

# My Math Fact Fluency Data



This data belongs to:

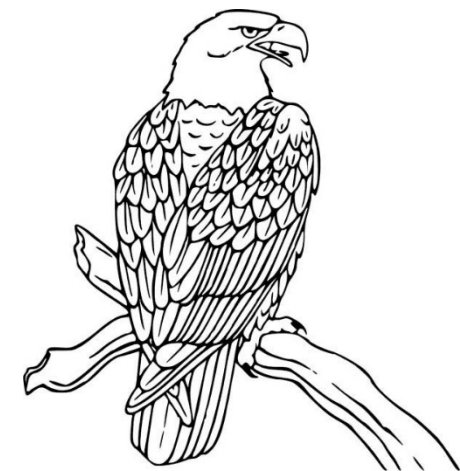
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CUMBERLAND VALLEY  
SCHOOL DISTRICT



*This document was developed by the Pennsylvania Training and Technical Assistance Network through federal funds provided by Part B of the Individual with Disabilities Education Act.*



# Error Correction

1. Student reads problem & gives answer
2. If correct
  - Place card in back
  - Go to next card
3. If incorrect
  - Partner reads problem & correct answer
  - Partner and student recite together
  - Student recites individually
  - Place card in back
  - Go to next card

# Organizing Activity

1. Use flashcards to assess students.
  - Sort into known & unknown piles.
2. Mark all known facts on *Fact Fluency Tracking Sheet*.
3. Set up *Weekly Facts Sheet*.
  - Circle 9 unknown items on the *Fact Fluency Tracking Sheet*.
  - Write the same 9 unknown facts on the *Weekly Facts Sheet*.
  - Write 3 target facts for Monday.
4. Run Cover-Copy-Compare.
  - Use 3 target facts, plus 2-4 known facts.
5. Run Drill Sandwich.
  - Correct errors as needed
  - Check the target fact that are now known.
6. Update *Weekly Facts Sheet*.
  - If a target fact is known 2 days in a row, replace with another unknown fact from list.
  - If a target fact is not replaced, copy it into the next day.

# Weekly Facts Sheet

Weekly Assessment	9 Unknown Facts									
Day	Target Facts	Student/Partner Signatures								
Monday	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<div>_____</div> <div>studentpartner</div>								
Tuesday	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<div>_____</div> <div>studentpartner</div>								
Wednesday	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<div>_____</div> <div>studentpartner</div>								
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Thursday	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<div> <div>_____</div> <div>student</div> </div> <div> <div>_____</div> <div>partner</div> </div>							
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# Math Fact Fluency Tracking Sheet

[illegible]

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[illegible]

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[illegible]

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[illegible]



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[illegible]

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[illegible]

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[illegible]

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[illegible]

# How to guide

Facts student got correct are slashed; these can be used as known items for the Drill Sandwich.

Math Fact Fluency Tracking Sheet

	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10
1+1	/									
1+2	/									
1+3	/									
1+4	/									
1+5	/									
1+6	/									
1+7	/									
1+8	/									
1+9	/									
2+1	/									
2+2	/									
2+3	/									
2+4	/									
2+5	/									
2+6	/									
2+7	/									
2+9	/									

Facts incorrect, that are listed on the *Weekly Facts Sheet*, are circled.

Facts incorrect, but not practiced, are left blank.

# How to guide

Selected unknown facts  
from *Math Fact Fluency  
Tracking Sheet*; circled on  
sheet

Weekly Facts Sheet

Weekly Assessment

9 Unknown Facts

$$\begin{array}{r} 1 \\ +4 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +7 \\ \hline \end{array}$$

Day

Target Facts

Student/Partner Signatures

Monday

☒  $\begin{array}{r} 1 \\ +4 \\ \hline \end{array}$

☒  $\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$

☐  $\begin{array}{r} 1 \\ +9 \\ \hline \end{array}$

Cur  
student

[Signature]  
partner

Tuesday

☒  $\begin{array}{r} 1 \\ +4 \\ \hline \end{array}$

☐  $\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$

☒  $\begin{array}{r} 1 \\ +9 \\ \hline \end{array}$

Cur  
student

[Signature]  
partner

Wednesday

☒  $\begin{array}{r} 2 \\ +7 \\ \hline \end{array}$

☒  $\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$

☒  $\begin{array}{r} 1 \\ +9 \\ \hline \end{array}$

Cur  
student

[Signature]  
partner

Thursday

☐

☐

☐

\_\_\_\_\_  
student

\_\_\_\_\_  
partner

☐

☐

☐

\_\_\_\_\_  
student

\_\_\_\_\_  
partner

Three unknown facts from list; correct items are checked off after session

“1+4” was replaced with  
“2+7” because it was  
correct twice in a row

Signatures of  
participants

## Cover – Copy - Compare

### Routine

1. Develop the Cover-Copy-Compare sheet.
  - a) Section a worksheet into three columns.
  - b) Select up to 10 facts for students to practice.
  - c) Write the facts as correct models on the left column. (You could use the right column if the student is left handed.)
2. Student completes the sheet
  - a) Study the correct fact, practice saying it the fact.
  - b) Cover the fact. (by hand or by folding the paper)
  - c) Copy the fact in the next column while saying the fact.
  - d) Uncover the original, and compare.
    - If correct move to next problem
    - If incorrect, cross out the incorrect fact and go to step 2a.
  - e) Continue until all facts are complete.
3. Update records/graphs
  - a) If student correctly complete a facts for 3 consecutive trials
    - Update their known facts list to include this item
    - Update graph to monitor progress

*Variation: Instead of writing the facts, students can practice verbal responses.*

### Resources

#### Overview

<http://www.interventioncentral.org/academic-interventions/math-facts/how-master-math-facts-cover-copy-compare>

#### Known Facts Lists

[http://www.interventioncentral.org/sites/default/files/pdfs/pdfs\\_interventions/CCC\\_log\\_form\\_interactive.pdf](http://www.interventioncentral.org/sites/default/files/pdfs/pdfs_interventions/CCC_log_form_interactive.pdf)

### When to use?

Use this intervention if:

- Student is struggling to acquire new math facts.
- Student is not maintaining accuracy with previously know math facts.
- Student is able to replicate the process independently.

### Example Activity

Worksheet: Cover-Copy-Compare		
Math Facts	Student Response	Date:
1. $8 + 1 = 9$	1a. 1b.	
2. $9 \times 8 = 72$	2a. 2b.	
3. $16 - 8 = 8$	3a. 3b.	
4. $2 + 6 = 8$	4a. 4b.	
5. $2 \times 4 = 8$	5a. 5b.	

# Drill Sandwich

## Routine

1. Develop the flashcard sets of known and unknown items
  - a) Assess the student by showing them each of the cards one at a time.
  - b) If the student responds orally with the correct fact within 2 seconds, place the flashcard in the known items pile
  - c) If the student gives an incorrect response, no response, or a correct response after 2 second place the flashcard in the unknown item pile.
2. Run first intervention trial
  - a) To prepare for the intervention, select 7 known items and 3 unknown item. Place the unknown items in the 3<sup>rd</sup>, 6<sup>th</sup>, and 8<sup>th</sup> positions.
  - b) Present the item. Student reads the problem and the answer.
    - If student errors, teacher prompts with the correct fact and student repeats. Student repeats the problem and the answer.
  - c) Present the next item. If student errors, correct the error following the procedure in 2b.
  - d) After you have finished the set
    - Remove the unknown items, shuffle the known items
    - Insert the unknown items in the 3<sup>rd</sup>, 6<sup>th</sup> and 8<sup>th</sup> positions.
  - e) Run additional trial
3. Session is ended when time runs out or five trials are run.
4. Update known and unknown items according to student errors.

*Variation: reduce size of deck, keep 2 known items for each unknown item*

## Resources

### Overview

<http://www.interventioncentral.org/academic-interventions/math-facts/how-master-math-facts-cover-copy-compare>

### Known Facts Lists

[http://www.interventioncentral.org/sites/default/files/pdfs/pdfs\\_interventions/CCC\\_log\\_form\\_interactive.pdf](http://www.interventioncentral.org/sites/default/files/pdfs/pdfs_interventions/CCC_log_form_interactive.pdf)

## When to use?

Use this intervention if:

- Student is accurate, but slow with fact recall
- Student knows some facts, but not all facts.

## Example Activity

$$\begin{array}{r} 4 \\ + 1 \\ \hline \end{array}$$
$$\begin{array}{r} 5 \\ + 2 \\ \hline \end{array}$$

*K, K, U, K, K, U, K, K U, K*