

Mathematics CFA Template

Pre-Instruction

1. List the Standard. Underline the nouns (what students will know) and highlight the verbs (what student will do):

Measure and *estimate* liquid volumes and masses of objects **using** standard units of grams (g), kilograms (kg), and liters (l). **Add, subtract, multiply, or divide** to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by **drawing** (such as a beaker with a measurement scale) to represent the problem.

2. Mathematical Practices

1. Make sense of the problems and persevere in solving them
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision
7. Look for and make use of structure.
8. Look for and express regularity and repeated reasoning.

3. I Can Statements – Put learning targets in student friendly terms.

I can use appropriate tools to measure liquid volumes in units of liters.

I can estimate how much one liter is and can say whether or not a given amount of liquid is less than one liter, about one liter, or more than one liter.

I can use appropriate tools to measure mass of objects in units of grams and kilograms.

I can estimate the mass of objects in comparison to benchmark measurements.

I can solve one step measurement problems that involve adding, subtracting, multiplying and dividing measurements of the same units.

Depth of Knowledge of the standard (Highlight the Level of the Learning Target):

Level 1 Recall; **Level 2 – Skill/Concept**; Level 3 – Strategic Thinking; Level 4 – Extended Thinking

4. List the skills students need to know in order to begin this standard:

vocabulary: estimate, benchmark number, volume, mass, liter, grams, kilograms

Must know how to add, subtract and divide

Know which tools to use.

5. What type of assessment am I going to write? [selected response (m/c, t/f, y/n, matching, fill in ___) **or** constructed response (**short:** word, phrase, sentence, single problem; **extended:** multi-step operations in math, problem solving)] List the assessment questions.

1. Show them 2 liters and ask them to compare whether or not a pitcher is less than one liter, about one liter or more than one liter.

2. Show them a picture of a horse and a rabbit and estimate which one has greater mass.

3. John had 4 ounces of liquid and Nathan had 3x the amount John had. How much liquid does Nathan have? Show your answer using words, numbers and pictures.

6. Scoring Guide

#1

Exceeds Expectations:

Proficient: Student correctly identifies the volume.

Approaching Proficiency:

Not Proficient: The student does not identify the correct volume.

#2

Exceeds Expectations:

Proficient: Student correctly identifies which object has the greater mass.

Approaching Proficiency:

Not Proficient: The student does not identify the object which has the greater mass.

#3

Exceeds Expectations: The student correctly computes the answer and explains their answer using precise language.

Proficient: Student correctly computes the answer and explains the answer using words, numbers and pictures.

Approaching Proficiency: The student does not explain the answer.

Not Proficient: Student does not correctly compute the answer or explain it.

Power Standard: 3.MD.2 - **Measure** and **estimate** liquid volumes and masses of objects **using** standard units of grams (g), kilograms (kg), and liters (l). **Add, subtract, multiply, or divide** to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by **drawing** (such as a beaker with a measurement scale) to represent the problem.

Directions: Show them 2 liters and ask them to compare whether or not a pitcher is less than one liter, about one liter or more than one liter.

Tracking Sheet – CFA 1

Class: _____ Grade: 3

| Student | 1 st Attempt | | | | 2 nd Attempt | | | | 3 rd Attempt | | | |
|---------|-------------------------|-------------------------|------------|----------------------|-------------------------|-------------------------|------------|----------------------|-------------------------|-------------------------|------------|----------------------|
| | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations |
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Exceeds Expectations:

Proficient: Student correctly identifies the volume.

Approaching Proficiency:

Not Proficient: The student does not identify the correct volume.

Power Standard: 3.MD.2 - **Measure** and **estimate** liquid volumes and masses of objects **using** standard units of grams (g), kilograms (kg), and liters (l). **Add, subtract, multiply, or divide** to solve **one-step word problems** involving **masses or volumes** that are given in the same units, e.g. by **drawing** (such as a beaker with a measurement scale) to represent the problem.

Directions: Show them a picture of a horse and a rabbit and estimate which one has greater mass.

Tracking Sheet - CFA 2

Class: _____ Grade: 3

| Student | 1 st Attempt | | | | 2 nd Attempt | | | | 3 rd Attempt | | | |
|---------|-------------------------|-------------------------|------------|----------------------|-------------------------|-------------------------|------------|----------------------|-------------------------|-------------------------|------------|----------------------|
| | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations |
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Exceeds Expectations:

Proficient: Student correctly identifies which object has the greater mass.

Approaching Proficiency:

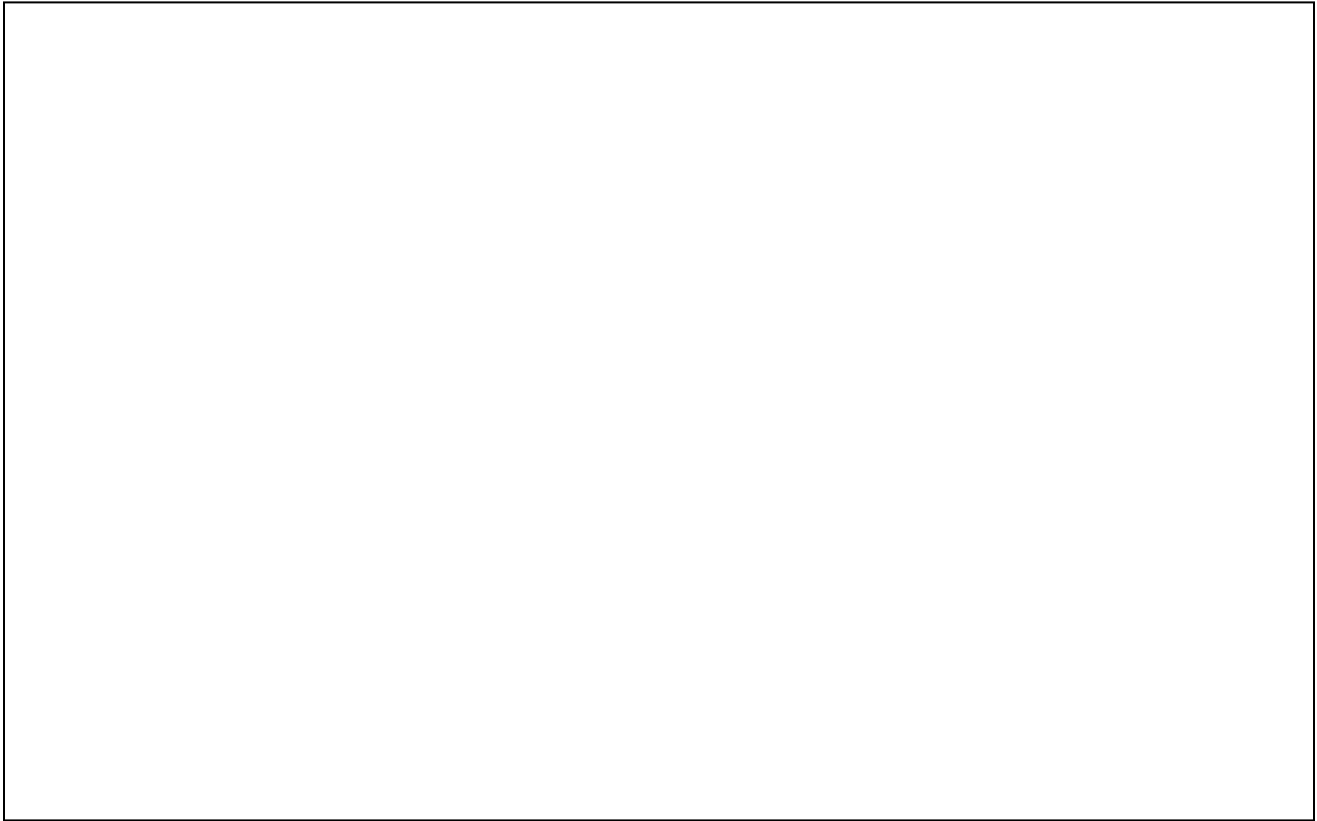
Not Proficient: The student does not identify the object which has the greater mass.

Name _____

Date _____

Formative Assessment 3

John had 4 ounces of liquid and Nathan had 3x the amount John had. How much liquid does Nathan have? Show your answer using words, numbers and pictures.

A large empty rectangular box with a black border, intended for the student to show their answer using words, numbers, and pictures.

Power Standard: 3.MD.2 - **Measure** and **estimate** liquid volumes and masses of objects **using** standard units of grams (g), kilograms (kg), and liters (l). **Add, subtract, multiply, or divide** to solve **one-step word problems** involving masses or volumes that are given in the same units, e.g. by **drawing** (such as a beaker with a measurement scale) to represent the problem.

Formative Assessment 3

Tracking Sheet

Class: _____ Grade: 3

| Student | 1 st Attempt | | | | 2 nd Attempt | | | | 3 rd Attempt | | | |
|---------|-------------------------|-------------------------|------------|----------------------|-------------------------|-------------------------|------------|----------------------|-------------------------|-------------------------|------------|----------------------|
| | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations | Not Proficient | Approaching Proficiency | Proficient | Exceeds Expectations |
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Exceeds Expectations: The student correctly computes the answer and explains their answer using precise language.

Proficient: Student correctly computes the answer and explains the answer using words, numbers and pictures.

Approaching Proficiency: The student does not explain the answer.

Not Proficient: Student does not correctly compute the answer or explain it.