

Number Crunching

Pillar: Active Living

Division II

Grade Level: 4-5

Core Curriculum Connections: Mathematics

I. Rationale: This math activity is sure to work both the body and the mind as it builds students' confidence in mastering their multiplication tables while simultaneously strengthening their abdominal and core muscles. Problem solving can also be incorporated into this activity allowing students to explore and employ various mental math strategies to practice and develop greater proficiency with calculations. In addition, students also appreciate the opportunity to demonstrate their creativity and stamina as they design their own sets of curl-ups, challenging themselves to crunch numbers and their bodies. Get ready - it's crunch time!

II. Prerequisites: Students should be taught the correct form and technique of a proper curl-up and be provided with examples of variations to the regular crunch to incorporate into their exercises.

III. Curriculum Outcomes: Mathematics

Strand: Number General Outcome: Develop number sense	
Grade 4	Grade 5
<p>Specific Outcomes:</p> <p>5. Describe and apply mental mathematics strategies, such as:</p> <ul style="list-style-type: none"> • skip counting from a known fact • using doubling or halving • using doubling or halving and adding or subtracting one more group • using patterns in the 9s facts • using repeated doubling to determine basic multiplication facts to 9×9 and related division facts. [C, CN, ME, R] 	<p>Specific Outcomes:</p> <p>3. Apply mental mathematics strategies and number properties, such as:</p> <ul style="list-style-type: none"> • skip counting from a known fact • using doubling or halving • using patterns in the 9s facts • using repeated doubling or halving to determine, with fluency, answers for basic multiplication facts to 81 and related division facts. [C, CN, ME, R, V]

IV. Procedure:

- Students do sets of different types of crunches and count the total number by using various mental math strategies to reinforce their multiplication skills. For example, a regular crunch and alternate side crunches could form a set of three. Students do several sets and use skip counting using only the multiples (3, 6, 9, 12, 15, etc.).
- Partners can then ask additional math questions (If you did five sets of five different crunches, how many total crunches would you have done?).

- For each sequence of crunches the students design, have them use a different mental math strategy to calculate the total numbers of crunches they completed. They will need to multiply the number of different crunches in their set by the number of sets they did to arrive at the total number of crunches.

V. Extensions and Variations:

- Reduce or increase the number of crunches in a set depending on grade level. Use higher or lower multiples. Ask division, addition, or subtraction questions. Apply progression techniques, such as adding more sets each week.
- Have the student make up a math word problems using sets of crunches. For example, "Joe does four sets of four crunches. Mary does five sets of three crunches. Who does more crunches? How many more?"

VI. Assessment Ideas:

- Informal assessment may take place while students are completing the activity. Ask students multiplication questions related to their sets of crunches and have them explain how they arrived at their answer (which mental math strategy did they use?).

VI. Source:

- lesson idea adapted from [PE Central](#).