Biology – Science Answer Key

Item Number	Item Type	TEKS	Maximum Number of Points	Correct Answer(s)	Reporting Category	Readiness and Supporting
1	Text Entry	2.B.6.F	1	0 See Appendix 1.1	2	Readiness
2	Inline Choice	2.B.6.E	1	Because a point mutation has occurred in the MOGS gene, one wrong amino acid is placed in the MOGS protein chain. See Appendix 1.2	2	Readiness
3	Match Table Grid	1.B.4.C	2	Supports: Contains RNA wrapped in a capsid. Uses sugars on cell membranes to enter host cells for reproduction. Does Not Support: Causes fever, fatigue, nausea, and joint pain. Is found in tropical regions See Appendix 1.3	1	Readiness
4	Multiple Select	2.B.6.F	2	A, E See Appendix 1.4	2	Readiness
5	Multiple Choice	4.B.10.A	1	B	4	Readiness

Biology – Science Appendix

1.1

Two parents who do not have MOGS-CDG have a child with the condition. What is the probability that at least one of the parents has the *AA* genotype for MOGS-CDG?

Enter your answer in the box.

0 %

1.2

What happens when a MOGS protein is being assembled in a person with MOGS-CDG?

Choose the correct answer from each drop-down menu to complete the statement.

Because a point mutation has occurred in the *MOGS* gene, one wrong amino acid is placed in the MOGS protein chain.

1.3

A student claims that the dengue pathogen is a virus.

Determine whether each piece of information in the table supports or does not support the student's claim.

Select the correct answer in each row.

	Supports	Does Not Support
Contains RNA wrapped in a capsid	☑	☐
Causes fever, fatigue, nausea, and joint pain	☐	☑
Uses sugars on cell membranes to enter host cells for reproduction	☑	☐
Is found in tropical regions	☐	☑

1.4

A parent who is homozygous dominant (*AA*) for the MOGS-CDG trait has a child with a parent who has MOGS-CDG. Which statements are true?

Select **TWO** correct answers.

- [x] There is a 0% chance that the child will have MOGS-CDG.
- [ ] There is a 25% chance that the child will have the *Aa* genotype.
- [ ] There is a 50% chance that the child will inherit an *A* allele.
- [ ] There is a 75% chance that the child will show the dominant phenotype.
- [x] There is a 100% chance that the child will inherit an *a* allele.