### Teacher Information:
This would be a review and opening story for information about mutations. The video explains how the average human contains 60 mutations that are inherited from their parents. The video does not discuss specific human mutations but does explain that the average human has mutations.

### Phase | Task(s) | Time
--- | --- | ---
Preparation | Review Vocabulary – *Mutation, Genetics, Genome, DNA, Evolution*  
- Match vocabulary words to their images and definitions in partners | 10 minutes
Watch | As a class watch the Newsy.com video: *How Mutated Are You?*  
[http://www.newsy.com/videos/how-mutated-are-you/](http://www.newsy.com/videos/how-mutated-are-you/) | 2:04 minutes (Activity will take closer to 3 minutes)
Re-watch and answer | Re-Watch the video and answer the following questions as a class  
- The average human acquires how many mutations from their parents?  
- Do children get more mutations from their mother or father?  
- What are some factors that could affect the mutations?  
  - Age of parent  
  - Environment exposure  
  - Genetics  
- Majority of these mutations have what kind of an affect? (A lot,
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>some, none)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group Work</strong></td>
<td>Break up into groups of 2-3 and research other animals or plants. Select one animal or plan to show the mutations that have occurred over time that have helped that organism survive. Example: Rose – thorns keep predators from eating and destroying species. The groups must – • Present information during next class period • Visual Aide – poster or power point • Must explain mutations of the organism • How it has changed (Evolved) • How the mutation was beneficial for the organism</td>
<td>20 minutes</td>
</tr>
<tr>
<td><strong>Discussion</strong></td>
<td>Class will close by discussing human mutations that could be beneficial for us as well as how some mutations might be harmful</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>
Title: How Mutated Are You?

Extended Learning Activities – Optional

<table>
<thead>
<tr>
<th>Parent Involvement</th>
<th>Have students go home and ask parents for assistance. Write down some genetic traits that their parents possess. Also requires grandparents information as well. Track how these genetic traits have changed from generation to generation.</th>
<th>Varies</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Research</th>
<th>Research a specific human mutation and describe how it might affect the individual it who may acquire that genetic mutation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Down Syndrome</td>
</tr>
<tr>
<td></td>
<td>• Autism</td>
</tr>
<tr>
<td></td>
<td>Varies</td>
</tr>
</tbody>
</table>

| Research | Research what Scientists are doing to reduce the likelihood of a child being born with a genetic mutation that affects their lives. Is there a way we can repair the mutated genes? Have they discovered where some of the mutated genes come from? | Varies |

| Report   | Research one of the below articles and/or one of the articles in the newscast and write a brief summary about the information provided. | Varies |

Looking for related resources? Check out...

**DailyMail**
This is a detailed article on the information presented in the Newsy.com article. It goes deeper in-depth about how our genetic mutations exist and how they affect humans.

**MedicalXpress**
This article discusses how there is a common genetic mutation that makes a connection to high blood pressure and causes patients to retain too much sodium.
**Doctors Lounge**
This article discusses how genetic mutations can predict breast cancer treatment and how your body will respond to the treatment.

**EurekaAlert!**
This article discusses how the Fragile X gene may be more common than people earlier believed. The article explains what happens if a child is born with Fragile X and the likelihood of an individual acquiring this genetic mutation.
http://www.eurekalert.org/pub_releases/2012-06/uow-fxg061412.php

**Newsy.com**
This video discusses about Autism. The video discusses the idea of genetics and environment both play a role in Autism Disorder

**Gizmag**
This article discusses how individual genes can be found and replaced in order to reduce mutations. This has been done on a “large-scale” with DNA for a bacteria cell.
http://www.gizmag.com/large-scale-editing-of-dna/19234/