In this investigation, we will use a hypothetical insect and its "genes" to demonstrate basic Mendelian genetics. But first a few terms we need to know:

Define the following terms:

Dominance-

Recessive-

Genotype-

Phenotype-

Homozygous-

Heterozygous-

Punnet square-

Identify the genotypes and phenotypes of your insect: Must have two genes for each genotype. See phenotype key on back page.

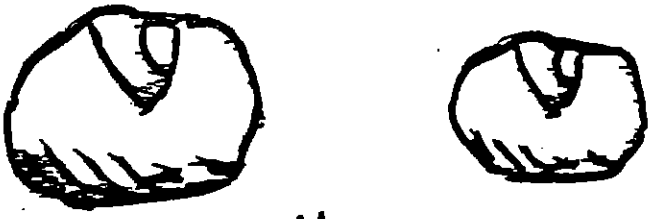
Chromosome #1		Genotype:	Phenotype:
	Abdomen size		
	Body color		
	Thorax size		
	Wings		
Chromosome #2		Genotype:	Phenotype:
	Drug resistant		
	Head size		
	Eye color		
	Antennae present		
	Leg length		
Chromosome #3		Genotype:	Phenotype:
	Fertile		
	Sex		

Now construct your bug given the body parts sheet. Be sure to include the characteristics as they have been coded for on the chromosomes. Finally, add color to your bug!

Abdomen size:		
	Long	A
	Short	a
Body color:		
	Black	B
	Grey	b
Thorax size:		
	Long	T
	Short	t
Wings:		
	Long	W
	Short	w
Drug resistant to DDT:		
	Is	D
	Is not	d
Head size:		
	Large	H
	Small	h
Eye color:		
	Red	R
	Green	r
Antennae:		
	Present	P
	Not present	p
Leg length:		
	Short	S
	Long	s
Fertility:		
	Fertile	F
	Not fertile	f
Sex:		
	Female	X
	Male	Y

head

antennae

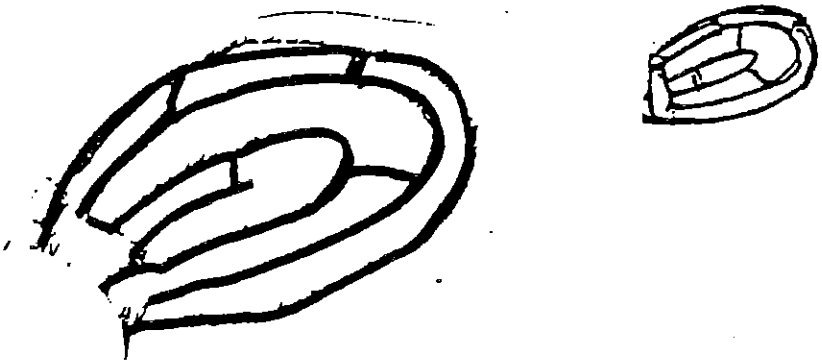


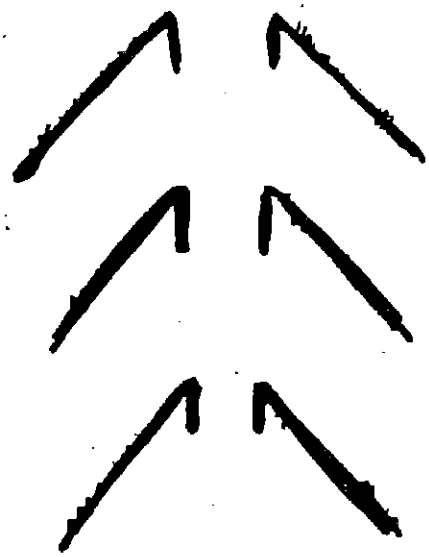
thorax

abdomen

legs

wings





legs