

# PMI – 2<sup>nd</sup> Grade

## Place Value Unit

### Lab - Making an Abacus

The abacus is a wonderful, hands-on tool to support the learning of place value, basic facts, addition and subtraction. In many countries, the abacus is still used today for these purposes. These videos will show some of the possibilities for even very young students.

<http://www.youtube.com/watch?v=wliDomIEjJw>

[http://www.youtube.com/watch?v=ZbbWA4TH7\\_k](http://www.youtube.com/watch?v=ZbbWA4TH7_k)

In this lab, each student will make a Japanese abacus also called a soroban. Not only can it be used to reinforce their understanding of place value, but it can also be used in the next units as they learn their basic facts, adding and subtracting.

The abacus that they build is intended to be used for the first three units.

#### Rubric:

##### Proficiency would include:

- Successfully making a working abacus
- Accurately using it to build numbers and later to add and subtract.
- Completion of Reflection page (either on the page below or in the students math journal if they have one)

#### Session I: Making an abacus

##### Overview:

In this first activity, students will learn a brief history of the abacus, watch a video to see how an abacus can be used, and make their own abacus for use of practicing addition and subtraction facts as well as computing with larger numbers.

##### Teaching the lesson:

- 1) Discuss the history of the abacus and its uses.

Reference the website below for historical information:

<http://www.ee.ryerson.ca/~elf/abacus/history.html>

- 2) Show two videos of kids using the abacus

<http://www.youtube.com/watch?v=5Tk5T8GW4pE> and  
[http://www.youtube.com/watch?v=ZbbWA4TH7\\_k](http://www.youtube.com/watch?v=ZbbWA4TH7_k)

3) Make a Japanese abacus

Use the directions from this website <http://www.raftbayarea.org/readpdf?isid=270> The materials needed are also listed on this page.

If you need to familiarize yourself with how it works, a good video called, “soroban abacus abaküs tutorial -Lesson 1” can be found here:

<http://www.youtube.com/watch?v=RobblfyHqOw>.

## **Session 2: Using the abacus**

Preview a tutorial for how to use the abacus. The following one is clear enough for students to use as well. <http://www.youtube.com/watch?v=RobblfyHqOw>

Have students move beads to represent numbers, and later to add and subtract.

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Lab - Making an Abacus  
Student Journal Page**

1. What is the abacus for?

2. How did you use the abacus?