CI 176 – Planning and Assessment Portfolio
Documentation Sheet: **Journal Article**

NAME: SA DATE: 2/19/2010

NOTE: Remember to attach a copy of the article or the journal it was taken from.

Article reference, APA format:

Sedzielarz. M, Robinson. C. (February 2007). Measuring Growth on a Museum Field Trip: Dinosaur Bones and Tree Cross Section. *Teaching Children Mathematics.* 18(6). 292-296.

Mathematics topic/process: Measurement

Grade level or range: 2nd-3rd

Good selection.

Mathematics Content and Process Standards:
Grade 3, Measurement and Geometry, 1.1, Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid volume, and weight/mass of a given object.

California's Common Core Content Standards for Mathematics
Grade 2, Measurement and Data, 1, Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter stick, and measuring tapes.

NCTM Principles and Standards for School Mathematics
Measurement, Grade k-2, Understand measurable attributes of objects and the units, systems, and processes of measurement, Expectation: Select and appropriate unit and tool for the attribute being measured, Apply appropriate techniques, tools, and formulas to determine measurement, Expectation: Use tools to measure.

Summary of article (narrative):

Measuring Growth on a Museum Field Trip: Dinosaur Bones and Tree Cross Sections, is an interesting article that talks about a project that was done with fifth graders in a museum on how to interplay both math and science. The idea was that students would be able compare the size and growth of Sauropod Dinosaurs, Minnesota trees, and themselves. The point was for students to understand that math and science ARE seen in the "real world" and this was a chance for them to experience how, "The result was Measuring Growth MathPacks, the first fo a series of mathematics-oriented enhancement materials for field trips…"(292). Students got to hear from paleontologist Kristi Curry Rogers, how she uses math in her job. The children began by measuring their own femurs as well as family members so that they could compare it to dinosaurs. They, at the museum, measured the lengths of juvenile and adult femurs. It was very important that students understood the factors of consistency and accuracy of measurement because measurements could vary in different groups. Some of the discussions about consistency and accuracy included; what measurement units to use, what tools to use, and how to position the tool. By measuring juvenile and adult femurs, students were also learning about ratios. Students

also measured the circumference and radius of cross sections of tree trunks to help them recognize the connection between increasing circumference and rate of growth. Students were to realize that it was very important where they made their measurements because it affected the results. Measuring was an effective way of noticing growth because sometimes it can indicate a pattern that is not obvious visually. Lastly, students were to measure the length of a dinosaur femur that was mounted and displayed 2 meters off the ground and surrounded by exhibit barriers. They were to use their geometry skills to try and figure it out. Although it was challenging, most students liked the challenge, a teacher said.

Overall, this article was a good way of opening our eyes to how we can use science and math interchangeably within the same lesson or other subjects. There are many ideas out there, we just have to be creative and experiment with different options.

good! Sounds very interesting.

Key content/process ideas from article (at least five, bulleted):

- -measuring lengths
- -ratios
- -estimation
- -metric system
- -appropriate tools for problem
- -analyzing data
- -growth patterns
- -circumference
- -radius
- -accuracy

I had expected more than a single word - however, between your summary & list of words I see you understand the key ideas.

CI 176 – Planning and Assessment Portfolio
Documentation Sheet: **Children's Book**

NAME: S2 DATE: February 19, 2012

NOTE: Remember to attach a copy of the cover of the book.

Book reference, APA format: Craig, Janet. (1998). *100 Days of Fun at School.* New York: Scholastic Inc.

Mathematics topic: Counting and Cardinality

Grade level or range: k-1st

Mathematics Content Standards:
California Mathematics Content Standards (Grade level, Strand, Standard #, Standard)
-Grade 1, Number sense, 1.0 Students understand and use numbers up to 100, 1.1 Count, read, and write whole numbers to 100, 2.4 Count by 2s, 5s, and 10s to 10.

California's Common Core Content Standards for Mathematics (Grade level, Domain, Standard #, Standard)
-Grade K, Counting and Cardinality1, Count to 100 by ones and by tens.
-Grade k, Counting and Cardinality 2, Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

Any skip counting standards in common core? I guess you'd need to go up to grade 2 - 2.NBT.2

Summary of book (narrative):
100 Days of Fun at School by Janet Craig is a fun interactive book for young grades learning to count to 100 in different ways. It is the 100th day of school and each student is to bring 100 items to class. The class is to count the number of items each child brought according to the groups in the pictures. For example, Bob brought 100 pennies and the picture shows 10 groups of 10 pennies each, so students count by 10s. Tom brought 100 blocks and the picture has 20 groups of 5 blocks each, so students count by 5s. At the end students can count by 1s all the way to 100.

good

Suggestion for using the book with students (at least five, bulleted):
-100 days of school. My master teacher took 10 different small snacks (ex. Chocolate chips, crackers etc.) and each child had to put 10 of each snacks in a bag for themselves. All together they had 100 items in their bag.
-Help them count by 10s and 5s. How would you do this?
-Help them count by 5s,
-As reading time during math. → What's the purpose?
-Turn what the characters did into an interactive lesson for students. They can find 100 items around the class and separate them into groups of 10s or 5s.

good ideas — a few more details needed

CI 176 – Planning and Assessment Portfolio

Documentation Sheet: **Mathematics Written Test**

NAME: S2 DATE: 2/19/2012

NOTE: Remember to attach a copy of the test.

Source, APA format: Ramsay, Nick. 2012. First Grade Money Worksheets, *Math Worksheet Wizard.* Retrieved February 19, 2012. from http://www.mathworksheetwizard.com/files/coinaddition.html

Mathematics topic: Currency

Grade level or range: 1st

California Mathematics Content Standards:

Grade 1, Number Sense 1.5, Identify and know the value of coins and show different combinations of coins that equal the same value.

Acceptable Responses

If I were to administer this test orally, I would accept students counting by 5s for nickels or counting 5 ones. For example, if they had 1 nickel and 1 penny. I would accept if they added it up by saying "5 plus 1 equals 6 cents." I would also accept if they counted five ones for each nickel being added. I would accept this method because that way I truly now that they know that one nickel is the same value as 5 pennies. I will know this because they will orally count 1,2,3,4,5. If it makes it easier for them to count it that way I would let them.

I understand your reasoning.

The degree to which the test items match the standards

The only part of the test that matches the standard is that they have to know the value of each coin on the test in order to add them up. The part of the standard that is not represented on this test is, "…show different combinations of coins that equal the same value." Students don't have a way to show different combinations because it's a straightforward test, either they know what each coin represents and are able to add them, or they can't. Also, another part that doesn't match the standard is that this test only uses pennies and nickels. The standard, however, states "coins." The test should have probably had dimes and quarters as well to truly represent knowing the values of coins. This test

Good analysis!

can probably be used to see if students are grasping the idea that coins have value as you introduce the topic. Keeping it simple coins can be a good way to start.

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Documentation Sheet: **Mathematics & Social Sciences**

NAME: SQ _____ DATE: 2/19/12

California History Social Science Content Standard [Grade level, exact wording]

K.5 Students put events in temporal order using a calendar, placing days, weeks, and months in proper order.

California Mathematics Content Standards (Grade level, Strand, Standard #, Standard):

Grade 1, Measurement and Geometry, 1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar), 1.3 Name the days of the week.

What would you do to connect *these standards* in a lesson or unit?

Every morning go over the days of the week. Make it clear that certain months have special days that have relevance to history. For example, my master teacher goes over each day with her students. Each student has to say "Yesterday was ____, today is____, tomorrow will be ____" when they are placing the new number on the calendar. Since we are in the month of February, she labeled president's day and Abraham Lincoln's birthday. When the students got to Abraham Lincoln's birthday she talked about him and during story time she read three books about him. I think I would do the same thing. This way you are targeting both standards; teaching them the days of the week each morning and placing important historical information on the months for them to see throughout the year.

In general, how can integrating mathematics and social science make mathematics more meaningful?

I think that integrating mathematics and social science can make mathematics more meaningful because it makes it real. For example, my teacher takes it as an opportunity to teach them about relevant events that happened in history. It makes the events more real when they have to act out certain occasions. For example, while learning about the gold rush, students can learn about how much it took people to travel, that way they can learn about measurements. They can also learn about the cost of cold and how to measure ounces or gold etc. This can be a time for interactive learning and making learning real and meaningful. Not to mention you can cover different standards in the same block of time.

✓

Nice match.

good ideas

Very true.

CI 176 – Planning and Assessment Portfolio, Scoring Guide

PROFESSIONAL READING: Journal Article

	Possible Points	Your Score
Copy of the article & Reference	1	1
Mathematics topic/process & grade level	1	1
Mathematics Content Standards	3	3
Summary of article	2	2
Key content/process ideas	3	3
TOTAL	10	10

INSTRUCTION: Children's Book

	Possible Points	Your Score
Copy of the cover & reference	1	1
Mathematics topic & grade level	1	1
Mathematics Content Standards	3	2
Summary of book	2	2
Suggestions for use with students	3	2
TOTAL	10	8

ASSESSMENT: Mathematics Written Test

	Possible Points	Your Score
Copy of test & reference	1	1
Mathematics topic and grade level	1	1
Mathematics Content Standards (by item)	3	3
Acceptable responses (by item)	3	3
Opinion of match between item & standard	2	2
TOTAL	10	10

MATHEMATICS AND OTHER SUBJECTS: Mathematics and Social Sciences

	Possible Points	Your Score
CA History Social Science Standard	2	2
CA Mathematics Content Standard(s)	2	2
Connections in lesson or unit	3	3
Making mathematics meaningful	3	3
TOTAL	10	10

Grand Total: 38/40