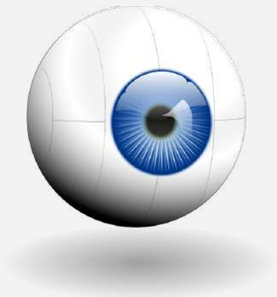
Genetics Stations

Self Directed Activity

Directions - Proceed through each of the following stations. Following the directions as written. If a question arises, talk amongst your group members first, then if a consensus is not reached, please seek assistance from your instructor

Station 1

Watch It

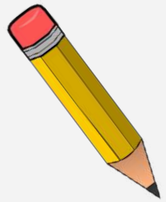


Station 2

Video It

Station 3

Write It



Station 4

Examine It

Genetics Stations

Self Directed Activity

Directions - Proceed through each of the following stations. Following the directions as written. If a question arises, talk amongst your group members first, then if a consensus is not reached, please seek assistance from your instructor

Station 5

Answer It

Station 6

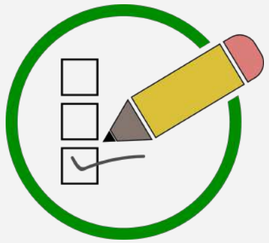
Perform It

Station 7

Read It

Station 8

Evaluate it



Watch It – Station 1

What is heredity?

Question 1

Chromosomes are...?

Question 2

How are Genes and DNA related?

Question 3

Directions

Watch the following video

Answer
the
eft from
ded

Stations 1-4

Station 1 – Continued

Define Pleiotropic. Provide at least 1 example.

Question 4

Which Amino Acid determines whther you have wet or dry earwax?

Question 5

Compare and Contrast: Somatic and Germ Cells (sperm & egg)

Question 6

Directions

Watch the following video

Answe eft from
the ided

Stations 1-4

Station 1 – Continued

Differentiate between Genotype and Phenotype

Question 7

How are cells that are Homozygous for a particular trait different from one that is heterozygous ar hybrid?

Question 8

How are X-Linked/Sex-Linked traits linked? Provide some examples.

Question 9

Directions

Watch the following video

Answe eft from
the ided

Stations 1-4

Station 2 – Video It

Directions

Make a flipgrid video of about 3 minutes. Your video should include the following information, using the sentence stems right. Use the link or QR Code Below to access…

- Watch the video embedded into the QR code below.
- Discuss the sentence stems provided right:

- *Dominant genes are genes that are…..while recessive genes are….*
- *A homozygous genotype is best described as….while a heterozygous one can be described as….*

- *A Punnett Square can be used to determine….*
- *I would calculate the phenotype probability of an individual with 2 traits by …*

- *The probability of the phenotpye of the offspring of two parents that are heterozygous for both traits would be:*

Stations 1-4

Write It

In a quickwrite (3-5 Sentences) - Using the image below...

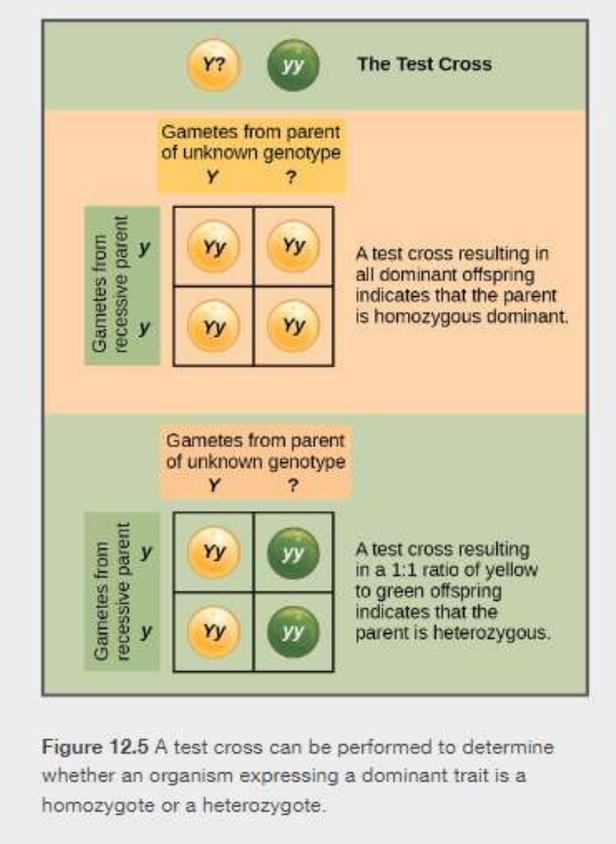


Figure 12.5 A test cross can be performed to determine whether an organism expressing a dominant trait is a homozygote or a heterozygote.

In pea plants, round peas (R) are dominant to wrinkled peas (r). You do a test cross between a pea plant with wrinkled peas (genotype rr) and a plant of unknown genotype that has round peas. You end up with three plants, all which have round peas. From this data, can you tell if the round pea parent plant is homozygous dominant or heterozygous? If the round pea parent plant is heterozygous, what is the probability that a random sample of 3 progeny peas will all be round?

Stations 1-4

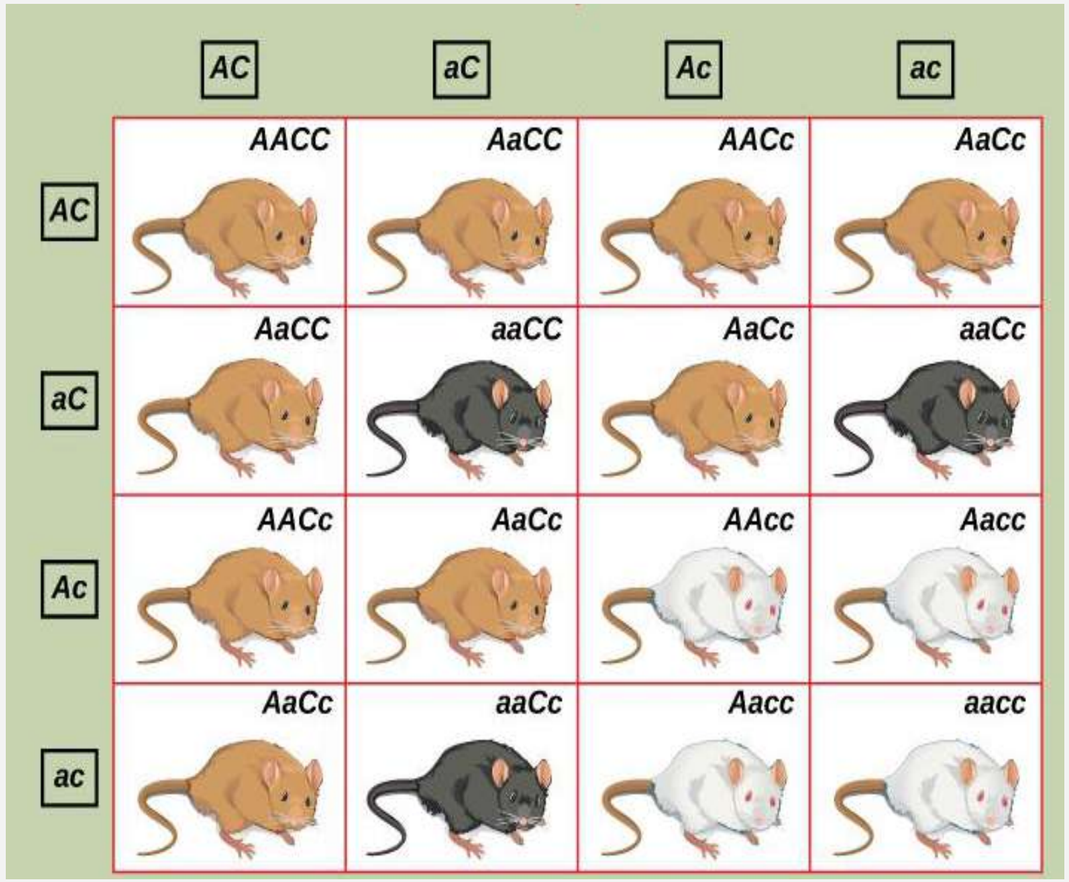
Examine It

Looking at each dihybrid cross below, determine the Genotypes and Phenotypes of each parent

A

F_2	AB	Ab	aB	ab
AB	AABB	AABb	AaBB	AaBb
Ab	AABb	AAbb	AaBb	Aabb
aB	AaBB	AaBb	aaBB	aaBb
ab	AaBb	Aabb	aaBb	aabb

B



Stations 1-4

Answer It

1. *Mendel performs a cross using a true-breeding pea plant with round, yellow seeds and a true-breeding pea plant with green, wrinkled seeds. What is the probability that offspring will have green, round seeds? Calculate the probability for the F1 and F2 generations.*
2. *Calculate the probability of selecting a heart or a face card from a standard deck of cards. Is this outcome more or less likely than selecting a heart suit face card?*
3. *The gene for flower position in pea plants exists as axial or terminal alleles. Given that axial is dominant to terminal, list all of the possible F1 and F2 genotypes and phenotypes from a cross involving parents that are homozygous for each trait. Express genotypes with conventional genetic abbreviations.*
4. *Use a Punnett square to predict the offspring in a cross between a dwarf pea plant (homozygous recessive) and a tall pea plant (heterozygous). What is the phenotypic ratio of the offspring?*
5. *Can a human male be a carrier of red-green color blindness?*
6. *Why is it more efficient to perform a test cross with a homozygous recessive donor than a homozygous dominant donor? How could the same information still be found with a homozygous dominant donor?*

Perform It – Station 6

Use the QR code right or follow the LINK here. Click: Study a practice population

Directions

Work your way through the simulation - any population

Detail your results from initial cross to at least 3 generations

Question / Results

Directions

Watch the following lab simulation

Answer eft from the \ ided

Stations 5-8

Station 7 – Read It

Main Idea

summary

Article

Inferences

How is it connected to learning

Stations 5-8

Station 8 – Evaluate It

what do I know?

List at least 5 items:

what do I wonder?

List at least 4 items:

what have I learned?

List at least 5 Items:

Stations 5-8