APL (Active Playful Learning) Learning Experience Title: Making Connections to Odd and Even Numbers

<table>
<tr><td>Grade Level or Course</td><td colspan="3">2nd Grade</td></tr>
<tr><td>Quarter # Unit #:
Unit Title</td><td colspan="3">Quarter 1-2, Unit 3: Thinking Flexibly to 120</td></tr>
<tr><td rowspan="2">Featured APL Practice:</td><td>Small & Paired Groups  </td><td>Student Contributions  </td><td>Hands-on & Minds-on  </td></tr>
<tr><td>Voice & Choice  </td><td>Meaningful Connections  </td><td>Enthusiasm & Positivity  </td></tr>
<tr><td>APL Summary
Briefly describe connection between lesson and APL practice</td><td colspan="3">The plot of the book, Bean Thirteen, revolves around 2 bugs who attempt to share 13 beans, only to find that there is 1 left over. This provides a literary connection as well as an opportunity for students to relate to real life scenarios in which they've had to split a set evenly with a friend or family member. Students will engage in a hands-on inquiry to build understanding of odd and even numbers, to create definitions for "odd" and"even, and to discover patterns about odd and even numbers.</td></tr>
<tr><td>Suggested Pacing
# of minutes does not include your intervention
Unit Progression: When might you implement this learning experience within the unit?</td><td colspan="2">Approximate Time (in min.):
40-45 minutes</td><td>Unit Progression:
Use to introduce odd and even numbers</td></tr>
<tr><td>Driving Question
Driving Question Resource
Open-ended; aligned with standards
Frames a rigorous, authentic context in which to learn content</td><td colspan="3">What makes an odd number odd and an even number even? How can we use materials to show whether a number is odd or even?</td></tr>
<tr><td>Materials / Resources
Link Teacher Slide Deck
Include all materials and technology needed for teachers and students
Any digital links should be set to LCPS view-only
Add materials or resources directly to this document if possible</td><td colspan="3">Bean Thirteen book or youtube read aloud
Dry beans
Cups or bowls to hold beans
Bean Counting Mat (optional scaffold- Students can also draw this on their own whiteboards.)</td></tr>
<tr><td>Math Standards
Refer to VDOE standard(s) from Yearly Overview
Elementary Cross-curricular document</td><td colspan="3">Math SOLs (write out the whole SOL):
2.NS.1 The student will utilize flexible counting strategies to determine and describe quantities up to 200.
Students will demonstrate the following Knowledge and Skills:
h) Represent even numbers (up to 50) with concrete objects, using two equal groups or two equal addends.</td></tr>
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<tr><td rowspan="3">

- Tiered Vocabulary Words

</td><td colspan="2">i) Represent odd numbers (up to 50) with concrete objects, using two equal groups with one leftover or two equal addends plus 1.
j) Determine whether a number (up to 50) is even or odd using concrete objects and justify reasoning (e.g., dividing collections of objects into two equal groups, pairing objects).</td></tr>
<tr><td colspan="2">Connected SOLs (standards explored, standards reviewed, prior knowledge, cross-curricular standards, etc.):</td></tr>
<tr><td colspan="2">Key Vocabulary (Tier 2, Tier 3):</td></tr>
<tr><td>Skills

- Which 5C skill(s) will you highlight to students? Describe how students are developing the 5Cs within this experience.

Critical Thinker, Communicator, Collaborator, Creator, Contributor

- Which Math Process Goals are addressed in this experience?

</td><td>5Cs

- Communicator
- Critical Thinker
- Collaborator
- Creator
- Contributor
- Confidence (APL)
- Content Expertise (APL)

</td><td>Math Process Goals:
Communication
Connections
Representations
Reasoning
Problem Solving</td></tr>
<tr><td>Learning Objective(s)

- Student-facing
- ***“The student will…”***
- ***“I can…”***
- **Elementary** - PLC+ 5 Guiding Questions (Where are we going?)
- **Secondary** - 4 Critical Questions (What do we want all students to know and be able to do?)

</td><td colspan="2">The student will…

- Model odd and even numbers using beans (up to 50)
- Determine whether a number is odd or even using a model (up to 50)
- identify number characteristics that can be used to identify odd/even numbers (e.g. look at digit in the ones place)

I can…

- Show whether a number up to 50 is odd or even using objects
- Describe the difference between odd and even numbers

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<tr><td>Language Objective

- See Scaffolding and Supports for additional resources to support the language objective

</td><td colspan="2">Grade level teams and EL co-teachers collaborate to create language objectives</td></tr>
<tr><td rowspan="2">Learning Experience Sequence

- Follows Math Workshop Sequence
- Teacher-facing language
- Describe elements of the learning experience here, within the model of Math Workshop
- Student and Teacher Actions: What should students be doing? What should teachers be doing?

</td><td colspan="2">Number Sense Routine (Resources and Look-Fors):
Teacher’s choice</td></tr>
<tr><td colspan="2">Structure of Learning Experience:

(Prior to lesson, fill cups with different amounts of beans, up to 50. Be sure that some contain an odd number and some contain an even number. Place around the room as stations, or simply place a set of cups at each table of students.)</td></tr>
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- **Introduce book/activate connections**: In the book ***Bean Thirteen***, two bugs will have to share some beans. What are some times when you had to share something with a friend or family member?

- Let's find out what happens when the two bugs have to share some beans. Read aloud *Bean Thirteen*, **stopping after Flora and Ralph split the beans between the two of them and find that they have 1 left over.** (Option to read the rest of the book at a later time)

- **Teacher models** dividing 13 beans into two sets of six with one leftover. **Create a t-chart** on big chart paper or whiteboard. Label the columns as "Left over" and "No left over." Since there was a left over bean from the set of 13, write the number "13" under the "Left over" side.

- **Teacher models again** using 10 beans. Since 10 can be split evenly, write the number "10" under the "No left over" column.

- Ask students: **How could we tell that there was not a left over when there are 10 beans to share?** (Sample answers: Count same number of beans on each side, look at both sets side by side- they match, etc)

Left Over	No Left Over
13	10

- **Introduce task**: Imagine that Ralph and Flora had some different amounts of beans. Would there be a left over when they shared them, like bean 13? At each station, students will count beans in a cup and then sort them into two piles. If there is a left over bean, they will add the number to the class t-chart under "Left over" and do similarly for "No left over" when appropriate. Students should visit as many bean stations as they can in the allotted time, each time recording the number under the appropriate column. Provide 10-15 minutes for students to work with the bean cups and record their findings. (Option for students to work with a partner)

- Bring the whole group back together.

- Together, look at the t-chart: **What are some things you noticed while counting the beans or about our chart?**

- **Introduce the vocabulary "Odd" and "Even" in connection to the class t-chart. Together, create definitions for "odd" and "even." Add definitions to t-chart; can also add drawings to correspond with odd and even.**

- (If time allows, or extend the learning on a subsequent day)

	Using the numbers on the class t-chart, color the odd numbers on a 100 chart. Similarly, color the even numbers from the bean activity on a separate 100 chart. Ask students what patterns they notice about the odd and even numbers. Option here to use a single 100 chart and two different colors for odd and even) • **Wrap up**: Today, we saw what odd and even numbers are and what happens when we share an odd number or even number set. What are some times when you might use this information? What are some times when you would want an even number of something? What could you do if you have an odd number? (Example: making even teams, sharing a set of objects)
	Intervention / Enrichment: *Please do NOT edit this box. Please refer to links below for Intervention Resources.* • K-12 Math Decision Tree • RTI (Response to Intervention) Fact Sheets - Elementary and Secondary • MTSS Library - Math Intervention Resources
	Reflection (Resources): **Math journal entry or exit ticket:** Think about something that you might share with a friend or family member, such as stickers, jellybeans, or apples. Use pictures, numbers or words to tell how many you have and show whether it's an odd number or even number.
Scaffolding and Supports • Differentiation • Scaffolding • Remediation • Extension • EL Scaffolds (Elem) • EL Scaffolds (Sec) • QTEL Strategies (Elem) • QTEL Strategies (Sec)	*Grade-level teams and specialists collaborate to devise scaffolds and supports based on students' needs.*

For digital version and additional Meaningful Connections resources:
APL-VA-Meaningful Connections

Password = APLCLT1