Angela Hines Science 8 **DRIVING QUESTION? "What teenage problem would you want your superhero to tackle and solve?"**
Bailly STEM Academy **Monday 3-28-22** **STEM "Comic Book Science/Cells"** **{REVISED}**

<table>
<tr><th>Standards:</th><th>Enduring Understandings:</th><th>Learning Objectives: (I can statements)</th></tr>
<tr><td rowspan="3">8.LS.9 Examine traits of individuals within a species that may give them an advantage or disadvantage to survive and reproduce in stable or changing environment.
6-8.LST.7.1: Conduct short research assignments and tasks to answer a question (including a self- generated question), or test a hypothesis, drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
6-8.E.4 Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.</td><td>Individual traits and characteristics play a major role for survival.
Acquired traits are those characteristics that are developed during the life of an organism; they do not involve DNA.
Acquired traits involve body cells called somatic cells.
Inherited traits are encoded from the DNA of the biological parents.
Inherited traits involve sex cells; egg/sperm called germ cells.
Specific traits can give an advantage or a disadvantage to a species/population.</td><td rowspan="3">-I can evaluate necessary individual traits and characteristics necessary for survival.
-I can conduct short research tasks to allow multiple avenues of exploration for questions.
-I can create a superhero based on the necessary personal traits and physical attributes needed for superpowers.</td></tr>
<tr><td>Essential Questions:</td></tr>
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Discuss acquired traits and inherited</td></tr>
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	traits. Evaluate the role of traits for the survival of a superhero. Describe the qualities of a great superhero. Evaluate the most essential personal/character traits for creating your superhero. Discuss how to create a superhero based on the best physical attributes for super powers.		
Procedures:		**Assessment**:	**Vocabulary:**
Virtual Science Periods 1, 2,4,5,7 **DO NOW/STEM Bell Ringer (5min) 30 pts Monday 3-28-22** Differentiate personal/character and physical traits. *Restate the question in your answer.* *****Differentiate student groups (drawing artists/ online artists); assign roles for each group member-facilitator, note taker, reporter, and timekeeper. (Must allow for students absent to join a group.)** **DAY 1** Inherited vs Acquired Traits https://www.clarenceschools.org/cms/lib/NY01913587/Centricity/Domain/350/Inherited_vs_aquired_traits_PPT%20edited.pdf		**NOW/STEM Bell Ringer (5min) 30 pts Monday 3-28-22 Differentiate personal/character and physical traits.** *Restate the question in your answer.*	Traits Personal/Character Traits Physical Traits Inherited Traits Acquired Traits Genes Superpowers Natural Selection Environment Competition Survival of the Fittest Genes DNA- double helix

SLIDE SHOW 1-13 Teacher/Students discuss read together; students take notes on Inherited vs Acquired Traits Students/Teacher will watch/discuss a short video The 5 Coolest Superpowers in Pop Culture (1:54 min) https://powerlisting.fandom.com/wiki/List_of_Supernatural_Powers_and_Abilities Students will then research and differentiate personal/character traits and physical traits necessary for a superhero breed. Students will collaborate in groups of 4 to brainstorm traits for their superhero. All groups will collaborate to come up with a common list of personal/character traits and physical traits via student facilitator. Student facilitator. Each different class as a whole will then determine/vote on which characteristics to give their superhero via student facilitator. Due Wednesday 3-30-22 Each group in each class will create a name/sex for the superhero. Each group in each class will brainstorm for one problem for the superhero to solve. Student facilitator Lastly, all students in each class will vote on one name/sex of superhero	**Trait List Due Wednesday 3-30-22** **Groups create a GO of choice based on Natural Selection for Superhero pgs.248-256 Elevate *Pearson Realize* Due Thursday 3-31-22** **STEM Exit Ticket (50 pts) Monday 3-28-22 Explore a problem that is important to your age**	Deoxyribonucleic Acid Base pairs-adenine, thymine, guanine, cytosine Pyrimidine Purine Nucleotide Complementary strand Hydrogen bonds Phosphate, deoxyribose Proteins-amino acids Cells Somatic Cells Germ Cells Natural Selection Environment Competition Survival of the Fittest Blood Types-A, B, AB, O Antigen Antibody Muscle Types Replicate Mutation Species Breed

and one problem for the superhero to solve. Due Thursday 3-31-22 Student groups read/answer all questions **Natural Selection pgs.248-256, *elevate science, Pearson Realize.*** Begin in class; finish for homework. Discuss/go over answers of student choice. Groups create a graphic organizer of choice to display important concepts relating to their superhero's background/origination. Due Thursday 3-31-22 **STEM Exit Ticket (50 pts) Monday 3-28-22** Explore a problem that is important to your age group that you would like your superhero to tackle. *Restate the question in your answer.*	**group that you would like your superhero to tackle.**	

Notes & Special Considerations:	**We will develop student groups for "Comic Book Science/Cells"**	

Tuesday 3-29-22 STEM "Comic Book Science/ Cells"

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<tr><th>Standards:</th><th>Enduring Understandings:</th><th>Learning Objectives: (I can statements)</th></tr>
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Acquired traits are those characteristics that are developed during the life of an organism; they do not involve DNA.
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Specific traits can give an advantage or a disadvantage to a species/population.</td><td rowspan="3">-I can evaluate necessary individual traits and characteristics necessary for survival.
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<tr><td>Differentiate personal/character traits and physical traits.
Discuss acquired traits and inherited traits.
Evaluate the role of traits for the survival of a superhero.</td></tr>
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	Describe the qualities of a great superhero. Evaluate the most essential personal/character traits for creating your superhero. Discuss how to create a superhero based on the best physical attributes for super powers.		
Procedures:		**Assessment**:	**Vocabulary:**
Virtual Science Periods 1, 2,4,5,7 **DO NOW/STEM Bell Ringer (5min) 30 pts Tuesday 3-29-22** Express your opinion. Do you feel personal/character traits are more or less important as physical traits for a superhero? Explain your answer. *Restate the question in your answer.* *****Differentiate student groups (drawing artists/ online artists); assign roles for each group member-facilitator, note taker, reporter, and timekeeper. (Must allow for students absent to join a group.)** **DAY 2/3** Inherited vs Acquired Traits https://www.clarenceschools.org/cms/lib/NY01913587/Centricity/Domain/350/Inherited_vs_aquired_traits_PPT%20edited.pdf **SLIDE SHOW 15-25** **PRACTICE** Teacher/Students discuss read together; students take notes,		**DO NOW/STEM Bell Ringer (5min) 30 pts Tuesday 3-29-22** **Express your opinion. Do you feel personal/character traits are more or less important as physical traits for a superhero? Explain your answer.** ***Restate the question in your answer.*** .	Traits Personal/Character Traits Physical Traits Inherited Traits Acquired Traits Genes Superpowers Natural Selection Environment Competition Survival of the Fittest Genes DNA- double helix Deoxyribonucleic Acid Base pairs-adenine, thymine, guanine, cytosine Pyrimidine

differentiate acquired vs inherited traits. **QUIZ** **SLIDES 26-36** Students will research and differentiate personal/character traits and physical traits necessary for a superhero breed. Students will collaborate in groups of 4 to brainstorm traits for their superhero. All groups will collaborate to come up with a common list of traits via student facilitator. Each different class as a whole will then determine which characteristics to give their superhero. Due Wednesday 3-30-22 Student facilitator. Each different class as a whole will then determine/vote on which characteristics to give their superhero via student facilitator. Due Wednesday 3-30-22 Each group in each class will create a name/sex for the superhero. Each group in each class will brainstorm for one problem for the superhero to solve. Student facilitator Lastly, all students in each class will vote on one name/sex of superhero and one problem for the superhero to solve. Due Thursday 3-31-22 Students read/answer all questions **Natural Selection pgs.248-256, *elevate science, Pearson Realize.*** Begin in class; finish for homework. Discuss/go over answers of student	**QUIZ** **SLIDES 26-36** **Trait List Due Wednesday 3-30-22** **Groups create a GO of choice based on Natural Selection for Superhero pgs.248-256 Elevate *Pearson Realize* Due Thursday 3-31-22**	Purine Nucleotide Complementary strand Hydrogen bonds Phosphate, deoxyribose Proteins-amino acids Cells Somatic Cells Germ Cells Natural Selection Environment Competition Survival of the Fittest Blood Types-A, B, AB, O Antigen Antibody Muscle Types Replicate Mutation Species Breed

choice. Groups create a graphic organizer of choice to display important concepts relating to their superhero's background/origination. Due Thursday 3-31-22 **STEM Exit Ticket (50 pts) Tuesday 3-29-22** Discuss how you would envision drawing your superhero. *Restate the question in your answer.*	**STEM Exit Ticket (50 pts) Tuesday 3-29-22 Discuss how you would envision drawing your superhero. *Restate the question in your answer.***	

Notes & Special Considerations:	**We will develop student groups for "Comic Book Science/Cells"**

Wednesday 3-30-22 STEM "Comic Book Science/ Cells"		
Standards:	**Enduring Understandings**:	**Learning Objective**s: *(I can statements)*
8.LS.9 Examine traits of individuals within a species that may give them an advantage or disadvantage to survive and reproduce in stable or changing environment. **6-8.LST.7.1:** Conduct short research assignments and tasks to answer a question (including a self- generated question), or test a hypothesis, drawing on several sources and generating	Individual traits and characteristics play a major role for survival. Acquired traits are those characteristics that are developed during the life of an organism; they do not involve DNA. Acquired traits involve body cells called somatic cells. Inherited traits are encoded from the	-I can evaluate necessary individual traits and characteristics necessary for survival. -I can conduct short research tasks to allow multiple avenues of exploration for questions. -I can create a superhero based on the necessary personal traits and physical attributes needed for super powers.

additional related, focused questions that allow for multiple avenues of exploration. **6-8.E.4** Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.	DNA of the biological parents. Inherited traits involve sex cells; egg/sperm called germ cells. Specific traits can give an advantage or a disadvantage to a species/population.	
	Essential Questions:	
	Differentiate personal/character traits and physical traits. Discuss acquired traits and inherited traits. Evaluate the role of traits for the survival of a superhero. Describe the qualities of a great superhero. Evaluate the most essential personal/character traits for creating your superhero. Discuss how to create a superhero based on the best physical attributes for super powers.	

Procedures:	**Assessment**:	**Vocabulary:**
Virtual Science Periods 1, 2,4,5,7 **DO NOW/STEM Bell Ringer (5min) 30 pts Wednesday 3-31-22** Explore the similarities and differences between germ cells and somatic cells. *****Differentiate student groups (drawing artists/ online artists); assign roles for each group member-facilitator, note taker, reporter, and timekeeper. (Must allow for students absent to join a group.)** **DAY 2/3** Inherited vs Acquired Traits https://www.clarenceschools.org/cms/lib/NY01913587/Centricity/Domain/350/Inherited_vs_aquired_traits_PPT%20edited.pdf **SLIDE SHOW 15-25** **PRACTICE** Teacher/Students discuss read together; students take notes, differentiate acquired vs inherited traits. **QUIZ** **SLIDES 26-36** Students will research and differentiate personal/character traits and physical traits necessary for a superhero breed. Students will collaborate in groups of 4 to brainstorm traits for their superhero. All groups will collaborate to come up with a common list of traits via student facilitator. Each different class as a whole will then determine	**DO NOW/STEM Bell Ringer (5min) 30 pts Wednesday 3-31-22** Explore the similarities and differences of germ cells and somatic cells. **QUIZ** **SLIDES 26-36** **Trait List Due**	Traits Personal/Character Traits Physical Traits Inherited Traits Acquired Traits Genes Superpowers Natural Selection Environment Competition Survival of the Fittest Genes DNA- double helix Deoxyribonucleic Acid Base pairs-adenine, thymine, guanine, cytosine Pyrimidine Purine Nucleotide Complementary strand Hydrogen bonds Phosphate, deoxyribose Proteins-amino acids Cells Somatic Cells Germ Cells

which characteristics to give their superhero. Due Wednesday 3-30-22 Student facilitator. Each different class as a whole will then determine/vote on which characteristics to give their superhero via student facilitator. Due Wednesday 3-30-22 Each group in each class will create a name/sex for the superhero. Each group in each class will brainstorm for one problem for the superhero to solve. Student facilitator Lastly, all students in each class will vote on one name/sex of superhero and one problem for the superhero to solve. Due Thursday 3-31-22 Students read/answer all questions **Natural Selection pgs.248-256, *elevate science, Pearson Realize.*** Begin in class; finish for homework. Discuss/go over answers of student choice. Groups create a graphic organizer of choice to display important concepts relating to their superhero's background/origination. Due Thursday 3-31-22 **STEM Exit Ticket (50 pts) Wednesday 3-30-22** Explain how natural selection could hypothetically affect your superhero. *Restate the question in your answer.*	**Wednesday 3-30-22** **Groups create a GO of choice based on Natural Selection for Superhero pgs.248-256 Elevate *Pearson Realize* Due Thursday 3-31-22** **STEM Exit Ticket (50 pts) Wednesday 3-30-22 Explain how natural selection could hypothetically affect your superhero. *Restate the question in***	Natural Selection Environment Competition Survival of the Fittest Blood Types-A, B, AB, O Antigen Antibody Muscle Types Replicate Mutation Species Breed

		your answer.	
Notes & Special Considerations:	**We will develop student groups for "Comic Book Science/Cells"**		

Thursday 3-31-22 STEM "Comic Book Science/Cells"		
Standards:	**Enduring Understandings**:	**Learning Objective**s: *(I can statements)*
8.LS.9 Examine traits of individuals within a species that may give them an advantage or disadvantage to survive and reproduce in stable or changing environment. **6-8.LST.7.1:** Conduct short research assignments and tasks to answer a question (including a self- generated question), or test a hypothesis, drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. **6-8.E.4** Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.	Individual traits and characteristics play a major role for survival. Acquired traits are those characteristics that are developed during the life of an organism; they do not involve DNA. Acquired traits involve body cells called somatic cells. Inherited traits are encoded from the DNA of the biological parents. Inherited traits involve sex cells; egg/sperm called germ cells. Specific traits can give an advantage or a disadvantage to a species/population.	-I can evaluate necessary individual traits and characteristics necessary for survival. -I can conduct short research tasks to allow multiple avenues of exploration for questions. -I can create a superhero based on the necessary personal traits and physical attributes needed for super powers.

	Essential Questions:		
	Differentiate personal/character traits and physical traits. Discuss acquired traits and inherited traits. Evaluate the role of traits for the survival of a superhero. Describe the qualities of a great superhero. Evaluate the most essential personal/character traits for creating your superhero. Discuss how to create a superhero based on the best physical attributes for super powers.		
Procedures:		**Assessment**:	**Vocabulary:**

Virtual Science Periods 1, 2,4,5,7 **DO NOW/ STEM Bell Ringer (5min) 30 pts Thursday 3-31-22** Discuss Prokaryotic and Eukaryotic cells. Give an example of each. *Restate the question in your answer.* *****Differentiate student groups (drawing artists/ online artists); assign roles for each group member-facilitator, note taker, reporter, and timekeeper. (Must allow for students absent to join a group.)** Student facilitator All students in each class will vote on one name/sex of superhero and one problem for the superhero to solve. Due Thursday 3-31-22 Student groups research cells/organelles to justify which organelles could be mutated/replicated/or changed in some way to enhance the superpowers of our superhero. Students can watch/take notes (9:37 min) **Introduction to Cells: The Grand Cell Tour** https://www.youtube.com/watch?v=8IlzKri08kk Students will decide which organelles will be mutated/replicated/or changed in some way to enhance the superpowers of our superhero. Students read/answer all questions **Natural Selection pgs.248-256, *elevate science, Pearson Realize.*** Discuss/go over answers of student choice. Begin in class; finish for homework. Groups create a graphic organizer of choice to display important concepts relating to their superhero's background/origination. Due Thursday 3-31-22 Teacher/Students discuss origination/ per group of the superhero to write in the comic	**DO NOW/STEM Bell Ringer (5min) 30 pts Thursday 3-31-22** **Discuss Prokaryotic and Eukaryotic cells. Give an example of each.** **Groups create a GO of choice based on Natural Selection for Superhero pgs.248-256 Elevate *Pearson Realize* Due Thursday 3-31-22**	Traits Personal/Character Traits Physical Traits Inherited Traits Acquired Traits Genes Superpowers Natural Selection Environment Competition Survival of the Fittest Genes DNA- double helix Deoxyribonucleic Acid Base pairs-adenine, thymine, guanine, cytosine Pyrimidine Purine Nucleotide Complementary strand Hydrogen bonds Phosphate, deoxyribose Proteins-amino acids Cells Somatic Cells Germ Cells Natural Selection Environment

intro. Students will be grouped for those who can and want to draw: brainstorm how to create your superhero through artwork/drawing; must include some ideas for incorporating cells. Must figure out how to illustrate the superhero in comic book style solving the problem chosen by the class. Students who like online comic constructions, possible suggestions of websites to use: makebeliefscomix.com storyboardsthat Pixton Must include some ideas for incorporating cells. Must figure out how to illustrate the superhero in comic book style solving the problem chosen by the class. Students will research the importance/structure of DNA using pgs. 194-197 ***elevate science, Pearson Realize.*** Begin in class; finish for homework. Discuss/go over answers of student choice. Each student group will design/create a given DNA sequence model for Superhero. Each group will be given a single DNA strand and must complete the sequence for the second complementary strand to form their DNA model. Due Tuesday 3-5-22. Students/teacher will watch YouTube video (8:54min). Students take notes. DNA Structure and Function https://www.youtube.com/watch?v=_POdWsii7AI Students will research the 4 different blood types in an effort to find out which blood type would be most advantageous for survival of the superhero. Students will decide on best choice or some type of alternative. Students/teacher will watch YouTube video (11:34 min). Students take notes. Blood Types Explained: Easy and Simple https://www.youtube.com/watch?v=wckwUSuz8uk **Adult Connections******Student will brainstorm: Are there any members of your community who regularly draw comic-style artwork and would be willing to speak with	**DNA sequence model for Superhero. Due Tuesday 3-5-22.**	Competition Survival of the Fittest Blood Types-A, B, AB, O Antigen Antibody Muscle Types Replicate Mutation Species Breed

your class, for example, a parent, a group of high school students, or an art teacher? Students will write letters/phone calls/emails, etc. for this purpose. **Adult Connections:****** Student will brainstorm: Are there any members of your community who would be willing to speak with your class, for example, a doctor, person in the medical field, a professor at a nearby college/university…. to discuss topics related to cells? Students will write letters/phone calls/emails, etc. for this purpose. **STEM Exit Ticket (50 pts) Thursday 3-31-22** Examine how we could incorporate the concept of "cells" in our superhero comics. *Restate the question in your answer.*	**STEM Exit Ticket (50 pts) Thursday 3-31-22 Examine how we could incorporate the concept of "cells" in our superhero comics. *Restate the question in your answer.***	
Notes & Special Considerations:	**We will develop student groups for "Comic Book Science".**	

Friday 4-1-22	**STEM "Comic Book Science/Cells"**	
Standards:	**Enduring Understandings**:	**Learning Objective**s: *(I can statements)*
8.LS.9 Examine traits of individuals within a species that may give them an advantage or disadvantage to survive and	Individual traits and characteristics play a major role for survival. Acquired traits are those characteristics	-I can evaluate necessary individual traits and characteristics necessary for survival. -I can conduct short research tasks to allow

reproduce in stable or changing environment. **6-8.LST.7.1:** Conduct short research assignments and tasks to answer a question (including a self- generated question), or test a hypothesis, drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. **6-8.E.4** Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.	that are developed during the life of an organism; they do not involve DNA. Acquired traits involve body cells called somatic cells. Inherited traits are encoded from the DNA of the biological parents. Inherited traits involve sex cells; egg/sperm called germ cells. Specific traits can give an advantage or a disadvantage to a species/population. **Essential Questions**: Differentiate personal/character traits and physical traits. Discuss acquired traits and inherited traits. Evaluate the role of traits for the survival of a superhero. Describe the qualities of a great superhero. Evaluate the most essential personal/character traits for creating your superhero.	multiple avenues of exploration for questions. -I can create a superhero based on the necessary personal traits and physical attributes needed for super powers.

	Discuss how to create a superhero based on the best physical attributes for super powers.		
Procedures:		**Assessment**:	**Vocabulary:**
Virtual Science Periods 1, 2,4,5,7 **DO NOW/ STEM Bell Ringer** **(5min) 30 pts Friday 4-1-22** Describe the structure/function of the two cell organelles: a. Endoplasmic reticulum b. Mitochondria *Restate the question in your answer.* Student groups research cells/organelles to justify which organelles could be mutated/replicated/or changed in some way to enhance the superpowers of our superhero. Students can watch/take notes (9:37 min) **Introduction to Cells: The Grand Cell Tour** https://www.youtube.com/watch?v=8IlzKri08kk Students will decide which organelles will be mutated/replicated/or changed in some way to enhance the superpowers of our superhero. Teacher/Students discuss origination/ per group of the superhero to write in the comic intro. Students will be grouped for those who can and want to draw: brainstorm how to create your superhero through artwork/drawing; must include some ideas for incorporating cells. Must figure out how to illustrate the superhero in comic book style solving the problem chosen by the class.		**DO NOW/ STEM Bell Ringer** **(5min) 30 pts Friday 4-1-22** Describe the structure/function of the two cell organelles: a. Endoplasmic reticulum b. Mitochondria *Restate the question in your answer.*	Traits Personal/Character Traits Physical Traits Inherited Traits Acquired Traits Genes Superpowers Natural Selection Environment Competition Survival of the Fittest Genes DNA- double helix Deoxyribonucleic Acid Base pairs-adenine, thymine, guanine, cytosine Pyrimidine Purine Nucleotide Complementary strand Hydrogen bonds Phosphate, deoxyribose

Students who like online comic constructions, possible suggestions of websites to use: makebeliefscomix.com storyboardsthat Pixton Must include some ideas for incorporating cells. Must figure out how to illustrate the superhero in comic book style solving the problem chosen by the class. Students will research the importance/structure of DNA using pgs. 194-197 ***elevate science, Pearson Realize.*** Begin in class; finish for homework. Discuss/go over answers of student choice. Each student group will design/create a DNA model for Superhero. Each group will be given a single DNA strand and must complete the sequence for the second complementary strand to form their DNA model. Due Tuesday 3-5-22. Students/teacher will watch YouTube video (8:54min). Students take notes. DNA Structure and Function https://www.youtube.com/watch?v=_POdWsii7AI Students will research the 4 different blood types in an effort to find out which blood type would be most advantageous for survival of the superhero. Students will decide on best choice or some type of alternative. Students/teacher will watch YouTube video (11:34 min). Students take notes. Blood Types Explained: Easy and Simple https://www.youtube.com/watch?v=wckwUSuz8uk **Adult Connections******Student will brainstorm: Are there any members of your community who regularly draw comic-style artwork and would be willing to speak with your class, for example, a parent, a group of high school students, or an art teacher? Students will write letters/phone calls/emails, etc. for this purpose. **Adult Connections:****** Student will brainstorm: Are there any members of your community who would be willing to speak with your class, for example, a doctor, person in the medical field, a professor at a nearby college/university…. to discuss topics related to cells? Students will write letters/phone calls/emails, etc. for this purpose.	**DNA sequence model for Superhero. Due Tuesday 3-5-22.** **STEM Quick Write (50 pts) Friday 4-1-22 Describe where we would**	Proteins-amino acids Cells Somatic Cells Germ Cells Natural Selection Environment Competition Survival of the Fittest Blood Types-A, B, AB, O Antigen Antibody Muscle Types Replicate Mutation Species Breed

STEM Quick Write (50 pts) Friday 4-1-22 Describe where we would find DNA in our superhero. *Restate the question in your answer.*	**find DNA in our superhero. *Restate the question in your answer.***	
Notes & Special Considerations:	**We will develop student groups for "Comic Book Science".**	

Cont'd from Friday 4-1-22 to Friday 4-8-22		**STEM "Comic Book Science/Cells"**
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be achieved.			
	Essential Questions:		
	Differentiate personal/character traits and physical traits. Discuss acquired traits and inherited traits. Evaluate the role of traits for the survival of a superhero. Describe the qualities of a great superhero. Evaluate the most essential personal/character traits for creating your superhero. Discuss how to create a superhero based on the best physical attributes for super powers.		
Procedures:		**Assessment**:	**Vocabulary:**

Virtual Science Periods 1, 2,4,5,7 Student groups research cells/organelles to justify which organelles could be mutated/replicated/or changed in some way to enhance the superpowers of our superhero. Students can watch/take notes (9:37 min) **Introduction to Cells: The Grand Cell Tour** https://www.youtube.com/watch?v=8IlzKri08kk Students will decide which organelles will be mutated/replicated/or changed in some way to enhance the superpowers of our superhero. Teacher/Students discuss origination/ per group of the superhero to write in the comic intro. Students will be grouped for those who can and want to draw: brainstorm how to create your superhero through artwork/drawing; must include some ideas for incorporating cells. Must figure out how to illustrate the superhero in comic book style solving the problem chosen by the class. Students who like online comic constructions, possible suggestions of websites to use: makebeliefscomix.com storyboardsthat Pixton Must include some ideas for incorporating cells. Must figure out how to illustrate the superhero in comic book style solving the problem chosen by the class. Students will research the importance/structure of DNA using pgs. 194-197 ***elevate science, Pearson Realize.*** Begin in class; finish for homework. Discuss/go over answers of student choice. Each student group will design/create a given DNA sequence model for Superhero. Due Tuesday 3-5-22.	**DNA sequence model for Superhero. Due Tuesday 3-5-22.**	Traits Personal/Character Traits Physical Traits Inherited Traits Acquired Traits Genes Superpowers Natural Selection Environment Competition Survival of the Fittest Genes DNA- double helix Deoxyribonucleic Acid Base pairs-adenine, thymine, guanine, cytosine Pyrimidine Purine Nucleotide Complementary strand Hydrogen bonds Phosphate, deoxyribose Proteins-amino acids Cells Somatic Cells Germ Cells Natural Selection Environment

Students/teacher will watch YouTube video (8:54min). Students take notes. DNA Structure and Function https://www.youtube.com/watch?v=_POdWsii7AI Students will research the 4 different blood types in an effort to find out which blood type would be most advantageous for survival of the superhero. Students will decide on best choice or some type of alternative. Students/teacher will watch YouTube video (11:34 min). Students take notes. Blood Types Explained: Easy and Simple https://www.youtube.com/watch?v=wckwUSuz8uk **Adult Connections******Student will brainstorm: Are there any members of your community who regularly draw comic-style artwork and would be willing to speak with your class, for example, a parent, a group of high school students, or an art teacher? Students will write letters/phone calls/emails, etc. for this purpose. **Adult Connections:****** Student will brainstorm: Are there any members of your community who would be willing to speak with your class, for example, a doctor, person in the medical field, a professor at a nearby college/university…. to discuss topics related to cells? Students will write letters/phone calls/emails, etc. for this purpose.		Competition Survival of the Fittest Blood Types-A, B, AB, O Antigen Antibody Muscle Types Replicate Mutation Species Breed
Notes & Special Considerations:	**We will develop student groups for "Comic Book Science".**	