

ANSWERS FOR CONSTRUCTING A PROTEIN LAB

DNA TEMPLATE NUMBER 1

DNA	ATT	CAA	CAC	ATC	CAG	CCA	CAT
MRNA	UAA	GUU	GUG	UAG	GUC	GGU	GUA
tRNA	AUU	CAA	CAC	AUC	CAG	CCA	CAU

An old rubber band breaks when pulled

DNA TEMPLATE NUMBER 2

DNA	GCT	CCG	AGA	GGA	GGC	AGA	GGG
mRNA	CGA	GGC	UCU	CCU	CCG	UCU	CCC
tRNA	GCU	CCG	AGA	GGA	GGC	AGA	GGG

Education is the door to the future

DNA TEMPLATE NUMBER 3

DNA	CCC	CCG	GAA	TGA	TGC
mRNA	GGG	GGC	CUU	ACU	ACG
tRNA	CCC	CCG	GAA	UGA	UGC

Biology is all around you

DNA TEMPLATE NUMBER 4

DNA	TTA	CCG	AGA	TTC	TTG	TTT
mRNA	AAU	GGC	UCU	AAG	AAC	AAA
tRNA	UUA	CCG	AGA	UUC	UUG	UUU

DNA is the code for life

DNA TEMPLATE NUMBER 5

DNA	TTA	TCC	TCG	TGG	TTG	TTT
mRNA	AAU	AGG	AGC	ACC	AAC	AAA
tRNA	UUA	UCC	UCG	UGG	UUG	UUU

DNA must be read for life

DNA TEMPLATE NUMBER 6

DNA	AAA	AAC	GAG	TTG	AAA	CTG	ACG
mRNA	UUU	UUG	CUC	AAC	UUU	GAC	UGC
tRNA	AAA	AAC	GAG	UUG	AAA	CUG	ACG

A gene codes for a specific protein

DNA TEMPLATE NUMBER 7

DNA	GCA	TGT	CGG	ACT	ATA
mRNA	CGU	ACA	GCC	UGA	UAU
tRNA	GCA	UGU	CGG	ACU	AUA

Uracil replaces thymine in RNA

DNA TEMPLATE NUMBER 8

DNA	AGC	TAC	TTA	CTC	ACC	ATA
mRNA	UCG	AUG	AAU	GAG	UGG	UAU
tRNA	AGC	UAC	UUA	CUC	ACC	AUA

Transcription copies DNA into messenger RNA

DNA TEMPLATE NUMBER 9

DNA	GAC	GTG	ACC	ATA	GGC	CCT	AAA	ACG
mRNA	CUG	CAC	UGG	UAU	CCG	GGA	UUU	UGC
tRNA	GAC	GUG	ACC	AUA	GGC	CCU	AAA	ACG

Translation reads messenger RNA to form a protein

DNA TEMPLATE NUMBER 10

DNA	TTA	CCG	AGA	TAT	TCA	CTT
mRNA	AAU	GGC	UCU	AUA	AGU	GAA
tRNA	UUA	CCG	AGA	UAU	UCA	CUU

DNA is the molecule of heredity

DNA TEMPLATE NUMBER 11

DNA	CTA	ATA	ACA	GTT	GTC	GGC	AGA	GCC
mRNA	GAU	UAU	UGU	CAA	CAG	CCG	UCU	CGG
tRNA	CUA	AUA	ACA	GUU	GUC	GGC	AGA	GCC

Transfer RNA carries amino acids to the ribosomes

DNA TEMPLATE NUMBER 12

DNA	AAA	AGG	CCG	GGT	GAT	AAT	ACT	TTA
mRNA	UUU	UCC	GGC	CCA	CUA	UUA	UGA	AAU
tRNA	AAA	AGG	CCG	GGU	GAU	AAU	ACU	UUA

A triplet is three sequential bases in DNA

DNA TEMPLATE NUMBER 13

DNA	AAA	AGG	GAG	TTG	ATT	GTT	GTA
mRNA	UUU	UCC	CUC	AAC	UAA	CAA	CAU
tRNA	AAA	AGG	GAG	UUG	AUU	GUU	GUA

A triplet codes for an amino acid

DNA TEMPLATE NUMBER 14

DNA	TCT	AAT	CCT	AGA	ATG	TCA	AGA	GCG
mRNA	AGA	UUA	GGA	UCU	UAC	AGU	UCU	CGC
tRNA	UCU	AAU	CCU	AGA	AUG	UCA	AGA	GCG

Nitrogen bases form the rungs of the ladder

DNA TEMPLATE NUMBER 15

DNA	ACC	ATA	ACA	AGA	TAA	TTC	GGC	AGA	GCC
mRNA	UGG	UAU	UGU	UCU	AUU	AAG	CCG	UCU	CGG
tRNA	ACC	AUA	ACA	AGA	UAA	UUC	GGC	AGA	GCC

Messenger RNA carries the genetic code to the ribosome

DNA TEMPLATE NUMBER 16

DNA	AGA	AAG	CGT	TCA	AGG	ACT	AGA	ACC	ATA	CCG	AGA	CGC
mRNA	UCU	UUC	GCA	AGU	UCC	UGA	UCU	UGG	UAU	GGC	UCU	GCG
tRNA	AGA	AAG	CGU	UCA	AGG	ACU	AGA	ACC	AUA	CCG	AGA	CGC

The complementary sequence of triplets in the messenger RNA is the codon

DNA TEMPLATE NUMBER 17

DNA AAA CGT TCA GGT CGA ACT CTA ATA CCG ATT AGT

Mrna UUU GCA AGU CCA GCU UGA GAU UAU GGC UAA UCA

tRNA AAA CGU UCA GGU CGA ACU CUA AUA CCG AUU AGU

A sequence of three nucleotides in transfer RNA is an anticodon