

## ARITHMETIC WITH THE ABACUS

## GRADE LEVEL: K-2

**DISCIPLINE:** Mathematics

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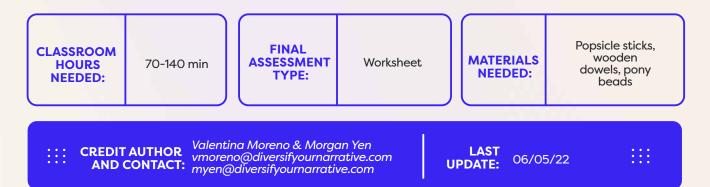
**TOPIC:** Chinese and Japanese Abacus and Artihmetic

STANDARDS: CCSS.MATH.CONTENT.K.CC.A.1 | CCSS.MATH.CONTENT.K.CC.A.3 | CCSS.MATH.CONTENT.2.OA.A.1 | CCSS.MATH.CONTENT.2.NBT.B.5 | CCSS.MATH.CONTENT.2.NBT.B.7 | CCSS.MATH.CONTENT.2.OA.A.1

| OBJECTIVES: | <ul> <li>Learn the history and use of the Chinese and Japanese abacus.</li> <li>Learn how to operate the abacus, including how to count, add, subtract, and use the baseten system.</li> <li>Build operational and algebraic skills while practicing arithmetic with the abacus.</li> </ul> |
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| ESSENTIAL<br>QUESTIONS: | <ul> <li>How is the abacus connected to Chinese and Japanese culture and history?</li> <li>Why is it important to learn about the abacus?</li> <li>How is the abacus related to modern day arithmetic and calculator use?</li> </ul> |
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| KITIntroduction to Chinese Abacu<br>Demo Slides: How to Use ChineINCLUDES:Japanese Abacus Demo<br>Addition Practice Problems Wo | ese Abacus Counting Practice Worksheet<br>Online Suanpan Simulator |
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## **INTRODUCTION: (10-15 MIN)**

Start by showing students the <u>Introduction to Chinese Abacus</u> slideshow to familiarize them with the history and origins of the tool, as well as what it looks like.

| ACTIVITY<br>(OPTIONAL):<br>DIY ABACUS<br>(45 MIN)     | <ul> <li>Have students follow along on this <u>DIY Abacus Project</u> using popsicle sticks and beads.</li> <li>They can use this DIY Abacus to follow along on the Demo Slides and on the practice problems worksheet!</li> </ul>   |
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| ACTIVITY #1:<br>DEMO<br>SLIDES<br>(30-40 MIN)         | <ul> <li>Show students the <u>Chinese Abacus Demo slideshow</u>. Students will learn how to figure out place value, how to count, add and subtract on the Chinese Abacus.</li> <li>Students can follow along on the <u>online abacus simulator</u>, or a paper printout of an abacus, drawing and erasing as they follow the practice problems.</li> <li>Optional: If there is time, teacher can also show students <u>How to Use a Japanese</u> <u>Abacus</u> Slideshow. The Japanese abacus is very similar to the Chinese abacus but has a slightly different structure.</li> </ul> |
| ACTIVITY #2:<br>PRACTICE<br>ARITHMETIC<br>(30-40 MIN) | <ul> <li>Use the provided <u>counting</u>, <u>addition</u> and <u>subtraction</u> practice problem worksheets<br/>to build proficiency with the abacus while practicing arithmetic.</li> <li>Students can use the online simulator or their DIY abacus.</li> <li>Students should explain their process of arriving at the answer under the "formula"<br/>section using the vocab terms from the Demo Slides.</li> <li>Once they find the answer to the problem, they can draw what their abacus looks<br/>like on the image of the abacus on the worksheet.</li> </ul>                 |

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