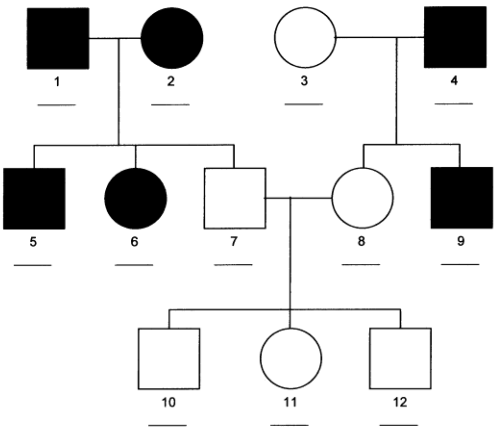
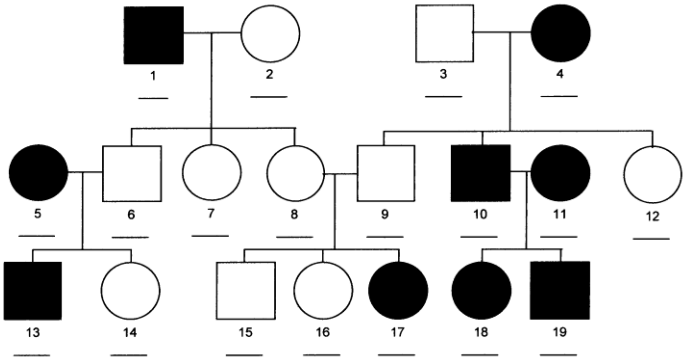
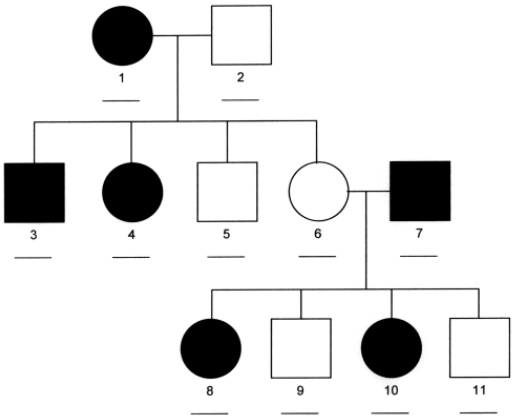
Autosomal Dominant



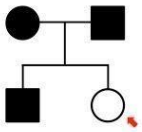
AUTOSOMAL RECESSIVE



X-linked Dominant



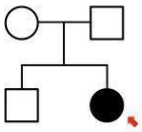
AUTOSOMAL DOMINANT



Cannot be recessive as two affected parents could **not** have an unaffected offspring

Parents MUST be heterozygous

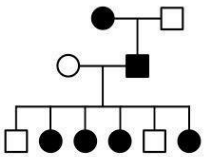
AUTOSOMAL RECESSIVE



Cannot be dominant as two unaffected parents could **not** have an affected offspring

Parents MUST be heterozygous

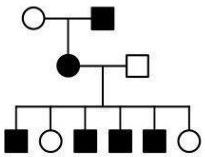
X-LINKED DOMINANT



Sex linkage cannot be confirmed

100% incidence of affected daughters from an affected father *suggests* X-linked dominance

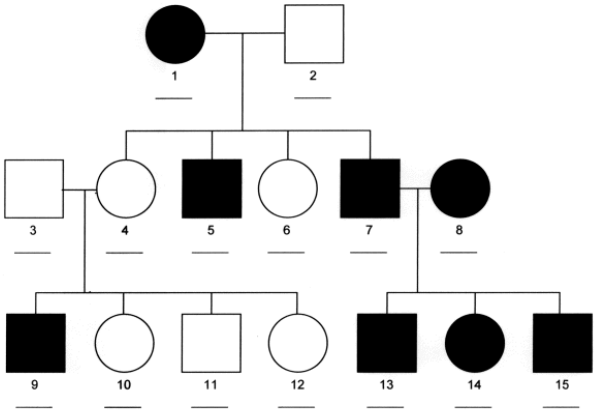
X-LINKED RECESSIVE

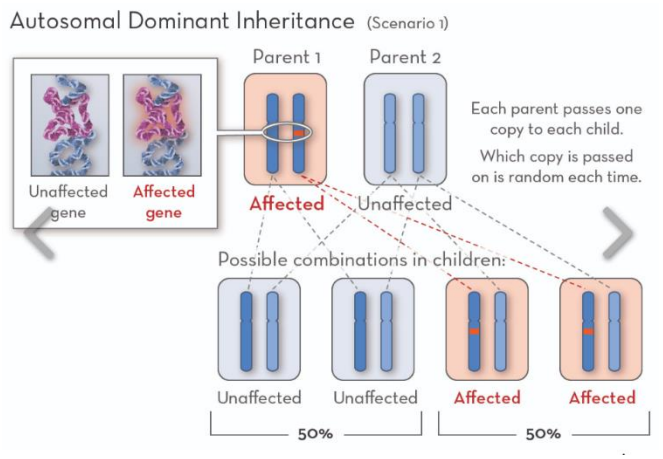


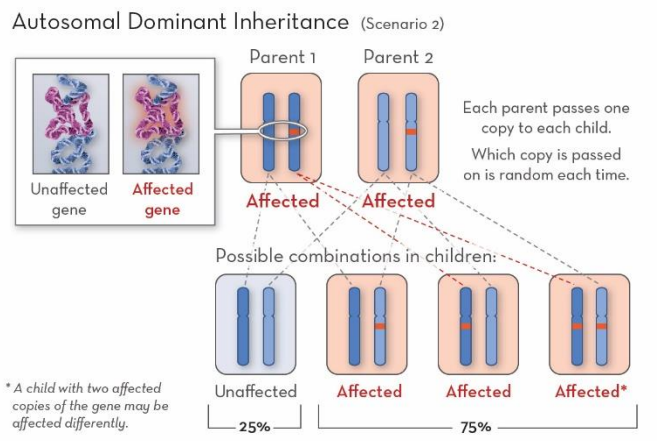
Sex linkage cannot be confirmed

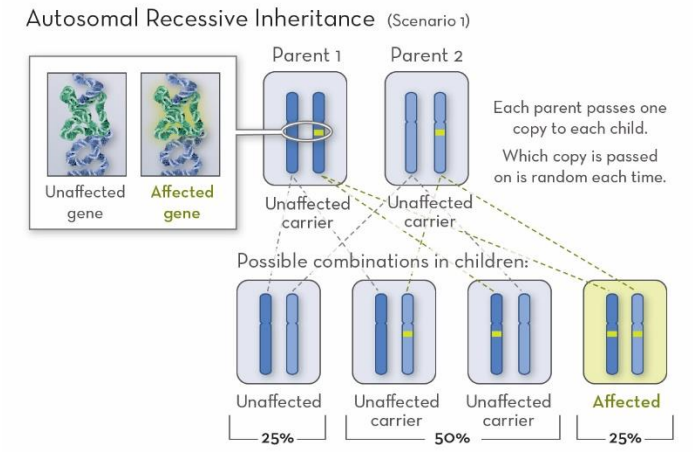
100% incidence of affected sons from an affected mother *suggests* X-linked recessive

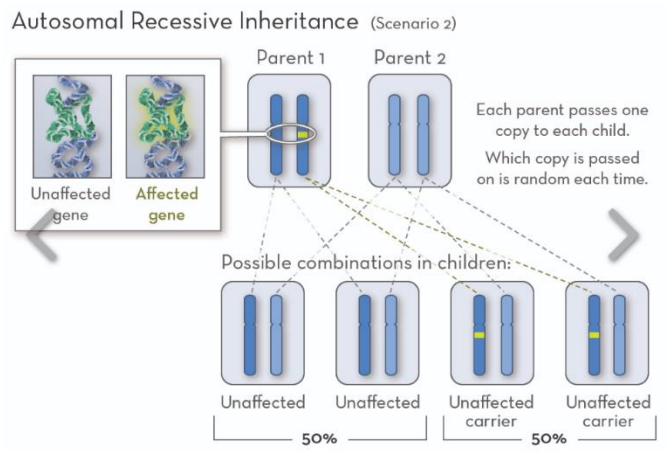
X-linked Recessive

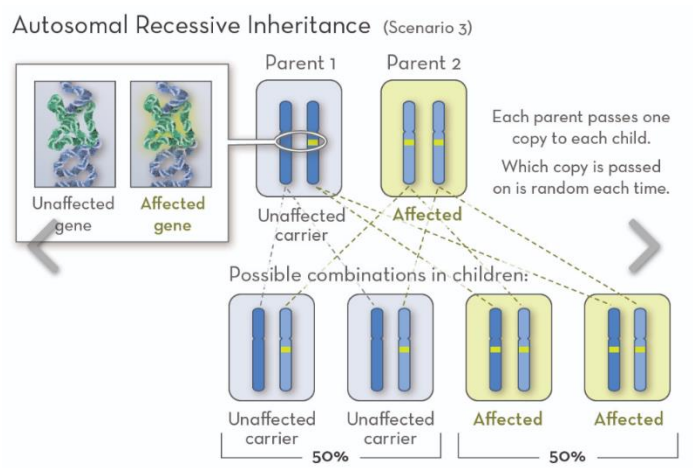



Autosomal Dominant Inheritance (Scenario 1)
Parent 1
Parent 2
Unaffected gene
Affected gene
Affected
Unaffected
Each parent passes one copy to each child.
Which copy is passed on is random each time.
Possible combinations in children:
Unaffected
Unaffected
Affected
Affected
50%
50%

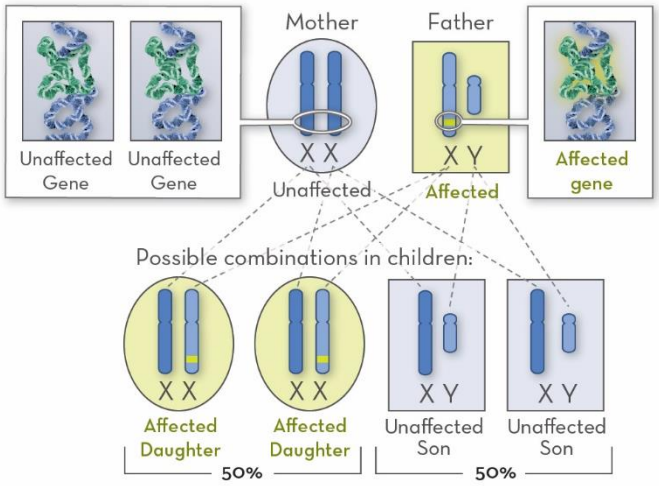

Autosomal Dominant Inheritance (Scenario 2)
Parent 1
Parent 2
Unaffected gene
Affected gene
Affected
Affected
Each parent passes one copy to each child.
Which copy is passed on is random each time.
Possible combinations in children:
* A child with two affected copies of the gene may be affected differently.
Unaffected
Affected
Affected
Affected*
25%
75%


Autosomal Recessive Inheritance (Scenario 1)
Parent 1
Parent 2
Unaffected gene
Affected gene
Unaffected carrier
Unaffected carrier
Each parent passes one copy to each child.
Which copy is passed on is random each time.
Possible combinations in children:
Unaffected
Unaffected carrier
Unaffected carrier
Affected
25%
50%
25%

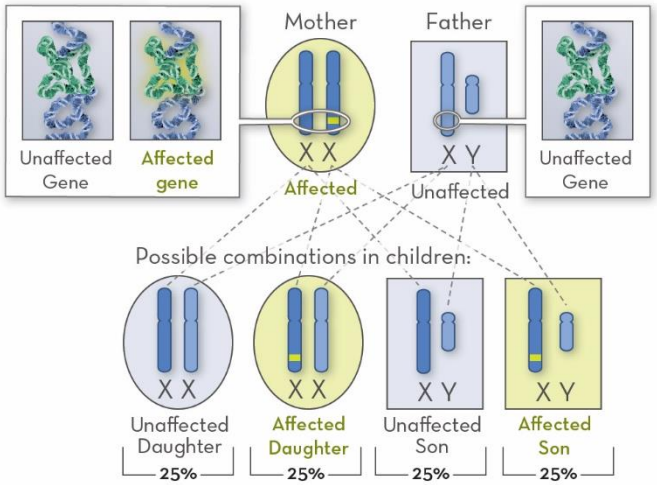

Autosomal Recessive Inheritance (Scenario 2)
Parent 1
Parent 2
Unaffected gene
Affected gene
Each parent passes one copy to each child.
Which copy is passed on is random each time.
Possible combinations in children:
Unaffected
Unaffected
Unaffected carrier
Unaffected carrier
50%
50%


Autosomal Recessive Inheritance (Scenario 3)
Parent 1
Parent 2
Unaffected gene
Affected gene
Unaffected carrier
Affected
Each parent passes one copy to each child.
Which copy is passed on is random each time.
Possible combinations in children:
Unaffected carrier
Unaffected carrier
Affected
Affected
50%
50%

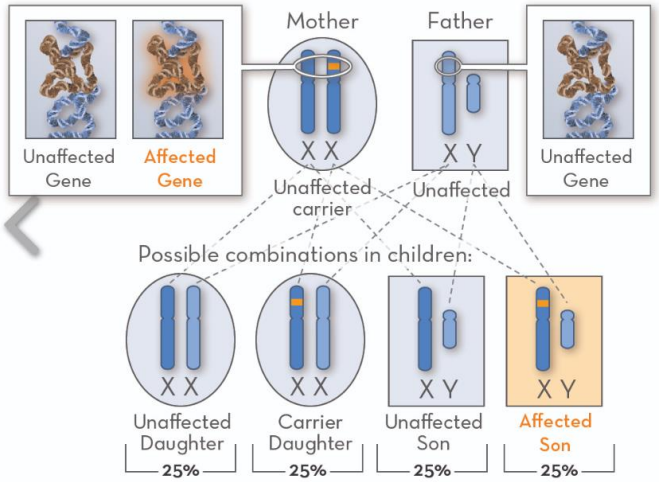
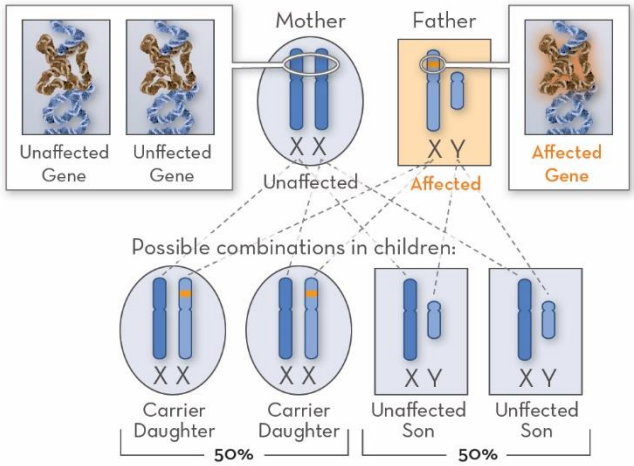
X-linked Dominant Inheritance (Scenario 2)



X-linked Dominant Inheritance (Scenario 1)



X-linked Recessive Inheritance (Scenario 1)



X-linked Recessive Inheritance (Scenario 2)