

ACT PREP / COLLEGE PLANNING
Course # 0417
5 credits

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I. Course Description:

The ACT Prep / College Planning course is designed for students to be successful in the selection of and the admission to a college. Students will be prepared to apply for post-secondary education, financial assistance. They will transfer academic skills to post-secondary applications; becoming academically independence with the knowledge of the underlying principles of research methodologies. ACT Prep /College Planning will prepare students to set goals and develop skills needed to successfully choose a college to meet their needs. Virtual college trips and materials from the guidance office will be reviewed to aid the students in making choices.

During the second half of the year students are challenged to complete an original research project which includes the collection of qualitative and quantitative data. Literature will be reviewed; and a defined research project will be designed. Using their newly acquired knowledge, students will form a theory to solve a real world problem, collect and analyze data, and make conclusions. A final presentation of their research with the findings will be made.

II. Curriculum Unit Planner

Content Area:	ACT PREP / COLLEGE PLANNING	Grade(s)	10-11
Unit Plan Title:	ENGLISH SECTION		
NJSLS Standard(s) Addressed in this unit			
<p>NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.</p> <p>NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.</p> <p>NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.</p> <p>NJSLSA.L5. Demonstrate understanding of word relationships and nuances in word meanings.</p> <p>NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.</p> <p>SL.11-12.1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with peers on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively. Collaborate with peers to promote civil, democratic discussions and decision-making, set clear goals and assessments (e.g. student developed rubrics), and establish individual roles as needed.</p> <p>SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.</p> <p>NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <p>NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.</p>			
Essential Questions (3-5)			
<p>What requisite knowledge base does the ACT require in the English Section?</p> <p>What strategies can be used to demonstrate proficiency on the ACT English Section?</p> <p>How does logic and reasoning play a role for an individual to gain a personal best score on the ACT?</p>			

Why does the ACT assist in a student's successes across the academic curriculum?	
Anchor Text	
The Official ACT Prep Guide	
Informational Texts (3-5)	
A-List ACT Book of Knowledge	
Short Texts (1-3)	
“Delayed Gratification” (APA Article based on the Marshmallow Test)	
Formative & Summative Assessments	
<ul style="list-style-type: none"> • Two Formal Practice ACT Tests- Grades Based on Personal Goals and Improvements • Summative Assessments based on individual Skills/strategies and scaffolded skills/strategies • “Stick Family” Project 	
Resources (websites, Canvas, LMS, Google Classroom, documents, etc.)	
https://peti.linkit.com/Account/LogOn?ReturnUrl=%2f , Google Classroom, Purdue OWL	
Suggested Time Frame:	4.5 Weeks

Content Area:	ACT PREP / COLLEGE PLANNING	Grade(s)	10-11
Unit Plan Title:	Reading Section		
NJSLS Standard(s) Addressed in this unit			
<p>NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.</p> <p>NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.</p> <p>NJSLSA.R4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.</p> <p>NJSLSA.R5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.</p> <p>NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.</p>			

NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

NJSLSA.R9. Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

RH.11-12.2. Determine the theme, central ideas, information and/or perspective(s) presented in a primary or secondary source; provide an accurate summary of how key events, ideas and/or author's perspective(s) develop over the course of the text.

Essential Questions (3-5)

What requisite knowledge base does the ACT require in the Reading Section?

What strategies can be used to demonstrate proficiency on the ACT Reading Section?

How does logic and reasoning play a role for an individual to gain a personal best score on the ACT?

Why does the ACT assist in a student's successes across the academic curriculum?

Anchor Text

The Official ACT Prep Guide

Informational Texts (3-5)

A-List ACT Book of Knowledge

Short Texts (1-3)

"Delayed Gratification" (APA Article based on the Marshmallow Test)

Formative & Summative Assessments

- Two Formal Practice ACT Tests- Grades Based on Personal Goals and Improvements
- Summative Assessments based on individual Skills/strategies and scaffolded skills/strategies
- Completed Passage Chart

Resources (websites, Canvas, LMS, Google Classroom, documents, etc.)

<https://ptci.linkit.com/Account/LogOn?ReturnUrl=%2f>, Appropriate newspaper articles

Suggested Time Frame:

4.5 Weeks

Content Area:

ACT PREP / COLLEGE PLANNING

Grade(s)

10-11

Unit Plan Title: Mathematics

NJSLS Standard(s) Addressed in this unit

NJSLSA-REI.B3 Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

NJSLSA-SSE.A Interpret the structure of expressions

NJSLSN-RN.B3 Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

NJSLSN-RN.A1 Extend the properties of exponents to rational exponents.

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*

NJSLSN-Q.A1-3 Reason quantitatively and use units to solve problems.

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

NJSLS-CP.A1-2 Understand independence and conditional probability and use them to interpret data

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).
2. Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.

NJSLS-ID.A2 Summarize, represent, and interpret data on a single count or measurement variable

2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

NJSLS-ID.B5-6 Summarize, represent, and interpret data on two categorical and quantitative variables

5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

NJSLSA-APR.A1 Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

NJSLSA-REI.C5 Solve systems of equations

1. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

NJSLSA-REI.B4b Solve equations and inequalities in one variable

Solve quadratic equations in one variable.

b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .

NJSLSA-CED.A1 Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*

NJSLSA-SSE.B3 Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.

a. Factor a quadratic expression to reveal the zeros of the function it defines.

b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

NJSLSF-BF.A1 Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.

NJSLSN-CN Perform arithmetic operations with complex numbers.

NJSLSN-VM.C6 Perform operations on matrices and use matrices in applications.

1. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.

NJSLSF-LE.A4 Construct and compare linear and exponential models and solve problems

Understand the inverse relationship between exponents and logarithms. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a , c , and d are numbers and the base b is 2, 10, or e ; evaluate the logarithm using technology.

NJSLSG-CO.A1 Experiment with transformations in the plane

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

NJSLSG-GPE.B5 Use coordinates to prove simple geometric theorems algebraically

5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

NJSLSA-REI.D10 Represent and solve equations and inequalities graphically

10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

NJSLSF-IF.C7a Analyze functions using different representations

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
 - a. Graph linear and quadratic functions and show intercepts, maxima, and minima.

NJSLSG-GPE.A3 Translate between the geometric description and the equation for a conic section

3. (+)Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

NJSLSA-CED.A3 Create equations that describe numbers or relationships

3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*

NJSLSG-GPE.B7 Use coordinates to prove simple geometric theorems algebraically

7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.

NJSLSF-BF.B Build new functions from existing functions

NJSLSG-SRT.B4-5 Prove theorems involving similarity

4. Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

NJSLSG-CO.B8 Understand congruence in terms of rigid motions

8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

NJSLSG-CO.C11 Prove geometric theorems

11. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

NJSLSG-GMD.A1-3 Explain volume formulas and use them to solve problems

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

NJSLSG-CO.A5 Experiment with transformations in the plane

5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

NJSLS-IC.A2 Understand and evaluate random processes underlying statistical experiments

2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*

NJSLSF-TF.C8 Prove and apply trigonometric identities

8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.

NJSLSF-TF.B Model periodic phenomena with trigonometric functions

NJSLSG-SRT.D10 Apply trigonometry to general triangles

10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.

NJSLSF-TF.A1-3 Extend the domain of trigonometric functions using the unit circle

1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosines, and tangent for $\pi \pm x$, $\pi + x$, and $2\pi - x$ in terms of their values for x , where x is any real number.

NJSLSG-C.B5 Find arc lengths and areas of sectors of circles

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Essential Questions (3-5)	
What requisite knowledge base does the ACT require in the Math Section? What strategies can be used to demonstrate proficiency on the ACT Math Section? How does logic and reasoning play a role for an individual to gain a personal best score on the ACT? Why does the ACT assist in a student's successes across the academic curriculum?	
Anchor Text	
The Official ACT Prep Guide	
Informational Texts (3-5)	
A-List ACT Book of Knowledge	
Short Texts (1-3)	
N/A	
Formative & Summative Assessments	
<ul style="list-style-type: none"> Two Formal Practice ACT Tests- Grades Based on Personal Goals and Improvements Summative Assessments based on individual Skills/strategies and scaffolded skills/strategies	
Resources (websites, Canvas, LMS, Google Classroom, documents, etc.)	
https://pcti.linkit.com/Account/LogOn?ReturnUrl=%2f , Google Classroom	
Suggested Time Frame:	6 Weeks

Content Area:	ACT PREP / COLLEGE PLANNING	Grade(s)	10-11
Unit Plan Title:	Science Section		
NJSLS Standard(s) Addressed in this unit			
NJSLS-ID.A Summarize, represent, and interpret data on a single count or measurement variable NJSLS-ID.B Summarize, represent, and interpret data on two categorical and quantitative variables NJSLS-ID.C Interpret linear models NJSLS-IC.A Understand and evaluate random processes underlying statistical experiments NJSLS-IC.B Make inferences and justify conclusions from sample surveys, experiments, and observational studies NJSLSA.R2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.			
Essential Questions (3-5)			
What requisite knowledge base does the ACT require in the Science Section?			

<p>What strategies can be used to demonstrate proficiency on the ACT Science Section? How does logic and reasoning play a role for an individual to gain a personal best score on the ACT? Why does the ACT assist in a student's successes across the academic curriculum?</p>	
Anchor Text	
The Official ACT Prep Guide	
Informational Texts (3-5)	
A-List ACT Book of Knowledge	
Short Texts (1-3)	
N/A	
Formative & Summative Assessments	
<ul style="list-style-type: none"> • Two Formal Practice ACT Tests- Grades Based on Personal Goals and Improvements • Summative Assessments based on individual Skills/strategies and scaffolded skills/strategies • Data Representation Project 	
Resources (websites, Canvas, LMS, Google Classroom, documents, etc.)	
https://pcti.linkit.com/Account/LogOn?ReturnUrl=%2f , Google Classroom	
Suggested Time Frame:	2-3 Weeks

Content Area:	ACT PREP / COLLEGE PLANNING	Grade(s)	10-11
Unit Plan Title:	College Search		
NJSLS Standard(s) Addressed in this unit			
<p>9.2 Career Awareness, Exploration, and Preparation This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p> <p>9.1.12.A.4 Identify a career goal and develop a plan and timetable for achieving it, including educational/training requirements, costs, and possible debt.</p>			
Essential Questions (3-5)			
<p>What colleges are best for me based on my preferred major(s), entrance exam scores, GPA and class rank, size of the school, location of the school, costs and my financial status, and extracurricular activities offered at the school?</p> <p>What colleges are best for me based on their graduation rates and job placement rates of graduates?</p>			

Anchor Text	
N/A	
Informational Texts (3-5)	
Assorted College Materials from Guidance	
Short Texts (1-3)	
N/A	
Formative & Summative Assessments	
Project	
Resources (websites, Canvas, LMS, Google Classroom, documents, etc.)	
Web Searches, GSuite	
Suggested Time Frame:	.5 Weeks

Content Area:	ACT PREP / COLLEGE PLANNING	Grade(s)	10-11
Unit Plan Title:	College Level Research Methodologies and Research		
NJSLS Standard(s) Addressed in this unit			
<p>NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.</p> <p>NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.</p> <p>NJSLSA.R4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.</p> <p>NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.</p> <p>NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.</p> <p>NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.</p> <p>NJSLSA.R9. Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.</p> <p>NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.</p> <p>NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.</p>			

NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.

NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

NJSLSA.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes,

CRP2. Apply appropriate academic and technical skills. Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation

CRP4. Communicate clearly and effectively and with reason. Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

CRP5. Consider the environmental, social and economic impacts of decisions. Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

CRP6. Demonstrate creativity and innovation. Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They

seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

CRP7. Employ valid and reliable research strategies. Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

NJSLS-ID.B1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

NJSLS-ID.B4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

NJSLS-ID.B5 Summarize categorical data for two categories in two-way frequency tables.

Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

NJSLS-ID.B6 Summarize categorical data for two categories in two-way frequency tables.

Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

NJSLS-IC3B. Make inferences and justify conclusions from sample surveys, experiments, and observational studies

Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

Essential Questions (3-5)

After a research question has been selected, what types of research design that can be used to answer the questions?

What research designs can be used to answer different types of questions?

How can variables change the outcome of a research project?

How does probability and statistics affect the answer to a thesis question?

What are the best practices in research integrity and ethics?

How does data reflect truth; and why is it said, “Data best surveyed and reported”?

Anchor Text	
N/A	
Informational Texts (3-5)	
World of Statistics	
Short Texts (1-3)	
Will vary based on individual research	
Formative & Summative Assessments	
End of year research project	
Resources (websites, Canvas, LMS, Google Classroom, documents, etc.)	
Internet Resources, Available Library Resources, Empirical Studies, GSuite, PCTI Statistics	
Suggested Time Frame:	15 Weeks

III. INSTRUCTIONAL STRATEGIES:

“Perfect Paper”**

Thinking Aloud Pair Processing**

Children’s Blocks

What do the answers say?

The National Geographic Documentary

Fewer the Better

Consistency in Thinking

Anticipation and Carly Simon

It all boils down to “I Like Cats”

Big Question Big Answer

Only Three Types of Incorrect Answers

Finding Strengths/Charting

Passage Mapping

Word Main Ideas

Plug-In

Back Solve

Guesstimate

Answers First

Taking the Conflict out of Conflicting Viewpoints

Reading (text and data) with a purpose

Finding the truth.

Using critical thinking to summarize, describe and compare data.

Using statistics to answer questions

Credible sources come from all places

Empirical vs. Data

Connecting a model to a purpose

Reading with a purpose

Comparing and contrasting different research styles and models

How to adjust to a reader’s constructive criticism

IV. Scope and Sequence:

Rhetorical Errors	4 weeks
Clauses/Sentence Structure	2 weeks
Punctuation	1 week
General Grammar	2 weeks
Full Practice Tests	1 week
Reading-“I like Cats”/Main Ideas	1-2 weeks
Passage Mapping	1-2 weeks
Anticipation/Reading-Question Types/R-F-I	1 week
Format/Sections/Scoring	1-2 weeks
Mathematics	1 week
Math Techniques	1 week
Pre and Elementary Algebra	
Back solve and Plug-in	1 week
Coordinate and Plane Geometry	
Back solve/Plug-in/Guesstimate	1 week
Intermediate Algebra	
Back solve and Plug-In	2 weeks
Trigonometry	
Back solve/Plug-in	1 week
Science- Data Representation	1 week
Science- Data Representation	2 weeks
Research Methods and Designs	3-4 weeks
Practice Research Project	10 weeks
Project Presentations	1 week

V. Textbooks:

The Official ACT Prep Guide
A-List Act Book of Knowledge