BOE Approved 8/18

Cliffside Park Public Schools Grade 2

Mathematics:

Topic Name: Topic 5: Subtract Within 100 Using Strategies

Resource: enVision Math 2.0, Pearson, 2016

Duration: November (11 days)

Enduring Understanding

- Patterns on a hundred chart can be used to subtract numbers and to develop mental math strategies and number sense.
- You can represent how to subtract tens from a two-digit number with hops or jumps on an open number line.
- Two-digit numbers can be broken apart using tens and ones to subtract in different ways. You can represent how you break apart and subtract numbers with hops or jumps on an open number line.
- Two-digit numbers can be broken apart using tens and ones to subtract in different ways. You can represent how you break apart and subtract numbers with hops or jumps on an open number line. You can count back or add up to subtract.
- One-digit numbers can be broken apart to make it easier to subtract them mentally.
- Two-digit numbers can be broken apart to make it easier to subtract them mentally.
- When subtracting two-digit numbers, you can add the same amount to both numbers in the problem, or you can subtract the same amount from both numbers in the problem, to make subtraction easier.
- You can use bar diagrams, equations, and the relationship between addition and subtraction to help you solve one- and two-step word problems. In the case of two-step problems, you need to find the answer to the first step, and then use it to solve the second step.
- Good math thinkers use math to explain why they are right. They can talk about the math that others do, too.

Essential Questions

- What are strategies for subtracting numbers to 100?

Focus of Standards

Student Outcomes	Skills	Assessments	Resources

● I can use a hundred chart to subtract tens and ones. ● I can use an open number line to subtract tens. ● I can use and open number line to subtract tens and ones. ● I can add up to subtract using an open number line. ● I can break apart 1-digit numbers to help me subtract mentally. ● I can break apart 2-digit numbers to help me subtract. ● I can make numbers that are easier to subtract, then use mental math to find the difference. ● I can solve one- and two-step problems using addition or subtraction. ● I can critique the thinking of others by using what I know about addition and subtraction.	● Solving problems ● Understanding concepts ● Reasoning	**Formative** ● Diagnostic assessment ● Exit tickets ● Round robin group work ● Analysis of homework ● Class polls ○ Show of hands: 1 for all set, 2 for just ok, 3 for help ● One thing I learned/One thing I need work on **Summative** ● End topic tests ● Post group topic ● EOY tests ● SGO tests **Benchmark** ● Diagnostic Assessment ● Pearson benchmark tests **Alternative** ● Math diagnosis and intervention system 2.0 ● Reteaching Set	**Envision Math 2.0** **Digital:** ● *Student and Teacher eTexts* ● *Interactive Math story* ● *Home-School Connection* **Classroom Math Materials** ● Hundred Chart ● Open Number Lines ● Index Cards ● Place-value blocks ● Break-Apart Strategies ● Compensation Strategies ● Bar Diagrams

		• Online Learning ○ Games • Higher Order Thinking Problems • Leveled homework and practice • Center games • One on one conferencing	

Vocabulary
No new vocabulary

NJSLS Math Standards
Operations and Algebraic Thinking
2.OA.A.1- Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Number and Operations in Base Ten
2.NBT.B.5- Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
2.NBT.B.9- Explain why addition and subtraction strategies work, using place value and the properties of operations.

Standards for Mathematical Practice
MP1. Make sense of problems and persevere in solving them.
MP2. Reason abstractly and quantitatively.
MP3. Construct viable arguments and critique the reasoning of others.
MP4. Model with mathematics.
MP5. Use appropriate tools strategically.
MP6. Attend to precision.
MP7. Look for and make use of structure.
MP8. Look for and express regularity in repeated reasoning.

Career Ready Practices
CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

NJSLS Technology Standards
8.1 Educational Technology
E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
8.2 Technology Education, Engineering, Design, and Computational Thinking
E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.
8.2.2.E.1 List and demonstrate the steps to an everyday task.

Interdisciplinary Connections
NJSLS for ELA and Science are introduced, developed, and practiced in the context of learning math content and engaging in mathematical practices.
ELA

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

- RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
- RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

Science

- 2-LS4-1 Scientists look for patterns and order when making observations about the world.
- 2-ESS2-1 Compare multiple solutions to a problem.

Key Subjects and 21st Century: Themes Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:

• Global Awareness
• Financial, Economic, Business and Entrepreneurial Literacy

9.1.4.A.2 Identify potential sources of income
9.1.4.C.5 Determine the relationship among income, expense and interest
9.1.4.D.2 Explain what it means to “invest”.

Integrated Differentiation/Accommodations/Modifications *(Alternate Modes of Instruction and Support)*		
Modifications to Support Gifted and Talented Students	**Modifications to Support English Language Learners**	**Modifications to Support Our Learners (Students with IEPs/504s and At-Risk Learners**
Provide appropriate challenge for wide ranging skills and development areas.	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)	Review student individual educational plan and/or 504 plan.

Participate in inquiry and project-based learning units of study Assigning roles within partnerships Differentiated supports: content, process, product, environment	Pair visual prompts with verbal presentations Front load and immerse students in literacy and language experiences related to content Provide students with visual models, sentence stems, concrete objects, and hands-on materials. Model procedures for life skills. Collaboration between ELL and general education teacher to maximize learning	Establish procedures for accommodations and modifications for assessments as per IEP/504. Establish procedures for modification of classwork and homework as per IEP/504. Modify classroom environment to support academic and physical needs of the students as per IEP/504. Provide appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team. Differentiation through content, process, product, environment Provide Title I services to students not meeting academic standards in ELA and/or Math. Provide instructional adaptations and interventions in the general education classroom. Modify classroom environment to support student needs. Differentiated instruction Basic Skills Intensive individual intervention

Sources

New Jersey Student Learning Standards (2016) http://www.state.nj.us/education/cccs/2016/math/standards.pdf
New Jersey Student Learning Standards: Technology (2014) - http://www.state.nj.us/education/cccs/2014/tech/8.pdf
New Jersey Student Learning Standards: ELA (2014) - https://www.state.nj.us/education/cccs/2016/ela/g02.pdf
New Jersey Science and Engineering Practices - https://www.state.nj.us/education/aps/cccs/science/resources/QRk2.pdf

Pearson enVision 2.0 (2016) https://www.pearsonrealize.com/index.html#/