

# COACH'S CLINIC 2021

## GENES R US



# THE BASICS

Teams will demonstrate an understanding of traits that may or may not be inherited, be able to explain why organisms share similarities and differences and use Punnett squares to predict inheritance patterns of certain characteristics

Cross: Aa x Aa

	<b>A</b>	<b>a</b>
<b>A</b>	<b>AA</b>	<b>Aa</b>
<b>a</b>	<b>Aa</b>	<b>aa</b>

# STATION EVENT

For live tournaments this can mean students will move around the room going to each station for a preset amount of time. They can't move until time is called, even if they finish their station before time is up. They also can't go back to a station if they don't finish it. They also might not start at station one and need to make sure they answer in the right place on the answer sheet.

Teams are only allowed a writing instrument. No other resources can be used.

# STATION EVENT

For virtual tournaments, both those being done at home and at school, students will answer questions in program like Nearpod. The questions will move forward after a preset amount of time, similar to how students would have had limited time at a station. Only one person on the team should submit their answers. If they are sitting together they should be using the same computer. If they are not together they can each be watching the questions and talking to each other by phone but only one should submit.

# KNOW THE TERMS

Know the difference between genes and alleles, genotype and phenotype, chromosomes and DNA, homozygous and heterozygous, and dominant and recessive

Be able to identify which characteristics are inherited and which are learned

Be able to identify which traits are inherited as adaptations to the environment

Know the patterns of inheritance for earlobe attachment, tongue rolling, cleft chin, dimples, ACHOO syndrome and colorblindness

# PUNNETT SQUARES

Be able to make and interpret the genotypes and phenotypes of monohybrid punnett squares

Use letters that look different capital and lowercase if doing a written test (shouldn't matter if typing)

Capital is dominant and lowercase is recessive

Aa

# PUNNETT SQUARES

Not only should students be able to interpret punnett squares but given a description of the parents they should be able to set them up.

Phenotypically dominant can be homozygous dominant or heterozygous.

Phenotypically recessive has to be homozygous recessive. That means homozygous recessive is pure breeding. You know by looking at them the only allele they can pass is the recessive one.

# RESOURCES

The NCSO resource page of course

<https://ncscienceolympiad.ncsu.edu/resources/elementary/genes-r-us/>

Bozeman science (because I love him)

<https://www.youtube.com/watch?v=Y1PCwxUDTl8>

Practice page with answers:

<http://hobart.k12.in.us/jkousen/Biology/psquprac.htm>

Drop and drag practice:

[http://www.zerobio.com/drag\\_gr11/mono.htm](http://www.zerobio.com/drag_gr11/mono.htm)

# FEEL FREE TO ASK!

Not only will I be available at 11 am on October 2nd but you are welcome to email me.

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