

Name _____ Date _____ Class _____

DNA, RNA, & Crime, Oh My!

Who stole Mr. Marshall's blue stapler? A suspect was seen fleeing from Peck with Mr. Marshall's blue stapler. Luckily for us, DNA was retrieved from a lollipop stick found inside Mr. Marshall's classroom. Mademoiselle Moseley described the suspect as having a **blue body, a tail, and beady little eyes**. Using the DNA sequence below, find out if your suspect committed the crime - draw a sketch of what they might look like, and then determine which one of the 4 suspects stole the blue stapler from Mr. Marshall!

Amino Acid Sequence

Trait

TRP-PRO-ILE	Hairless (HH, Hh)
TRP-PRO-ARG	Hairy (hh)

TRP-THR-THR	Skinny Body (SS, Ss)
ILE-VAL-CYS	Plump Body (ss)

SER-ALA-PRO	4-legged (LL, Ll)
SER-LEU-PRO	2-legged (ll)

PRO-SER-GLY	Big Round Eyes (EE, Ee)
PRO-SER-PHE	Small round eyes (ee)

LYS-PHE-PHE	No tail (TT, Tt)
LYS-LEU-PHE	Tail (tt)

Amino Acid Sequence

Trait

VAL-ASP-ASP-ALA	Round Mouth (MM, Mm)
ASP-ASP-ASP-ALA	Rectangular Mouth (mm)

PHE-SER-GLY	Pointy ears (PP, Pp)
PHE-PHE-GLY	Round Ears (pp)

ARG-TYR-CYS-LYS	Long arms (AA, Aa)
ARG-ARG-ASP-THRE	Short arms (aa)

GLN-GLN-ARG	Blue Body (BB, Bb)
GLN-GLN-PHE	Green Body (bb)

Version A

This lesson was modified from the original found at: https://www.biologycorner.com/worksheets/DNA_snorks.html
www.middleschoolscience.com 2018

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Who stole Mr. Marshall's blue stapler? A suspect was seen fleeing from Peck with Mr. Marshall's blue stapler. Luckily for us, DNA was retrieved from a lollipop stick found inside Mr. Marshall's classroom. Mademoiselle Moseley described the suspect as having a **green plump body** and **pointy ears**. Using the DNA sequence below, find out if your suspect committed the crime - draw a sketch of what they might look like, and then determine which one of the 4 suspects stole the blue stapler from Mr. Marshall!

Amino Acid Sequence

Trait

TRP-PRO-ILE	Hairless (HH, Hh)
TRP-PRO-ARG	Hairy (hh)

TRP-THR-THR	Skinny Body (SS, Ss)
ILE-VAL-CYS	Plump Body (ss)

SER-ALA-PRO	4-legged (LL, Ll)
SER-LEU-PRO	2-legged (ll)

PRO-SER-GLY	Big Round Eyes (EE, Ee)
PRO-SER-PHE	Small round eyes (ee)

LYS-PHE-PHE	No tail (TT, Tt)
LYS-LEU-PHE	Tail (tt)

Amino Acid Sequence

Trait

VAL-ASP-ASP-ALA	Round Mouth (MM, Mm)
ASP-ASP-ASP-ALA	Rectangular Mouth (mm)

PHE-SER-GLY	Pointy ears (PP, Pp)
PHE-PHE-GLY	Round Ears (pp)

ARG-TYR-CYS-LYS	Long arms (AA, Aa)
ARG-ARG-ASP-THRE	Short arms (aa)

GLN-GLN-ARG	Blue Body (BB, Bb)
GLN-GLN-PHE	Green Body (bb)

Version B

This lesson was modified from the original found at: https://www.biologycorner.com/worksheets/DNA_snorks.html
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Name _____ Date _____ Class _____

DNA, RNA, & Crime, Oh My!

Who stole Mr. Marshall's blue stapler? A suspect was seen fleeing from Peck with Mr. Marshall's blue stapler. Luckily for us, DNA was retrieved from a lollipop stick found inside Mr. Marshall's classroom. Mademoiselle Moseley described the suspect as having **really long arms, a skinny body, and big round eyes**. Using the DNA sequence below, find out if your suspect committed the crime - draw a sketch of what they might look like, and then determine which one of the 4 suspects stole the blue stapler from Mr. Marshall!

Amino Acid Sequence

Trait

TRP-PRO-ILE	Hairless (HH, Hh)
TRP-PRO-ARG	Hairy (hh)

TRP-THR-THR	Skinny Body (SS, Ss)
ILE-VAL-CYS	Plump Body (ss)

SER-ALA-PRO	4-legged (LL, Ll)
SER-LEU-PRO	2-legged (ll)

PRO-SER-GLY	Big Round Eyes (EE, Ee)
PRO-SER-PHE	Small round eyes (ee)

LYS-PHE-PHE	No tail (TT, Tt)
LYS-LEU-PHE	Tail (tt)

Amino Acid Sequence

Trait

VAL-ASP-ASP-ALA	Round Mouth (MM, Mm)
ASP-ASP-ASP-ALA	Rectangular Mouth (mm)

PHE-SER-GLY	Pointy ears (PP, Pp)
PHE-PHE-GLY	Round Ears (pp)

ARG-TYR-CYS-LYS	Long arms (AA, Aa)
ARG-ARG-ASP-THRE	Short arms (aa)

GLN-GLN-ARG	Blue Body (BB, Bb)
GLN-GLN-PHE	Green Body (bb)

Version C

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One DNA sample per student

Suspect # 1 DNA SAMPLE

ACC GGT TAT | TAA CAG ACA | AGG CGC GGG | GGT TCG CCC |
TTC AAG AAA | GTC GTC TCC |
CAG CTG CTG CGC | AAA TCA CCC | GCC ATA ACA TTT

Suspect # 2 DNA SAMPLE

ACC GGT TCT | ACC TGG TGA | AGG CGC GGG | GGT TCG AAA |
TTC AAT AAA | GTC GTC TCC | CAG CTG CTG CGC |
AAA AAA CCC | GCC TCC CTG TGT

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Suspect # 3 DNA SAMPLE

ACC GGT TCT | TAA CAG ACA | AGG GAC GGG | GGT TCG AAA |
TTC AAG AAA | GTC GTC AAG | CAG CTG CTG CGC |
AAA TCA CCC | GCC TCC CTG TGT

Suspect # 4 DNA SAMPLE

ACC GGT TCT | ACC TGG TGA | AGG GAC GGG | GGT TCG CCC |
TTC AAT AAA | GTC GTC AAG | CTG CTG CTG CGC |
AAA AAA CCC | GCC ATA ACA TTT

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DNA	ACC								
RNA	UGG								
AA	TRP - _____ - _____								
Trait									
Geno									

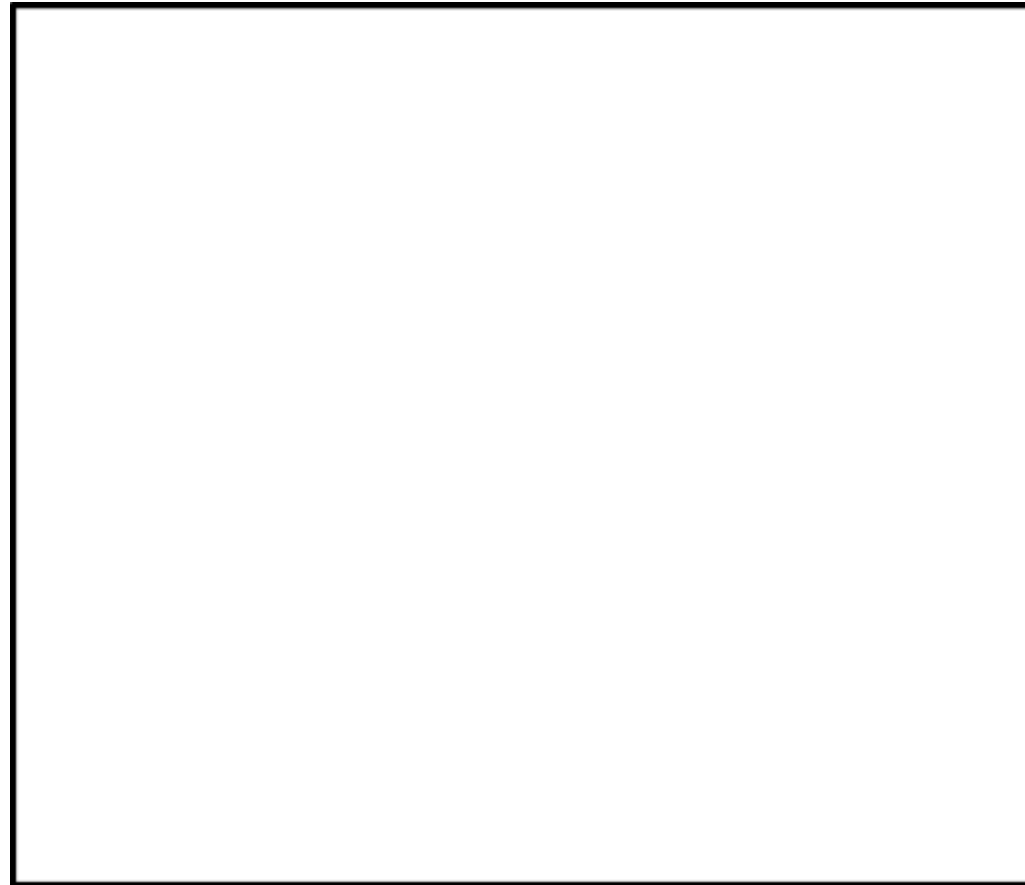
DNA									
RNA									
AA									
Trait									
Geno									

DNA									
RNA									
AA									
Trait									
Geno									

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Mug Shot for Suspect # _____