

2 PPS Unit 4 Developing Multiplication: I Speak Pom Pom (coding and encryption)

Standards:

2.OA.C. Work with equal groups of objects to gain foundations for multiplication.

2.OA.C.3. (A1, A2) Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

2.OA.C.4. (A3, A4, A5) Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

2.G.A. Reason with shapes and their attributes.

2.G.A.2 (B1, B2) Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

MP.8. Look for and express regularity in repeated reasoning.

Big Idea(s): Grouping allows efficient real world organization.

Essential Questions: How do different operations affect numbers? (MP#8)

How are arrays and repeated addition related? (MP#8)

Day 1	Day 2	Day 3	Day 4	Day 5
Learning Target(s): Essential Question Introduction to Patterns Teaching Point: Assessment: Resources: Context Day Intro Snowball Idea I Speak Pom Pom (Galaxy in pom-pom, matter in pom-pom, a word in pom pom, array in pom pom) Galaxy-Math- basic array Language- A word	Learning Target(s): A1. I will determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; A2. I will write an equation to express an even number as a sum of two equal addends Teaching Point: Today we will identify odd and even numbers Assessment: Resources:	Learning Target(s): A1. I will determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; A2. I will write an equation to express an even number as a sum of two equal addends Teaching Point: Today we will identify odd and even numbers using doubles and doubles plus one equations. Assessment: Resources: Matching socks	Learning Target(s): A1. I will determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; A2. I will write an equation to express an even number as a sum of two equal addends Teaching Point: Today we will explain odd and even numbers to our partners and how we know. (Center, speech bubbles) Assessment: Assessment 3.0 OA.C.3 (as exit ticket)	Learning Target(s): A1. I will determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; A2. I will write an equation to express an even number as a sum of two equal addends Teaching Point: Today we will solve a problem about odd or even without numbers using our superpower of patterns. Assessment:

Solid/Liquid/Gas Which concept goes to which pattern?			Resources:	Resources: Context Day Vat of Pom Poms Are there odd/even number? Which pattern will you use to solve?
Day 6	Day 7	Day 8	Day 9	Day 10
Learning Target(s): B1. I will partition a rectangle into rows and columns of same-size squares. B2. I will count to find the total number squares in a partitioned rectangle. Teaching Point: Today we will partition a rectangle using equal size squares into rows and columns. Assessment: Resources: Centers with post-it notes	Learning Target(s): B1. I will partition a rectangle into rows and columns of same-size squares. B2. I will count to find the total number squares in a partitioned rectangle. Teaching Point: Assessment: Resources: Note: Perfection game as center (Odd even)	Learning Target(s): B1. I will partition a rectangle into rows and columns of same-size squares. B2. I will count to find the total number squares in a partitioned rectangle. Teaching Point: Assessment: 3.0 Assessment/G2 Resources:	Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources:	Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources

Students will have to find the squares that fit into the rectangle.				:
Day 11	Day 12	Day 13	Day 14	Day 15
Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources:	Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources:	Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources: Context Day: Secret code messages	Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources:	Learning Target(s): A3. I will find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns array using addition. A4. I will make rectangular arrays. A5. I will write an equation to express the total as a sum of equal addends. Teaching Point: Assessment: Resources:

Day 16	Day 17	Day 18	Day 19	Day 20
Learning Target(s): Teaching Point: Assessment: Resources: Match the necklace	Learning Target(s): Teaching Point: Assessment: Resources:	Learning Target(s): Teaching Point: Assessment: Resources:	Learning Target(s): Teaching Point: Assessment: Resources:	Learning Target(s): Teaching Point: Assessment: Resources: