

Englewood Public School District

Physical Education

Grade 10

Unit 2: Basketball, Volleyball, and Lifetime Fitness

Overview: Students will continue to develop lifetime fitness habits through sports, such as basketball and volleyball. Coordination and balance will be emphasized as students also engage social skills. Students are expected to work together as they play team games with their peers. Sports as recreation and fitness is the goal.

Time Frame: One Marking Period

Enduring Understandings:

Body awareness and coordination are necessary components of a fit individual.

Balance, coordination, and flexibility are key components of basketball concepts.

Basketball and related activities can affect and benefit the overall health of an individual.

Understanding how volleyball can affect and benefit the overall health of an individual.

Essential Questions:

How can basketball increase the fitness level of each individual?

Which components of fitness does basketball implement?

What do balance, coordination, and flexibility have to do with the concepts and performance of basketball?

What components of fitness does ultimate volleyball encompass?

What do balance, coordination and flexibility have to do with the concepts and performance of volleyball?

How can volleyball increase the fitness level of each individual?

Standards	Topics and Objectives	Activities	Resources	Assessments
<u>Comprehensive Health and Physical Education</u> 2.5.12.A.1 Explain and demonstrate ways to apply movement skills from one game, sport, dance, or recreational activity to another (e.g., striking skills from/to tennis,	Topics		Equipment:	Formative Assessments:
	Basketball Objectives Students will know and be able to: <ul style="list-style-type: none"> Facilitate the learning of the rules, playing regulations, and 	Students will read an article about the WNBA and discuss the successes and obstacles that were faced. (NJSL RI 9-10.1) Students will then work in groups to research the history of women in basketball (all the way	<ul style="list-style-type: none"> Basketballs Pinies Cones Baskets Polly spots Basketball Unit, Kelli McLarty, Gustavus Adolphus College, http://homepages.gac.edu/~mwenstro/bballunit.pdf .	<ul style="list-style-type: none"> Prior knowledge assessment Teacher assessment-visual Teacher assessment-verbal Teacher observation of participation Teacher observation of skills performance Written and skills tests/quizzes

badminton, ping pong, racquetball).

2.5.12.A.2

Analyze application of force and motion (weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.

2.5.12.B.1

Demonstrate and assess tactical understanding by using appropriate and effective offensive, defensive, and cooperative strategies.

2.5.12.B.2

Apply a variety of mental strategies to improve performance.

2.5.12.B.3

Analyze factors that influence intrinsic and extrinsic motivation and employ techniques to enhance individual and team effectiveness.

2.5.12.C.1

Analyze the role, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance and behavior.

boundaries in the sport of basketball.

- Understand the different player positions on the court (ex. point guard, shooting guard, forward).
- Dribble a basketball correctly using both hands in a stationary position as well as while moving across the court with proper head and body position.
- Demonstrate the three types of passes used in basketball (ex. chest, bounce, overhead passes).
- Use proper form shooting from a stationary position.
- Demonstrate the understanding of the three basic shots in basketball (lay-up, foul shot, and jump shot).
- Demonstrate the proper defensive stance and position used in a variety of defenses.

back to the 19th century).
(WHST 9-10.7)

Students will discuss the historical connections between the information.
(RH 9-10.3)

Basketball Unit, Kelli McLarty, Gustavus Adolphus College

Basketball Showcase Unit Plan, Harper Creek High School, Brad Polnasek

- Rules
- Basketball Golf
- Backboard Pass
- King of the Hill
- Dot Drill Routine

Basketball Skills Unit, Cupertino High School

High School Physical Education Lesson Plans, Spark:

- This is How We Roll
- Basketball Practice Plan

Shooting, Basketball Lesson Plan, SCRIBD

Basketball Unit Plan, Hopton's Homeroom:

- Introduction
- Ball-Handling
- Passing
- Dribbling
- Shooting

Basketball Showcase Unit Plan, Harper Creek High School, Brad Polnasek
www.each.albion.edu/bpolnasek/files/2009/11/Basketball-Showcase-Unit-Plan.doc

Basketball Skills Unit, Cupertino High School
http://www.chs.fuhisd.org/cms/resources?d=x&folder_group_id=1313209788044&group_id=1313209788044&id=1319264968201

This is How We Roll, High School Physical Education Lesson Plans, Spark,
<http://www.sparkpe.org/physical-education/lesson-plans/high-school/>

Shooting, Basketball Lesson Plan, SCRIBD,
<https://www.scribd.com/doc/92754725/Basketball-Unit-2-Lesson-Plan-Intro-Shooting-Week-1>

Teacher Resources:

High School Basketball Training and Skills Development with Moore Management & OC Pride,
<https://youtu.be/r0FvmstE6u8>

Fabulous 15 Basketball Drills for All Ages, Teach Hoops,
<https://youtu.be/B1HGjkpyYfA>

- Projects/class assignments
- DMHS grading rubrics

Summative Assessments:

Lay-up Test Rubric, Cupertino High School, CA,
https://www.chs.fuhisd.org/cms/resources?d=x&folder_group_id=1313209788044&group_id=1313209788044&id=1319264968201

High School Basketball Skills Assessment, iRubric,
<https://www.rcampus.com/rubricshowc.cfm?code=CX78342&sp=yes&>

Basketball Shooting Peer Assessment, PE Central
<http://www.pecentral.org/LessonIdeas/ViewLesson.asp?ID=1184#.WgyKYEDryX0>

Fitness Test for Basketball, Topend Sports
<http://www.topendsports.com/sport/basketball/testing.htm>

Benchmark Assessment:
Common Formative Assessment

Alternative Assessments:

2.5.12.C.2

Develop rule changes to existing games, sports, and activities that enhance safety and enjoyment.

- Offense
- Defense
- Basketball Game
- Skills Test

Basketball Unit Plan,
Hopton's Homeroom
https://hoptonshomeroom.wikispaces.com/file/.../Basketball+Unit_Grade9_4+weeks.pdf

- Self-assessment
- Peer assessment

PE Games – Basketball
Shooting Game – Hot Spots,
The PE Specialist, Youtube,
https://youtu.be/xM_r3jNOyTQ

Secondary Lesson Plan, Mr.
Mohlis, Youtube,
<https://youtu.be/mSuZ-pZmYUI>

Additional Websites:

- www.pecentral.org
- www.pelinks4u.org
- www.educationworld.com
- www.teachers.net
- www.lesson-plans.theteacherscorner.net/pe
- www.lessonplanet.com

Comprehensive Health and Physical Education

2.5.12.A.1

Explain and demonstrate ways to apply movement skills from one game, sport, dance, or recreational activity to another (e.g., striking skills from/to tennis, badminton, ping pong, racquetball).

Topics

Volleyball

Objectives

Students will know and be able to:

- Perform fundamental skills such as bumping, setting, serving, and blocking.

Students will apply what they know about Newton's laws in the game of volleyball. Students collaborate with peers to create a video demonstration of the laws during a simulated volleyball game. **(HS.PS2-1)(NJSLS W 9-10.6)**

Equipment:

- Volleyballs
- Standards
- Nets
- Cones/boundary lines

Integrating video in classroom projects:
https://edtechteacher.org/tools/multimedia/video-classroom/Volleyball_Unit_Plan_Steven_Baker_Livonia_Public_Schools_MI

Formative Assessments:

- Teacher assessment-visual
- Teacher assessment-verbal
- Teacher observation of participation
- Teacher observation of skills performance
- Written/skills tests/quizzes
- Projects/class assignments

2.5.12.A.2

Analyze application of force and motion (weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.

2.5.12.B.1

Demonstrate and assess tactical understanding by using appropriate and effective offensive, defensive, and cooperative strategies.

2.5.12.B.2

Apply a variety of mental strategies to improve performance.

2.5.12.B.3

Analyze factors that influence intrinsic and extrinsic motivation and employ techniques to enhance individual and team effectiveness.

2.5.12.C.1

Analyze the role, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance and behavior.

2.5.12.C.2

Develop rule changes to existing games, sports,

- Understand and implement basic offensive and defensive techniques, both as a team and as individuals.
- Implement basic offensive and defensive positions on the court.
- Implement basic scoring principles, rotation principles, rules and regulations, safety concerns and understand the penalties for violations of these rules.
- Understand the dimensions of the playing court, boundaries and other areas of importance.
- Identify potential risks and dangers associated with physical activity and describe how to minimize these risks.
- Understand the importance of physical conditioning and its relationship to participation in the sport of volleyball.

Volleyball Unit Plan, Steven Baker, Livonia Public Schools, MI

Serve, Then Defend, SPARK High School PE Lessons

Foxtail Volleyball, Mike Bohannon, Great Activities, PE Matters!

Volleyball Drills and Games, Schoolyard Specialty:

- Volley Tennis
- Mini Volleyball
- 3rd Hits a Charm
- Royal Court Tournament

Volleyball Forearm Pass, PE Central

Volleyball Tennis, PE Central

Underhand Volleyball Serving Skills, PE Central

Volleyball Lesson Plan, Study.com

11th Grade Volleyball Unit Plan, Luke Merrill, Plymouth State University:

- Soccer Volleyball
- Juggle Juggle
- Warm Up Game

<https://msu.edu/~bakers12/Volleyball%20Unit%20Plan.html>

Serve, Then Defend, SPARK High School PE Lessons, <http://www.sparkpe.org/physical-education/lesson-plans/high-school/>

Foxtail Volleyball, Mike Bohannon, Great Activities, PE Matters! <https://greatactivitiesonline.com/foxtail-volleyball/>

Games, Schoolyard Specialty, <http://blog.schoolspecialty.com/physical-education/volleyball-drills-and-games-for-students-from-k-12/>

Volleyball Forearm Pass, PE Central, <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=2941#.Wg2SeUdryX0>

Volleyball Tennis, PE Central <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=8501#.Wg2S4kdryX0>

Volleyball Lesson Plan, Study.com <http://study.com/academy/popular/volleyball-lesson-plan.html>

11th Grade Volleyball Unit Plan, Luke Merrill, Plymouth State University:

- DMHS grading rubric

Summative Assessments:

Volleyball/Net Skills Quick Assessment, PE Central Assessment, <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=8023#.Wg2TCUdryX0>

Underhand Volleyball Serving Skills, PE Central <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=4580#.Wg2TZ0dryX0>

Volleyball Online Quiz, PE Central, <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=4931#.Wg2TikdryX0>

Alternative Assessments:

- Self-assessment
- Peer assessment

Volleyball Set Pass Peer Assessment, PE Central Assessment, <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=1200#.Wg2SZkdryX0>

Volleyball Forearm Pass Peer Assessment, PE

and activities that enhance safety and enjoyment.

Volleyball Unit Plan,
Rowan University
Department of Health and
Exercise Science:

- Introduction
- Passing
- Blocking
- Spiking
- Team Juggle
- Exhibition Game

Volleyball Lessons,
Bethany Berger,
Phillipsburg-Osceola
Senior High

- Volleyball Lesson 1 - Forearm Pass/Set
- Volleyball Lesson 3 – Game Play-Using All Hits
- Volleyball Lesson 4 – Game Play Variations

Students will create a poster demonstrating the key points in teaching someone how to play volleyball. Students will share their posters with another class. (NJSL SL 9-10.1)

www.plymouth.edu/eportfolio/artefact/file/download.php?file=149903&view...

Volleyball Unit Plan, Rowan University Department of Health and Exercise Science,
www.users.rowan.edu/~coluc19/unit.plan.volleyball.doc

Forearm Pass/Set, Bethany Berger, Phillipsburg-Osceola Senior High
<https://bethberger.weebly.com/lesson-plans.html>

Additional Websites:

- www.pecentral.org
- www.pelinks4u.org
- www.educationworld.com
- www.teachers.net
- www.lesson-plans.theteacherscorner.net/pe
- www.lessonplanet.com

Central Assessment,
<http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=1199#.Wg2SuEdryX0>

Comprehensive Health and Physical Education

2.5.12.A.2

Analyze application of force and motion (weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.

Topics

Lifetime Fitness

Objectives

Students will be able to:

- Demonstrate an understanding of the components of cardiovascular fitness

Students will read an article about diseases that can be prevented through exercise. Small groups of students will choose one of these and research in more detail the effects of exercise in preventing the disease.

Equipment:

- Hurdles
- Agility Ladder
- Floor hoops
- Medicine Balls
- Push-up mats
- Mats
- Running Man
- Exercise Dice
- FITT worksheets

Formative Assessments:

- Student rubric
- Pulse rate monitors
- Teacher Observations
- Written tests
- Performance charts
- Performance tests
- Skill tests

Summative Assessments:

2.5.12.B.2

Apply a variety of mental strategies to improve performance.

2.5.12.B.3

Analyze factors that influence intrinsic and extrinsic motivation and employ techniques to enhance individual and team effectiveness.

2.5.12.C.2

Develop rule changes to existing games, sports, and activities that enhance safety and enjoyment.

2.6.12.A.2

Design, implement, and evaluate a fitness plan that reflects knowledge and application of fitness-training principals. (FITT and additional training principles)

2.6.12.A.3

Determine the role of genetics, gender, age, nutrition, activity level, and exercise type on body composition.

2.6.12.A.4

Compare and contrast the impact of health-related fitness

- Demonstrate an understanding of the components of muscular strength
- Demonstrate an understanding of the components of muscular endurance
- Demonstrate an understanding of the components of flexibility
- Demonstrate an understanding of the components of core body strength
- Demonstrate an understanding of how proper nutrition, proper health habits affect overall fitness levels
- Demonstrate an understanding of proper safety measures associated with fitness training
- Demonstrate an understanding of proper warm up and cool down techniques and procedures.

(NJSLS SL9-10.1)(NJSLS W.9-10.7)

Cardiovascular Fitness Activities:

- Lecture and Demonstration
- Warm Up
- Circuit Training
- Jump rope Training
- Interval Training
- Walking for fitness
- Heart Rate Training with Pulse Monitors
- Commercial aerobic activities (Tac-Bo, Power 90, etc.)
- Weight Training
- Speed and Agility Training
- Fitness Games
- Dance

Muscular Strength Activities:

- Warm up and Cool down
- Stretching
- Weight Lifting
- Stretch Cords
- Balance Pads
- Core body activities
- Body weight activities
- Circuit training
- Speed and agility training
- Isometric

Muscular Endurance Activities:

- Stretching

Student Text:
Disease you can Prevent through exercise:
<https://parade.com/137935/michaeloshea/fight-disease-with-fitness/>

Lifetime Fitness Activities, LiveStrong.com,
<https://www.livestrong.com/article/119292-lifetime-fitness-activities/>

Teacher Resources:

Educators Doing Their Best to Make Lifelong Fitness Appealing to PE Students, 40 Athletic Business,
<https://www.athleticbusiness.com/high-school/educators-doing-their-best-to-make-lifelong-fitness-appealing-to-pe-students.html>

10 Ideas to Improve Your School's PE Program, SPARK,
<http://www.sparkpe.org/blog/10-ideas-to-improve-your-schools-pe-program/>

New PE Trend Stresses Fitness and Fun, Education World,
http://www.educationworld.com/a_curr/curr346.shtml

Lifetime Fitness Activity Log, OnlineHS.net,
http://www.onlinehs.net/page/activity/ActivityLog_Rubric.pdf.

Lifetime Fitness Rubric, Freeman High School, WA,
<https://www.freemansd.org/site/Default.aspx?PageType=3&DomainID=87&PageID=521&ViewID=c9e0416e-f0e7-4626-aa7b-c14d59f72f85&FlexDataID=4514>

Alternative Assessments:

- Self-assessment
- Peer assessment

Active Metabolic Assessment, Lifetime Fitness,
<https://shop.lifetimefitness.com/medias/Active-Metabolic-Assessment.pdf?context=bWFzdGVyfHJvb3R8NjU5NDk0fGFwcGxpY2F0aW9uL3BkZnNoMjMvaDZmLzg4MDc5MTQyNzQ4NDYucGRmfGRmODhmNjhlODZmOGE4MzBhMjdhZDZhZmMxZjNmYWYwM1ZjFIMzVIMDkyMGJmNzBhYWUxMzEzMjI2ZTNhZTI3ZDA>

**components as a
measure of fitness and
health.**

- Calisthenics
- Lecture and Demonstration
- Warm up
- Circuit Training
- Jump Rope Training
- Interval Training
- Walking for fitness
- Commercial Aerobic Activities (ie. Tae-Bo, Power 90, etc.)
- Speed and Agility Training
- Fitness Games
- Dance
- Medicine Ball Activities
- Balance Pads
- Stretch Cords

Flexibility Activities:

- Warm up and Cool down
- Lecture and Demonstration
- Stretching
- Static Stretching
- Partner Stretching
- Medicine Balls
- Balance Pads
- Dance

Core Body Strength Activities:

- Warm up and Cool down
- Lecture and Demonstration
- Stretching
- Physio Balls
- Medicine Balls

Nutrition, Health Habits:

- Lecture and Demonstration
- Nutrition and strength gains
- Nutrition and endurance
- Nutrition and sport performance
- Nutrition and recovery
- Effect of negative health habits on general fitness and athletic performance

Safety:

- Lecture and Demonstration
- Proper use of equipment
- Proper cleaning of equipment after use
- Use of safety equipment
- Understanding mechanics, capabilities and training thresholds for personal safety

Warm Up and Cool Down:

- Lecture and Demonstration
- Stretching
- Jogging
- Calisthenics
- Jump Rope
- Breathing Activities
- Game Activity
- Walking

Students will write a reflection about exercise and disease prevention, imagining themselves 20 years from now. (NJSLS W.9-10.10)

Key Vocabulary:

Basketball

- **Traveling** – A violation in which the ball-handler moves both feet to a different spot on the floor without dribbling.
- **Double Dribble** – A violation in which the ball-handler dribbles with both hands or when the ball-handler dribbles, picks up the dribble (stops dribbling) then dribbles again.
- **Jump shot** – a shot made while jumping
- **Lay up** – a one-handed shot made from near the basket, especially one that rebounds off the backboard
- **Foul shot** – a free throw made from the foul line
- **Offense** – the team with possession of the ball
- **Defense** – the team without possession of the ball
- **Zone Defense** – a defensive strategy based on individuals being responsible for defense of a particular area
- **Man to Man** – a defensive strategy based on individuals being responsible for defending against individual members of the opposing team
- **Point Guard** – the player who runs the team's offense by controlling the ball and making sure that it gets to the right players at the right time
- **Small Forward** – a versatile position who can score from long or short range
- **Center** – often the tallest player, the center is responsible for scoring close to the opposing basket and guarding close to their own
- **Shooting Guard** – a position that tends to take shots from outside the score zone
- **Dribbling** – consists of bouncing the ball on the floor continuously with one hand while walking or running down the court
- **Chest Pass** – a pass in which the ball is propelled away from the chest with a quick extension of the hands and arms
- **Carry** – occurs when the dribbling player continues to dribble after allowing the ball to come to rest in one or both hands
- **Bounce Pass** – a pass to a teammate that is made by bouncing the ball once
- **Overhead Pass** – a pass made by snapping the ball from behind the head to a teammate, similar to a throw-in in soccer
- **Scoring** – points accumulated by getting the ball into the basket, either as a field goal (2 or 3 points) or a free throw (1 point)

Volleyball

- **Regulation Game** – a match of volleyball played to 25 points, with the winning team winning by at least two points
- **Tournament Play** – matches of volleyball played in succession, with each winning team advancing to the next round
- **Pass/bump** – to pass the ball using locked forearms
- **Set** – the tactical skill in which a ball is directed to a point where a player can spike it into the opponent's court
- **Spike** – a ball contacted with force by a player on the offensive team who intends to terminate the ball on the opponent's floor or off the opponent's blocker
- **Serve** – used to put the ball into play by hitting it over the net to the opposing team
- **Block** – A defensive play by one or more front row players meant to deflect a spiked ball back to the hitter's court
- **10ft line** – the line that divides the front row players from the back row players
- **Scoring** – points accumulated by causing the opposing team to fail in passing the ball over the net within three attempts
- **Rotation** – the clockwise movement of players around the court and through the serving position following a side out
- **Dink** – a legal push of the ball around or over blockers

Integration of 21st Century Standards:

9.2.12.C.1 Review career goals and determine steps necessary for attainment.

Accommodations and Modifications:

Students with special needs: Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered. Additional safety precautions will be made along with additional staff so all student can fully participate in the standards associated with this curriculum.

ELL/ESL students: Students will be supported according to the recommendations for “can do’s” as outlined by WIDA - https://www.wida.us/standards/CAN_DOs/ This particular unit has limited language barriers due to the physical nature of the curriculum.

Students at risk of school failure: Formative and summative data will be used to monitor student success at first signs of failure student work will be reviewed to determine support this may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations. More time and will be made available with a certified instructor to aid students in reaching the standards.

Gifted and Talented Students: Students excelling in mastery of standards will be challenged with complex, high level challenges related to the complexity of the requirements.

English Language Learners	Special Education	At-Risk	Gifted and Talented
<ul style="list-style-type: none"> • Videos should include closed captions in student’s native language (as appropriate) • Speak and display terminology and movement • Relate to sports in students home country if new-comer • Teacher modeling • Peer modeling • Label classroom materials • Word walls 	<ul style="list-style-type: none"> • Utilize modifications & accommodations delineated in the student’s IEP • Change movement requirements • Focus on student’s attempts instead of precise form • Work with paraprofessional • Provide prompts and reminders • Break tasks into manageable chunks • Use multi-sensory teaching approaches. Textured balls, and other props provide helpful visual, auditory, and tactile reinforcement of ideas. • Work with a partner 	<ul style="list-style-type: none"> • Using visual demonstrations, illustrations, and models • Give directions/instructions verbally and in simple written format. • Review behavior expectations and make adjustments as needed. • Provide analogies (this is like...) 	<ul style="list-style-type: none"> • Students can present their research to another class • Students can prepare questions for an “interview” with a woman in sports • Students can create a brochure describing concussion prevention • Inquiry-based instruction • Higher order thinking skills • Adjusting the pace of lessons • Interest based content (other sports) • Real world scenarios • Student Driven Instruction

	<ul style="list-style-type: none"> ● Provide concrete examples and relate all new movements to previously learned moves (practice kicking into the air first). ● Solidify and refine concepts through repetition. 		
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Interdisciplinary Connections:

ELA - NJSLS/ELA:

RH.9-10.3. Analyze in detail a series of events described in a text; draw connections between the events, to determine whether earlier events caused later ones or simply preceded them.

RI.9-10.2. Determine a central idea of a text and analyze how it is developed and refined by specific details; provide an objective summary of the text.

NJSLS W.9-10.6. Use technology, including the Internet, to produce, share, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

WHST.9-10.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

NJSLS RI.9-10.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.) and make relevant connections, to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.

NJSLS SL.9-10.1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with peers on *grades 9–10 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.

W.9-10.10. 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, and audiences.

Science

HS-PS2-1 Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

Integration of Technology Standards NJSLS 8:

8.1.12.C.1 Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.

8.2.12.E.1 Demonstrate an understanding of the problem-solving capacity of computers in our world.

Career Ready Practices:

CRP2. Apply appropriate academic and technical skills

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.