

Pre-Lab, Skills, and Standards Alignments

THE MYSTERY OF ANASTASIA

During the Revolution of 1917 the last royal family of Russia went missing. It was determined that they were likely murdered, but in 1920 a mysterious woman surfaced in Germany and claimed to be one of the missing children, Grand Duchess Anastasia Romanov. Students will learn about this volatile time in Russian history, and use computers to collect and interpret evidence that will help them solve the mystery of Anastasia!

Lab Length: 1 hour

Suggested Pre-Lab Teaching

- DNA structure, function, and heredity
- Parts of the animal cell

Lab Skills

- Collect and interpret forensic evidence.
- Perform DNA sequence alignments to determine relatedness.

Conceptual Knowledge/Skills

- Critically examine different forensic techniques.
- Explain how mitochondrial DNA is useful in genealogy.
- Use evidence to support or refute a claim.

New York State Science Learning Standards/NGSS

Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<p><u>Obtaining, Evaluating, and Communicating Information</u> Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or not supported by evidence.</p>	<p><u>ETS1.B: Developing Possible Solutions</u> A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. (MS-ETS1-4) There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (MS-ETS1-2), (MS-ETS1-3) Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. (MS-ETS1-3)</p>	<p><u>Patterns</u> Graphs, charts, and images can be used to identify patterns in data. <u>Cause and Effect</u> Mechanism and Prediction: Phenomena can be classified as causal or correlational, and correlation does not necessarily imply causation.</p>