Englewood Public School District
Mathematics
Grade 3
Third Marking Period

Unit – Time and Geometry

Overview: During this unit, students will learn about time, area, perimeter and classifying polygons.

Time Frame: Chapter 16 – 10 days, Chapter 19 – 12 days, Chapter 18 – Lesson 18.1 – 3 days
(Pacing includes 1 day for Chapter Opener pages if needed.)

Enduring Understandings:
Time can be used to tell when activities start and end, or how long an activity will last.
Explore and understand units used to find perimeter and area of figures and analyze the relationship between them.
Polygons can be classified by the number of sides, corners, and angles.

Essential Questions:
Why is telling time important?
Why do you need to be able to figure out area and perimeter of spaces and objects?
Where do you see shapes in real life?

Standards	Topics and Objectives	Activities	Resources	Assessments
Chapter 16 (skip 16.6-16.7)				
3.MD.A.1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. **3.MD.B.4.** Generate measurement data by	**Topics** Time is a measurement concept that can be used to tell when activities start and end as well as how long they last. Twenty-First Century Themes and Skills include: • Creativity and Innovation	**Math Playground** http://www.mathplayground.com/ **Math Coach – Fact Fluency** http://schoolwires.henry.k12.ga.us/Page/21865 **Math Wire – Basic Facts Link** http://mathwire.com/nu	**SE-3B:** 223-247 **Workbook 3B:** 147-162 **Common Core Focus Lesson Appendix** **Think Central**: Online access to all Math in Focus materials listed above and Virtual Manipulatives (8.1.5.D.4)	**Formative Assessments:** • Do Now • Exit Ticket • Math Journal Entries (CRP4) • Math notebook (NJSLSA.W2.) • Calendar skills • Observations • Discussions: in groups, have students explain

measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

Mathematical Practices
MP.1, MP.2, MP.4, MP.5, MP.6

- Critical Thinking and Problem Solving
- Communication and Collaboration

Objectives

Students will be able to:
- Tell time to the minute.
- Read time on a digital clock.
- Add time with and without regrouping.
- Subtract time with and without regrouping.
- Find elapsed time.

mbersense/bfactslinks.html

Math Fact Practice
http://www.playkidsgames.com/games/mathfact/mathFact.htm

Critical Thinking and Problem Solving p.259: Put on Your Thinking Cap!

5 hands on ways to teach telling time:
https://www.weareteachers.com/5-hands-on-ways-to-teach-telling-time/ (9.2.4.A.2)

Children's books:
https://www.the-best-childrens-books.org/math-for-kids.html
- Just a second – a different way to look at time: *by Steve Jenkins*
- About time – a first look at time and clocks: by Bruce Koscielniak (9.2.4.A.2)(NJSLAR1)

Professional Resources:
The Model Method from the Ministry of Education Singapore and Bar Modeling: A Bar Modeling Tool by Yeap Ban Har, PhD.

Lesson and Component Walkthrough:
www.hmhelearning.com

Technology Resources
- Math in Focus eBooks
- Math in Focus Teacher Resources CD

Arizona Flip Book:
http://www.azed.gov/azcommoncore/files/2012/11/3flipbookedited_2.pdf

North Carolina Dept of Ed. Wikispaces:
http://maccss.ncdpi.wikispaces.net/Elementary

Standards Solution Lessons:
- **PARCC Lesson 15** - PBA
- **CCSS Lesson Plan:** Time Travels
- **CCSS Prescriptive Lesson Plan:** Elapsed Time

Worksheets, games, lessons, activities:

different ways of solving problems (CRP4)

Summative Assessments:
Math in Focus Assessments
- Chapter Review/Test – pp 262-263
- Assessments 3 – pp.128-132
- ExamView Assessment Suite – Test and Practice Generator
- Performance Task

Benchmark Assessments:
- Exact Path
- Common Formative Assessment

Alternative Assessments:
- Online assessments: https://www.opened.com/search?area=mathematics&grade=3&resource_type=assessment (CRP2, CRP4, CRP8)
- Learning centers:

		More additional texts: www.newsela.com www.readworks.org www.commonlit.org	**https://www.education.com/resources/third-grade/math/** (CRP2, CRP4, CRP8) **3rd grade classroom assessments:** **https://www.opened.com/search?area=mathematics&grade=3&resource_type=assessment** (CRP2, CRP4, CRP8) **3rd grade worksheets:** **https://www.k5learning.com/free-math-worksheets/third-grade-3** (CRP2, CRP4, CRP8)	each learning center focuses on a different type of problem • Graphic Organizers https://www.understood.org/en/school-learning/learning-at-home/homework-study-skills/download-graphic-organizers-to-help-kids-with-math (8.1.5.A.3)

Chapter 19

3.NBT.A.2. **Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.** 3.MD.C.5. **Recognize area as an attribute of plane figures and understand concepts of area measurement.** a. **A square with side length 1 unit, called "a unit square," is said to**	**Topics** Exploring, understanding, and analyzing the relationship between units that are used to find area and perimeter of figures. Twenty-First Century Themes and Skills include: • Creativity and Innovation • Critical Thinking and Problem Solving • Communication and Collaboration	**Math Playground** http://www.mathplayground.com/ **Math Coach – Fact Fluency** **http://schoolwires.henry.k12.ga.us/Page/21865** **Math Wire – Basic Facts Link** **http://mathwire.com/numbersense/bfactslinks.html** **Math Fact Practice**	**SE-3B:** 347-387 **Workbook 3B:** 215-242 **Common Core Focus Lesson Appendix** **Think Central**: Online access to all Math in Focus materials listed above and Virtual Manipulatives (8.1.5.D.4) **Professional Resources:** The Model Method from the Ministry of Education Singapore and Bar	**Formative Assessments:** • Do Now • Exit Ticket • Math Journal Entries (CRP4) • Math notebook (NJSLSA.W2.) • Calendar skills • Observations • Discussions: in groups, have students explain different ways of solving problems (CRP4)

have "one square unit" of area, and can be used to measure area.
b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.

3.MD.C.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3.MD.C.7. Relate area to the operations of multiplication and addition.

a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

c. Use tiling to show in a concrete case that the area

Objectives

Students will be able to:
- Understand the meaning of area.
- Use square units to find the area of plane figures made of squares and half squares.
- Compare area of plane figures and make plane figures of the same area.
- Use square centimeter and square inch to find and compare area of figures.
- Use square meters and square feet to find and compare the area of plane figures.
- Estimate the area of small and large surfaces.
- Understand the meaning of perimeter.
- Find the perimeter of figures formed using small squares.
- Compare the area and perimeter of two figures.
- Find the perimeter of a figure by adding up all its sides.
- Choose the appropriate tool and units of length

http://www.playkidsgames.com/games/mathfact/mathFact.htm

Critical Thinking and Problem Solving p.381: Put on Your Thinking Cap!

Perimeter of a polygon: https://www.superteacherworksheets.com/geometry/perimeter-3_TZFFD.pdf?up=1466611200

Children's books: https://www.the-best-childrens-books.org/math-for-kids.html

More additional texts: www.newsela.com
www.readworks.org
www.commonlit.org

Modeling: A Bar Modeling Tool by Yeap Ban Har, PhD.

Lesson and Component Walkthrough: www.hmhelearning.com

Technology Resources
- Math in Focus eBooks
- Math in Focus Teacher Resources CD

Arizona Flip Book: http://www.azed.gov/azcommoncore/files/2012/11/3flipbookedited_2.pdf

North Carolina Dept of Ed. Wikispaces: http://maccss.ncdpi.wikispaces.net/Elementary

Standards Solution Lessons:
- **PARCC Lesson 18** - Type I Practice- MD domain
- **PARCC Lesson 18** - PBA
- **CCSS Lesson Plan:** Building an Understanding of Area
- **CCSS Lesson Plan:** Area and Perimeter
- **CCSS Prescriptive Lesson Plan:** Area and Tiling
- **CCSS Prescriptive**

Summative Assessments:
Math in Focus Assessments
- Chapter Review/Test – pp 384-387
- Assessments 3 – pp.154-158
- ExamView Assessment Suite – Test and Practice Generator
- Performance Task

Alternative Assessments:
- Online assessments: https://www.opened.com/search?area=mathematics&grade=3&resource_type=assessment (CRP2, CRP4, CRP8)
- Learning centers: each learning center focuses on a different type of problem
- Graphic Organizers https://www.understood.org/en/school-learning/learning-at-home/homework-

of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

   d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

3.MD.D.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Mathematical Practices
MP.1, MP.2, MP.3, MP.5, MP.6, MP.8

- to measure perimeter.
- Measure the perimeter of surfaces of objects and places.

Lesson Plan: Perimeter

Worksheets, games, lessons, activities:
https://www.education.com/resources/third-grade/math/
(CRP2, CRP4, CRP8)

3rd grade classroom assessments:
https://www.opened.com/search?area=mathematics&grade=3&resource_type=assessment
(CRP2, CRP4, CRP8)

3rd grade worksheets:
https://www.k5learning.com/free-math-worksheets/third-grade-3
(CRP2, CRP4, CRP8)

Common core skills:
http://www.commoncoresheets.com/Area.php
(CRP2, CRP4, CRP8)

Super teacher (registration required):
https://www.superteacherworksheets.com/perimeter.html

Math salamander worksheets:
https://www.math-salamanders.com/perimeter-

study-skills/download-graphic-organizers-to-help-kids-with-math (8.1.5.A.3)
- PARCC Rubrics

worksheets.html
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Chapter 18.1 only

3.G.A.1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. *Mathematical Practices* **MP.3, MP.5, MP.6**	**Topics** Using the number of sides, corners, and angles to classify polygons. Twenty-First Century Themes and Skills include: • Creativity and Innovation • Critical Thinking and Problem Solving • Communication and Collaboration **Objectives** Students will be able to: • Identify open and closed figures. • Identify special polygons and quadrilaterals. • Classify polygons by the number of sides, vertices, and angles. • Classify quadrilaterals by parallel sides, length of sides, and angles.	**Math Playground** http://www.mathplaygrou nd.com/ **Math Coach – Fact Fluency** **http://schoolwires.henry. k12.ga.us/Page/21865** **Math Wire – Basic Facts Link** **http://mathwire.com/nu mbersense/bfactslinks.ht ml** **Math Fact Practice** **http://www.playkidsgam es.com/games/mathfact/ mathFact.htm** **Critical Thinking and Problem Solving** p.337: Put on Your Thinking Cap! **Super teacher polygon worksheet:** https://www.superteacher worksheets.com/geometry	**SE-3B:** 303-319 **Workbook 3B:** 199-206 **Common Core Focus Lesson Appendix** **Think Central**: Online access to all Math in Focus materials listed above and Virtual Manipulatives (8.1.5.D.4) **Professional Resources:** The Model Method from the Ministry of Education Singapore and Bar Modeling: A Bar Modeling Tool by Yeap Ban Har, PhD. **Lesson and Component Walkthrough:** www.hmhelearning.com **Technology Resources** • Math in Focus eBooks • Math in Focus Teacher Resources CD **Arizona Flip Book:**	**Formative Assessments:** • Do Now • Exit Ticket • Math Journal Entries (CRP4) • Math notebook (NJSLSA.W2.) • Calendar skills • Observations • Discussions: in groups, have students explain different ways of solving problems (CRP4) **Summative Assessments:** *Math in Focus Assessments* • Chapter Review/Test – pp 340-342 • Assessments 3 – pp.146-149 • ExamView Assessment Suite – Test and Practice Generator

• Combine and separate polygons to make other polygons	/polygons_TZFMZ.pdf?up=1466611200 **Super teacher polygon and solids worksheets:** https://www.superteacherworksheets.com/geometry/solids-poly_TZFNB.pdf?up=1466611200 () **Children's books:** https://www.the-best-childrens-books.org/math-for-kids.html **More additional texts:** www.newsela.com www.readworks.org www.commonlit.org	http://www.azed.gov/azcommoncore/files/2012/11/3flipbookedited_2.pdf **North Carolina Dept of Ed. Wikispaces:** http://maccss.ncdpi.wikispaces.net/Elementary **Standards Solution Lessons:** • **PARCC Lesson 17** - Type I Practice- G domain • **CCSS Prescriptive Lesson Plan:** Finding Shared Attributes **Worksheets, games, lessons, activities:** **https://www.education.com/resources/third-grade/math/** (CRP2, CRP4, CRP8,) **3rd grade classroom assessments:** **https://www.opened.com/search?area=mathematics&grade=3&resource_type=assessment** (CRP2, CRP4, CRP8) **3rd grade worksheets:** **https://www.k5learning.com/free-math-worksheets/third-grade-3** (CRP2, CRP4, CRP8)	**Alternative Assessments:** • Online assessments: https://www.opened.com/search?area=mathematics&grade=3&resource_type=assessment (CRP2, CRP4, CRP8) • Learning centers: each learning center focuses on a different type of problem • Graphic Organizers https://www.understood.org/en/school-learning/learning-at-home/homework-study-skills/download-graphic-organizers-to-help-kids-with-math (8.1.5.A.3) • PARCC Rubrics

Key Vocabulary:
 Chapter 16:
hour, past, minute, to, elapsed time, timeline

Chapter 19:
area, square units, square centimeter (cm²), square inch (in²), square meter (m²), square foot (ft²), perimeter

Chapter 18.1:
plane figure, open figure, closed figure, polygon, vertex, quadrilateral, parallel, rhombus, parallelogram, octagon, pentagon

NJ Learning Standards Vocabulary:
3.MD.A.1
Solve problems involving measurement and estimation of intervals of time
estimate, time, time intervals, a.m., p.m., digital clock, analog clock, minute, hour, elapsed time

3.MD.B 4
Represent and interpret data.
line plot, data

3.MD.C.5, 6, & 7
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

attribute, area, square unit, plane figure, gap, overlap, square cm, square m , square in., square ft, nonstandard units, tiling, side length, decomposing

3.MD.D.8
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
attribute, perimeter, plane figure, linear, area, polygon, side length

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. 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 staff should be included so all students 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/

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 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**.**

English Language Learners:	Special Education:	At-Risk:	Gifted and Talented:
- Teaching modeling - Peer modeling - Word walls - Give directions in small steps and in as few words as possible - Provide visual aids - Group similar problems together - Repeat directions when necessary - Provide a vocabulary list with definitions	- Utilize modifications & accommodations delineated in the students' IEP - Work with paraprofessional - Work with a partner - Shorten assignments to focus on mastery or key concepts - Maintain adequate space between desks - Keep workspaces clear of unrelated materials - Provide fewer problems to attain passing grades	- Use visual demonstrations, illustrations and models - Give directions / instructions verbally and in simple written format - Peer support - Increased one – on – one time - Teachers may modify instructions by modeling what the student is expected to do - Instructions may be printed out in large print and hung	- Inquiry based instruction - Independent study - Higher order thinking skills - Adjusting the pace of the lessons - Real world scenarios - Student driven instruction - Allow students to complete an independent project as an alternative test

	• Tape a number line to the students desk • Create a math journal that they can use during class, on assignments and (if teacher allows) on assessments • Provide extra time to complete a task when needed • Provide definitions of different graphs / charts with illustrations • Allow tests to be taken in a separate room • Allow students to use a calculator when appropriate • Divide test into small sections of similar questions or problems	up for the students to see during the time of the lesson • Review behavior expectations and made adjustments • Create a math journal that they can use during class, on assignments and (if teacher allows) on assessments • Allow students to complete an independent project as an alternative test	

Interdisciplinary Connections: ELA

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.
NJSLSA RI.7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
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.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking

Integration of Technology Standards NJSLS:
8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

21st Century Standards

9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community.

Career Ready Practices:

CRP2: Apply appropriate academic and technical skills
CRP4: Communicate clearly and effectively and with reason
CRP6: Demonstrate creativity and innovation
CRP8: Utilize critical thinking to make sense of problems and persevere in solving them

<mark style="background-color:#00ff00">Major</mark> <mark style="background-color:#00ffff">Supporting</mark> <mark style="background-color:#ffff00">Additional</mark> (Identified by PARCC Model Content Frameworks)