndrome
- MILS** Maternally inherited Leigh syndrome

