Title: Ben's Apple Pie

Achievement Level: Novice 1

Criteria and Performance Level	Rationales
Problem Solving *Novice*	The student's strategy of making a diagram (area model) to show eighths of a pie would work to solve this task but the student does not show equivalent slices of pie. The student's answer, "Brad is correct," is incorrect.
Reasoning & Proof *Novice*	The student does not show correct reasoning of the underlying concept of equivalent parts of a whole. Without this understanding, the student cannot solve this task correctly. The student also states, "mom didn't cut it into halfs," which is incorrect reasoning. The student does not understand that the task is requiring the student to compare two fractions.
Communication *Apprentice*	The student correctly uses the mathematical term *diagram*. The student does not earn credit for the term *eighths*, because the pie is not correctly cut into eight equal pieces. The student also does not earn credit for the term "halfs" because they do not address halves.
Connections *Novice*	The student solves the task and stops without making a mathematical connection.
Representation *Apprentice*	The student's diagram (area model) is appropriate to the problem but not accurate. The pie is not divided into eight equivalent pieces.

Achievement Level: Novice 1

P/S	R/P	Com	Con	Rep	A/Level
N	N	A	N	A	N

I need to find out if Ben is correct or is Brad correct. I will use a diagram to solve this problem.

pie

Answer Box

Brad is correct

Brad is correct because mom cut it into eighths and there are four boys and eight pieces of pie. They all get 2 pieces. Mom didn't cut it into halfs.

Title: Ben's Apple Pie

Achievement Level: Novice 2

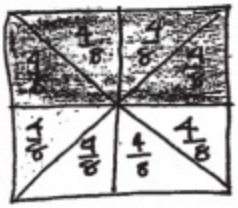
Criteria and Performance Level	Rationales
Problem Solving *Novice*	The student's strategy of making diagrams (area models) to show eighths of a pie would work to solve this task, but the student does not label the slices correctly. The student's answer, "Ben and Brad are both right," is not correct because this answer is based on area models that, although two are correctly shaded in halves, have incorrect labels. The student's solution has to support a correct answer.
Reasoning & Proof *Novice*	The student does not show correct reasoning of how to “read” equivalent parts of a whole. Without this understanding, the student cannot solve this task correctly.
Communication *Apprentice*	The student correctly uses the mathematical terms *diagram* and *key*. The student does not earn credit for the term "nineths", because the pie is not correctly labeled or cut into nine equal pieces. The student correctly uses the mathematical notation 1/8. (The student was able to correctly label an eighth in the third diagram).
Connections *Apprentice*	The student attempts two connections. The first is not correct because the student states, "I did them just like I did these." Since the student's solution for Ben's Apple Pie is incorrect, it cannot be compared to Pizza Pieces. The student attempts to recreate the task by using ninths, but the student's diagram is showing eighths.

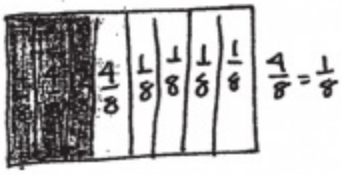
Representation *Apprentice*	The student's diagrams (area models) are appropriate to the task but not accurate. The labels in all the diagrams are not accurate, two diagrams do not show 1/2, 4/8 shaded, and the diagram used in the student's connection does not represent ninths accurately.

Achievement Level: Novice 2

P/S	R/P	Com	Con	Rep	A/Level
N	N	A	A	A	N

I need to figure out who is correct Ben or Brad?
I will make a diagrams to showlots of ways.





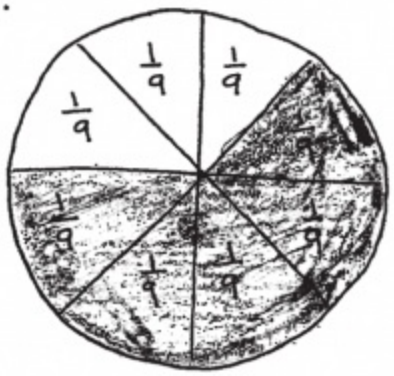
Key 8

15 a
apple pie

Answer
Ben and Brad are both right

Connections

- This reminds me of Pizza Pieces because it involves making fractions. I did them just like I did these.
- If Ben moms doesn't cut them in eight but cuts them in nineths and Ben had 5 friends including him in the 5 there are 8 pieces left.



Title: Ben's Apple Pie

Achievement Level: Apprentice 1

Criteria and Performance Level	Rationales
Problem Solving *Apprentice*	The student's strategy of making diagrams (area models) to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten would work to solve this task, but the student did not compare 1/2 to 4/8. The student's answer, "Brad is correct because it says that Bens mom cut the Pie in to eight equal pieces not 2 equal pieces," is not correct.
Reasoning & Proof *Apprentice*	The student shows some correct reasoning. The student correctly diagrams how a pie can be cut into eight equal pieces and two equal pieces. The student does not show correct understanding of comparing the two equivalent fractions. The student incorrectly thinks that since mom cut the pie into eight equal pieces you can only consider eighths of a pie.
Communication *Practitioner*	The student correctly uses the mathematical term *equal* from the task. The student also correctly uses the mathematical notation 1/2, 4/8, 1/8. Mathematical notation of fractions is different from the written form because the student has to determine the correct numerator and denominator.
Connections *Novice*	The student solves the task and stops without making a mathematical connection.

Representation *Practitioner*	The student's area models are appropriate to the task and are accurate. All necessary labels are included.

Note:

The overall achievement level for this piece of student work falls under Exemplars exception to the rule category. If a student has all Apprentice scores or above, but a Novice in "Connections," the student may still receive an achievement level score of Apprentice. To learn more about Exemplars scoring, please refer to the section of your dashboard called "Tools for Success" and click on the link for “Using the Assessment Rubric.”

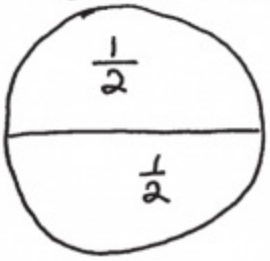
Achievement Level: Apprentice 1

P/S	R/P	Com	Con	Rep	A/Level
A	A	P	N	P	A

I need to find out if Ben is correct thinking They ate $\frac{1}{2}$ of the pie or if Brad is correct thinking they ate $\frac{4}{8}$ of the pie

Brads Pie

Bens Pie



Answer Box

Brad is Correctbecause it says that Bensmom Cut the Pie rnto eight equa/ Pieces not 2 equal Pieces.

Title: Ben's Apple Pie

Achievement Level: Apprentice 2

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of making a diagram (area model) to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten works to solve this task. The student's answer, "They are both correct because 1/2 = 4/8," is correct.
Reasoning & Proof *Practitioner*	The student shows correct reasoning. The student correctly diagrams how a pie can be cut into eight equal pieces and notes how 4/8 equals 1/2.
Communication *Practitioner*	The student correctly uses the mathematical term *equal* from the task. The student correctly uses the mathematical terms *diagram* and *key*. The student also correctly uses the mathematical notation 1/2, 4/8. Mathematical notation of fractions is different from the written form because the student has to determine the correct numerator and denominator.
Connections *Novice*	The student solves the task and stops without making a mathematical connection.
Representation *Practitioner*	The student's diagram (area model) is appropriate to the task and accurate. A title is provided and a key defines the amount of pie eaten.

Note:

The overall achievement level for this piece of student work falls under Exemplars

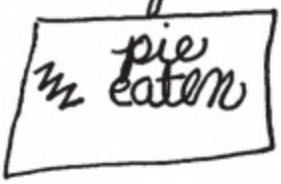
exception to the rule category. If a student has all Apprentice scores or above, but a Novice in "Connections," the student may still receive an achievement level score of Apprentice. To learn more about Exemplars scoring, please refer to the section of your dashboard called "Tools for Success" and click on the link for “Using the Assessment Rubric.”

Achievement Level: Apprentice 2

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	N	P	A

I need to find who is correct - Ben or Brad. I know Ben's mom cut the apple pie into eight equal pieces. I will make a diagram and a key.

key



the apple pie

3+1=4 friends

They are both correct because $\frac{1}{2} = \frac{4}{8}$

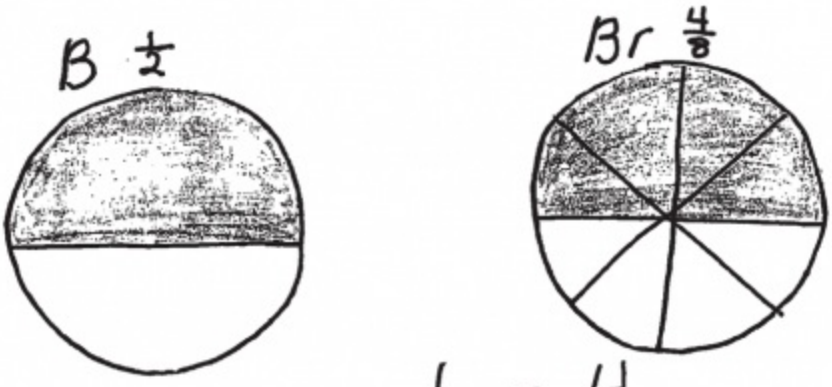
Title: Ben's Apple Pie

Achievement Level: Practitioner 1

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of making diagrams (area models) to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten works to solve this task. The student's answer, "I claim that they are both correct because 4/8 = 1/2," is correct.
Reasoning & Proof *Practitioner*	The student demonstrates understanding of the underlying concept of comparing two fractions in their area models and text.
Communication *Practitioner*	The student correctly uses the mathematical terms *key*, *whole*, *diagram*, *equation*, *fair share* and *more*. The student correctly uses the mathematical notation 1/2, 4/8. Mathematical notation of fractions is different from the written form because the student has to determine the correct numerator and denominator.
Connections *Practitioner*	The student makes the mathematical observations, "This is a fair share," and, "There is 1/2 pie left so they can all have 1 more piece."
Representation *Practitioner*	Each of the student's diagrams is appropriate and accurate. A key defines the labels and how many pieces are eaten.

Achievement Level: Practitioner 1

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P



Key

○ apple pie

■ how many pieces are eaten

Br Brad

B Ben

$\frac{1}{2} = \frac{4}{8}$

$\frac{4}{8} + \frac{1}{2} = 1 \text{ whole}$

I claim that they are both correct because $\frac{4}{8} = \frac{1}{2}$. I know this because I did a diagram and a equation. This is a fair share.

My diagram says that there is 2 pies and that one pie is cut into $\frac{1}{2}$ and the other one is cut into 8 pieces. My equation says $\frac{1}{2} = \frac{4}{8}$ and $\frac{4}{8} + \frac{1}{2} = 1$ whole pie because mom only made one pie. There is $\frac{1}{2}$ pie left so they can all have 1 more piece.

Title: Ben's Apple Pie

Achievement Level: Practitioner 2

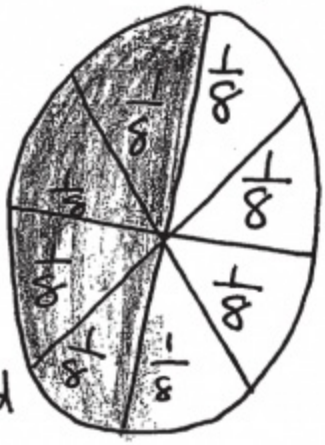
Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of making an area model to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten works to solve this task. The student's answer, "Ben and Brad are both right because 4/8 is one half," is correct.
Reasoning & Proof *Practitioner*	The student demonstrates understanding of the underlying concepts of understanding fractional parts of a whole and comparing two fractions in their area model and text.
Communication *Practitioner*	The student correctly uses the mathematical term *one-half* from the task. The student also correctly uses the mathematical term *whole*. The student correctly uses the mathematical notation 1/8, 4/8, 8/8. Mathematical notation of fractions is different from the written form because the student has to determine the correct numerator and denominator. The student does not earn credit for the term *chart*, because a chart was not included in the student's solution.
Connections *Practitioner*	The student makes the mathematical observations, "Ben and his friends Can have another slice of pie. none will be left," and, "8/8 is one whole."
Representation *Practitioner*	The student's area model is appropriate to the task and accurate. A title is provided and each slice of pie is labeled 1/8. The student's text supports why the student decides to only notate eighths of the apple pie.

Achievement Level: Practitioner 2

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P

I have to find out if Ben or Brad is right.
I will make a chart.

The apple Pie



Ben and Brad are both right because $\frac{4}{8}$ is one half

Ben and his friends can have another slice of pie. none will be left. $\frac{8}{8}$ is one whole

Title: Ben's Apple Pie

Achievement Level: Practitioner 3

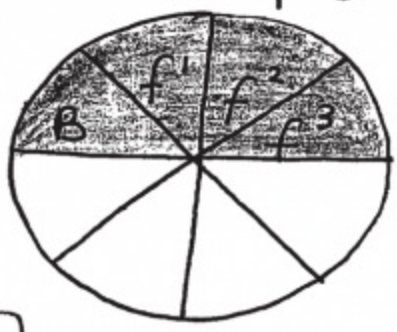
Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of making a diagram (area model) to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten works to solve this task. The student's answer, "Both are right," is correct.
Reasoning & Proof *Practitioner*	The student demonstrates understanding of the underlying concept of comparing two fractions in their area model and key.
Communication *Practitioner*	The student correctly uses the mathematical terms *diagram*, *key*, *1st*, *2nd*, *3rd* and *whole*. The student also correctly uses the mathematical notation 1/2, 4/8, 2/4. Mathematical notation of fractions is different from the written form because the student has to determine the correct numerator and denominator.
Connections *Practitioner*	The student makes the mathematical observations, "1/2 + 1/2 = 1 whole pie," "There is 1/2 left of pie," and, "There are many ways to write the eaten pie 1/2, 2/4, 4/8."
Representation *Practitioner*	The student's area model is appropriate to the task and accurate. A title is provided and a key defines the sections of the pie that are labeled.

Achievement Level: Practitioner 3

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P

I need to find out who is right.
I will make a diagram and a key.

the pie



$\frac{1}{2} = \frac{4}{8}$

key
B-Ben
f1 1st friend
f2 2nd friend
f3 3rd friend
■ - eaten pie

A
Both are right

1. Conections
$\frac{1}{2} + \frac{1}{2}$ = 1 whole pie
2. There is $\frac{1}{2}$ left of pie
3. There are many ways to write the eaten pie $\frac{1}{2}, \frac{2}{4}, \frac{4}{8}$

Title: Ben's Apple Pie

Achievement Level: Practitioner 4

Criteria and Performance Level	Rationales
Problem Solving *Practitioner*	The student's strategy of making diagrams (area models) to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten works to solve this task. The student's answer, "They are both correct," is correct.
Reasoning & Proof *Practitioner*	The student demonstrates understanding of the underlying concept of finding halves and eighths and comparing the two fractions in their area models.
Communication *Practitioner*	The student correctly uses the mathematical terms *diagram*, *key* and *more*. The student also correctly uses the mathematical notation 1/2, 4/8, 6/8. Mathematical notation of fractions is different from the written form because the student has to determine the correct numerator and denominator.
Connections *Practitioner*	The student makes the mathematical observation, "If there were 2 more friends then 6/8 will be eaten." The student provides an area model to define 6/8.
Representation *Practitioner*	The student's area models are appropriate to the task and accurate. A key defines pie and the sections of the pie that are eaten.

Achievement Level: Practitioner 4

P/S	R/P	Com	Con	Rep	A/Level
P	P	P	P	P	P

I need to find who is correct

Plan I will use a diagram

Key

O is a apple pie

▲ is pieces eaten

Ben Pie

$\frac{1}{2}$ ▲

Brad Pie

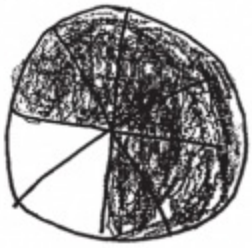
$\frac{4}{8}$ ▲

Solution

They are both correct

Connections

If there were 2 more friends then $\frac{6}{8}$ will be eaten



Title: Ben's Apple Pie

Achievement Level: Expert 1

Criteria and Performance Level	Rationales
Problem Solving *Expert*	The student's strategy of making diagrams (area models) to determine if 1/2 of a pie eaten is the same as 4/8 of a pie eaten works to solve this task. The student's answer, "Ben and Brad are both right," is correct. The student indicates an understanding of area and analyzes how fractions can be compared to money.
Reasoning & Proof *Expert*	The student demonstrates understanding of the underlying concept of comparing two fractions. The student also relates this task to two other problems and links the similar underlying mathematical concepts.
Communication *Expert*	The student correctly uses the mathematical term *equal* from the task. The student also correctly uses the mathematical terms *diagram*, *key*, *area*, *amount*, *fractions*, *money*, *pennies*, *whole*, "dollare" (*dollar*).The student correctly uses the mathematical notation 1/2, 4/8, 1/4, 2/4, $.50, $.25, 50%.
Connections *Expert*	The student states, "It is the same area of pie that they eat." The student relates this task to two similar tasks. "This is like the Pizza Pieces problum because Emily and Tara both had the same amount but used diferint fractions. This is also like the brownie one because it involes cutting some brownies into equal Pieces which are fractions. You got to compare fractions in all the problums." The student compares fractions to money and states, "money is like fractions because pennies are part of a whole dollare." The student also states, "1/2 is also called 50% like a sale."

Representation *Expert*	Each of the student's diagrams is appropriate and accurate. The student uses the diagrams to note area and to find other equivalent fractions.

Achievement Level: Expert 1

P/S	R/P	Com	Con	Rep	A/Level
E	E	E	E	E	E

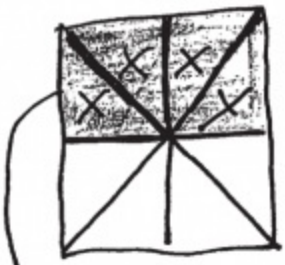
I need to figure out if Brad and Ben is correct. I will make a diagram.

Ben's plan

Answer: Ben and Brad are both right

this $\frac{1}{2}$ the pie

Brad's plan



this $\frac{4}{8}$ is $\frac{1}{3}$

Key

X piece for 1 Kid

It is the same area of pie that they eat.

This is like the Pizza Pieces problum because Emily and Tara both had the same amount but used diferint fractions. This is also like the brownie

one because it involes Cutting some brownies into equal Pieces which are fractions. You got to compare fractions in all the problums.

I Know something else.

$\frac{1}{2}$ is like $.50 $\frac{4}{8}$ is $.50

$\frac{1}{4}$ is like $.25 $\frac{2}{4}$ is like $.50

money is like fractions because pennies are part of a whole dollare. $.50 is $\frac{1}{2}$ a dollare. I think $\frac{1}{2}$ is alsocalled 50% like a sale.