BOE Approved 8/18

Cliffside Park Public Schools Grade 2

Mathematics

Topic Name: Topic 6: Fluently Subtract Within 100, Topic 7: More Solving Problems Involving Addition and Subtraction

Resource: enVision Math 2.0, Pearson, 2016

Duration: December (19 days)

Enduring Understanding

Topic 6

- To subtract, sometimes it is necessary to regroup 1 ten as 10 ones.
- You can use pencil and paper to subtract and to record the regrouping in the tens and ones places.
- The standard subtraction algorithm can be used to break the calculation into simpler steps, starting with the ones and then moving to the tens.
- The standard algorithm for subtracting a two-digit number from a two-digit number is just an extension of the algorithm for subtracting a one-digit number from a two-digit number.
- You can use pencil and paper to subtract a two-digit number from a two-digit number.
- The inverse relationship between addition and subtraction can be used to solve and check subtraction.
- Subtraction problems involving two-digit numbers can be solved using subtraction strategies or the standard subtraction algorithm. When using the algorithm, if there are not enough ones to subtract, then regroup 1 ten as 10 ones before subtracting the ones, and then the tens.
- The relationship between addition and subtraction can be used to solve one-step and two-step word problems. In the case of two-step problems, the answer to the first step must be found before solving the second step.
- Good math thinkers know how to think about words and numbers to solve problems.

Topic 7

- You can write equations to model and solve word problems using a symbol, such as a question mark (?), to represent the unknown.
- You can use drawings and equations to make sense of the words in word problems; and you can use strategies and algorithms to solve the problems and to check your work.

- Sometimes a problem has an unstated, or hidden, question that you need to answer before you can find the final answer.
- Sometimes the answer to one problem is needed to find the answer to another problem.
- Good math thinkers know how to think about words and numbers to solve problems.

Essential Questions

Topic 6

- What are strategies for subtracting numbers to 100?

Topic 7

- How can you solve word problems that use adding and subtracting?

Focus of Standards

Student Outcomes	**Skills**	**Assessments**	**Resources**
Topic 6 ● I can exchange one ten for ten ones. ● I can use place value and models to subtract 2-digit and 1-digit numbers. ● I can use place value and regrouping to subtract. ● I can use place value and models to subtract 2-digit numbers. ● I can use place value to subtract 2-digit numbers. ● I can add to check my subtraction. ● I can subtract 2-digit numbers and decide when to regroup and when not to regroup. ● I can use models and equations to solve word	● 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	**Envision Math 2.0** **Digital** ● *Student and Teacher eTexts* ● *Interactive Math story* ● *Home-School Connection* **Classroom Math Materials** ● Place-value blocks ● Place-value Mat A

problems. ● I can reasons about word problems and use bar diagrams and equations to solve them. **Topic 7** ● I can model problems using equations with unknowns in any position. ● I can use drawings and equations to make sense of the words in problems. ● I can use drawings and equations to make sense of the words in problems. ● I can model and solve two step problems using equations. ● I can use different ways to solve two step problems. ● I can use reasoning to write and solve number stories.		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 ● Online Learning ○ Games ● Higher Order Thinking Problems ● Leveled homework and practice ● Center games ● One on one conferencing	● Index cards ● Tens and Ones Chart ● 2-digit Subtraction Guide ● Number Cubes ● Connecting Cubes ● Bar Diagrams ● 2-Digit Subtraction Guide ● Counters ● Place-Value blocks ● Red and Blue Cubes ● Comparison Bar Diagrams ● 30 teacher-made “faces” drawn on paper circles
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”.

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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. Participate in inquiry and project-based learning units of study Assigning roles within partnerships Differentiated supports: content, process, product, environment	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) 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	Review student individual educational plan and/or 504 plan. 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#/