

Standardized Assessment Tasks for
STAAR Alternate

Algebra I

Definitions/Examples for STAAR Reporting Category 1 (A.1) Essence Statement A

The following definitions clarify terms used in the Algebra I assessment tasks to ensure that the content of the tasks is understood. When appropriate, examples and nonexamples have been provided for further clarification. These are just examples and do not represent all the appropriate ways to test the skills in the STAAR Alternate assessment tasks.

Level 3: page 5

This Level 3 task involves a scenario in which an equal number of papers must be distributed in a specific number of folders. The equations generated during this task will form a complete fact family.

- The student could be presented a scenario in which he or she has nine folders and needs to fill each folder with seven papers.
- The student will need to generate the equation $9 \times 7 = 36$. The product, 36, is the total number of papers the student needs to fill all nine folders with seven papers each.
- The student will then need to distribute 36 papers among nine folders.
- The student will need to generate the division equation $36 \div 9 = 7$ to represent this distribution.
- The student will be presented a slightly different scenario in which he or she now has seven folders and needs to fill each folder with nine papers.
- The student will need to generate the equation $7 \times 9 = 36$.
- The student will then need to distribute 36 papers among seven folders.
- The student will need to generate the division equation $36 \div 7 = 9$ to represent this distribution.
- The equations generated during this task form a complete fact family: $9 \times 7 = 36$, $36 \div 9 = 7$, $7 \times 9 = 36$, and $36 \div 7 = 9$.

Level 2: page 5

This Level 2 task involves a scenario in which a designated number of products are available on the first day of the school week and the products are used at the same daily rate until the supply of the product runs out.

- The student could be presented a scenario in which he or she receives 25 flyers for a fundraiser at the beginning of the week. In this scenario, five flyers will be distributed per day until all the flyers have been passed out.
- The student will need to identify the subtraction equation $25 - 5 = 20$ to represent the decrease in flyers for the first day, Monday.
- The student will need to construct subtraction equations showing the decrease in flyers for the rest of the week (until the total number of flyers is zero).

Tuesday: $20 - 5 = 15$

Wednesday: $15 - 5 = 10$

Thursday: $10 - 5 = 5$

Friday: $5 - 5 = 0$

- The student will identify that it will take five days to distribute all the flyers.

STAAR Reporting Category 1 – Functional Relationships: The student will describe functional relationships in a variety of ways.

<p>TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations</p>	<p>Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations</p>
<p>Algebra (1) Foundations for functions. The student understands that a function represents a dependence of one quantity on another and can be described in a variety of ways. The student is expected to</p> <ul style="list-style-type: none"> (A) describe independent and dependent quantities in functional relationships; Supporting Standard (B) gather and record data and use data sets to determine functional relationships between quantities; Supporting Standard (C) describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations; Supporting Standard (D) represent relationships among quantities using [concrete] models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities; Readiness Standard (E) interpret and make decisions, predictions, and critical judgments from functional relationships. Readiness Standard 	<p>Essence Statement A: Shows a basic understanding of functions.</p>

Level 3

Prerequisite skill: use patterns and relationships to develop strategies to remember basic multiplication and division facts (such as the patterns in related multiplication and division number sentences (fact families) such as $9 \times 9 = 81$ and $81 \div 9 = 9$)

The student will be presented a scenario in which an equal number of papers must be distributed in a specific number of folders. The student will generate a multiplication equation where the answer is the total number of papers needed to complete the task. Given folders and papers, the student will execute the distribution of papers to represent the equation. The student will generate a division equation representing the distribution of the papers. The student will be presented a new scenario in which the number of papers and number of folders is reversed. The student will follow the same process to create the two remaining equations for the fact family.

Predetermined Criteria

1. The student will generate a multiplication equation where the answer is the total number of papers needed to complete each scenario.
2. The student will execute the distribution of papers to represent the scenarios.
3. The student will generate a division equation representing the distribution of the papers to complete each scenario.

Process skill: select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem

Level 2

Prerequisite skill: identify and extend whole-number and geometric patterns to make predictions and solve problems

The student will be presented a scenario in which a designated number of products are available on the first day of the week. The products are used at a constant given rate each day. The student will identify a subtraction equation representing the decrease in products for the first day. The student will construct a subtraction equation indicating the decrease each day. The process of constructing equations will continue until the products are used up. The student will identify the number of days it took to use up the product.

Predetermined Criteria

1. The student will identify a subtraction equation representing the decrease in products for the first day.
2. The student will construct subtraction equations indicating the decrease each day.
3. The student will identify the number of days it took to use up the product.

Process skill: select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem

Algebra I; Reporting Category 1 Alg (1); Essence Statement: A

Level 1

Prerequisite skill: use patterns to skip count by twos, fives, and tens

The student will be presented a two-column chart large enough to hold actual items. The chart will represent numbers of items and the corresponding costs. The first row of the chart will be completed with one item placed in the first column and two one-dollar bills in the second column. The student will explore the first row of the chart. The student will participate in completing a second row with two items and four one-dollar bills and a third row with three items and six one-dollar bills. The student will experience the pattern on the chart.

Predetermined Criteria

1. The student will explore the first row of the chart.
2. The student will participate in completing a second row with two items and four one-dollar bills and a third row with three items and six one-dollar bills.
3. The student will experience the pattern on the chart.

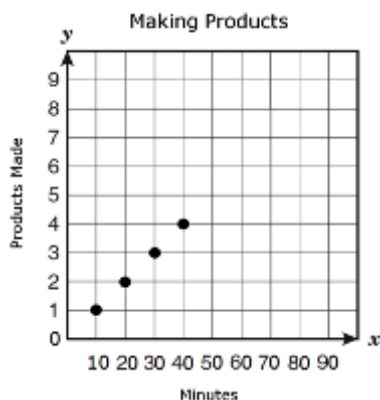
Definitions/Examples for STAAR Reporting Category 2 (A.2) Essence Statement B

The following definitions clarify terms used in the Algebra I assessment tasks to ensure that the content of the tasks is understood. When appropriate, examples and nonexamples have been provided for further clarification. These are just examples and do not represent all the appropriate ways to test the skills in the STAAR Alternate assessment tasks.

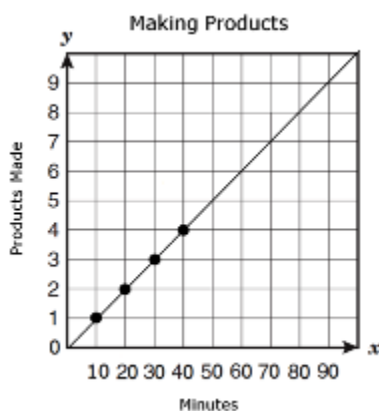
Level 3: page 10

This Level 3 task involves a graph that represents a number of products created per a specific time increment.

- ☞ The student could be presented the following labeled graph:



- ☞ The student will determine the pattern displayed on the graph. In this graph the pattern could be described by, "As the number of minutes increase by ten, the number of products increase by one."
- ☞ The student will use the graph to predict the number of products that will be made in two more time increments. He or she could make a trend line on the graph in order to accurately make this prediction. See below:

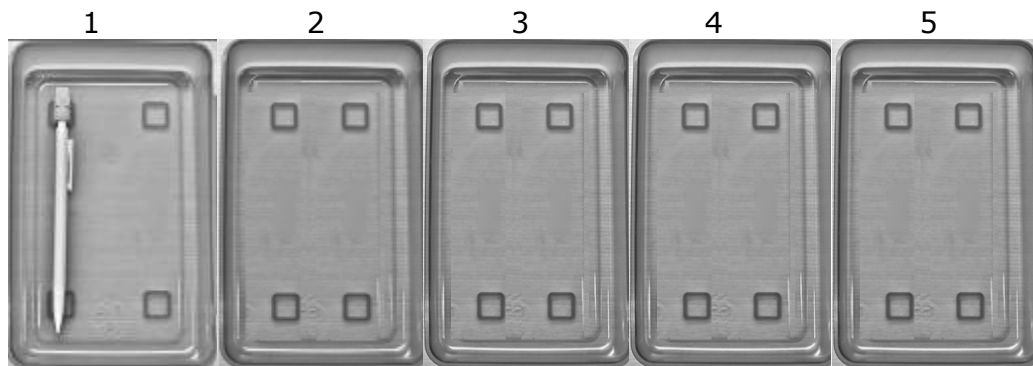


- ☞ In this example, the student should predict that six products will be made in 60 minutes.
- ☞ The student will generate an equation to confirm this prediction. For this example, one product can be made every 10 minutes. Therefore, the number of minutes divided by ten equals the amount of products that can be made for that amount of time. For this graph, the equation $60 \div 10 = 6$ represents the number of products that can be made in 60 minutes.

Level 2: page 10

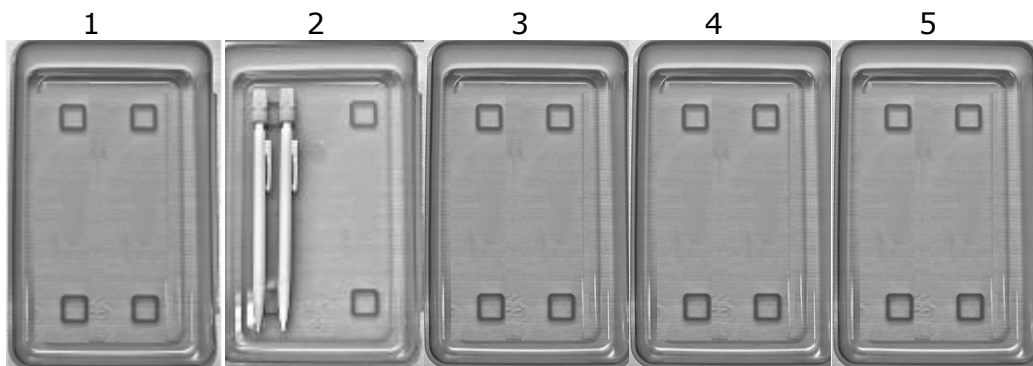
This Level 2 task involves the assembly of a certain number of two-piece products and identifying how many pieces are needed to make that specified number of products.

- The student could be presented a scenario in which he or she needs to assemble two-piece products for the school store. Each product will have two parts: a pencil and an eraser.
- The student will assist in assembling one simple two-piece product and placing it in the first compartment, as shown below.



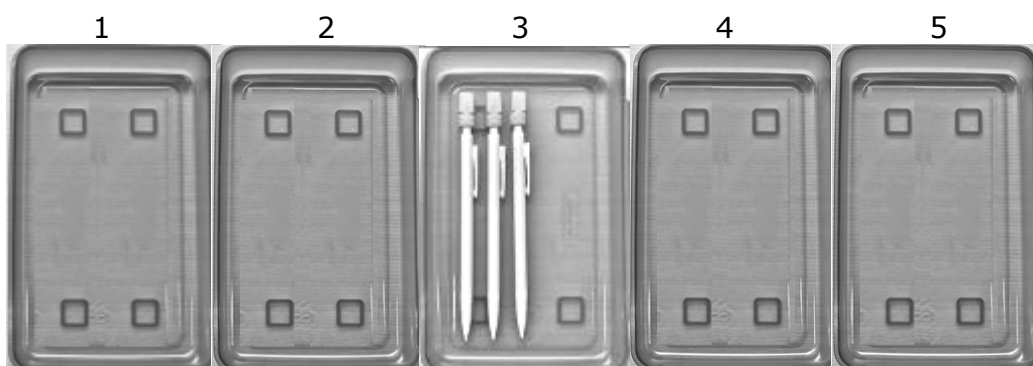
products	pieces
1	2

- Two two-piece products will be placed in the second compartment:



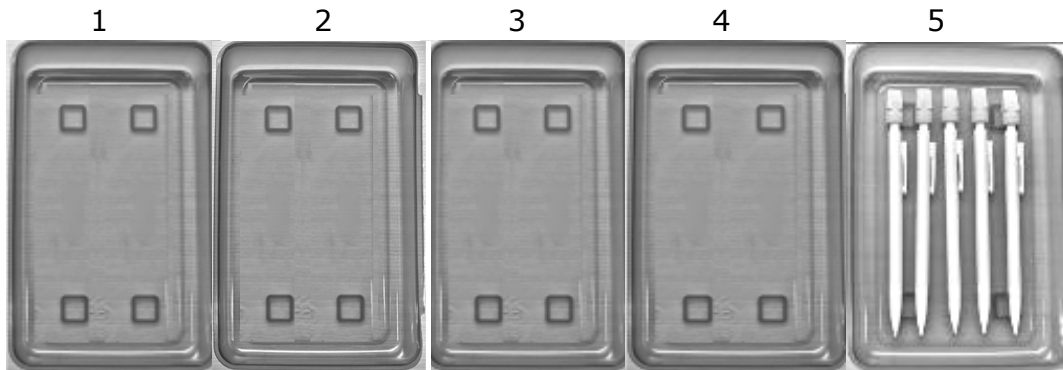
products	pieces
1	2
2	4

- Three two-piece products will be placed in the third compartment:



products	pieces
1	2
2	4
3	6

- ⇒ The student will continue assembling two-piece products and placing them in compartments until he or she reaches the specified number of products (five products for this example).

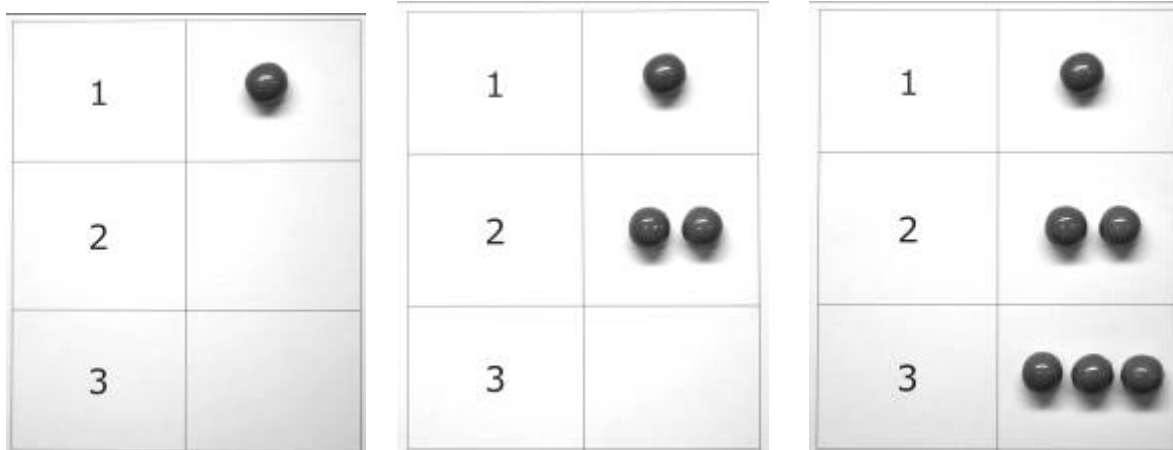


products	pieces
1	2
2	4
3	6
4	8
5	10

- ⇒ The student will identify how many parts were used to make the five products. For this example, the student should identify ten parts.
- ⇒ The student should identify the equation $2 \times 5 = 10$ to represent the scenario.

Level 1: page 11

This Level 1 task involves a two-column chart with increasing numbers of objects in the second column. Two-column chart example:



STAAR Reporting Category 2 – Properties and Attributes of Functions: The student will demonstrate an understanding of the properties and attributes of functions.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations	Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations
<p>Algebra (2) Foundations for functions. The student uses the properties and attributes of functions. The student is expected to</p> <ul style="list-style-type: none"> (A) identify and sketch the general forms of linear ($y = x$) and quadratic ($y = x^2$) parent functions; Supporting Standard (B) identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete; Readiness Standard (C) interpret situations in terms of given graphs or create situations that fit given graphs; Supporting Standard (D) collect and organize data, make and interpret scatterplots (including recognizing positive, negative, or no correlation for data approximating linear situations), and model, predict, and make decisions and critical judgments in problem situations. Readiness Standard 	<p>Essence Statement B: Uses properties and attributes of functions.</p>

Level 3

Prerequisite skill: use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area

The student will be presented a graph representing a number of products created per a specific time increment. The number of products created will increase at the same rate for each time period. The x axis will be labeled with a unit of time and marked in increments of that time. The y axis will start at zero and will be labeled with "Number of Products" and marked in increments of one. The first four points will be plotted on the graph and will establish the pattern. The student will determine the pattern displayed in the graph. Using the data in the graph, the student will predict the number of products that will be made in two more time increments. The student will generate an equation to confirm his or her prediction.

Predetermined Criteria

1. The student will determine the pattern displayed in the graph.
2. The student will predict the number of products that will be made in two more time increments.
3. The student will generate an equation to confirm his or her prediction.

Process skill: communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models

Level 2

Prerequisite skill: generate a table of paired numbers based on a real-life situation such as insects and legs

The student will be presented a series of compartments in a horizontal row and labeled in increments of one. The student will also be presented materials for identical two-piece products. The student will assist in assembling one simple two-piece product and placing it in the first compartment. Two additional two-piece products will be assembled and placed in the second compartment. Three additional two-piece products will be assembled and placed in the third compartment. The student will continue assembling two-piece products and placing them in compartments. The student will identify how many parts are needed to reach a specified number of two-piece products. The student will identify an equation for the problem.

Predetermined Criteria

1. The student will assist in assembling simple two-piece products and placing them in the appropriate compartments.
2. The student will identify how many parts are needed to reach a specified number of two-piece products.
3. The student will identify an equation for the problem.

Process skill: select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem

Algebra I; Reporting Category 2 Alg (2); Essence Statement: B

Level 1

Prerequisite skill: identify patterns in a list of related number pairs based on a real-life situation and extend the list

The student will be presented one container with six identical objects and a two-column chart. The three cells in the first column of the chart will be filled in with the numbers 1, 2, and 3 respectively. The student will explore the six identical objects. The student will participate in placing the quantity of objects in the cells of the second column to correspond with the numbers in the first column. The student will acknowledge the increasing quantities of objects in the second column.

Predetermined Criteria

1. The student will explore the six identical objects.
2. The student will participate in placing the quantity of objects in the cells of the second column to correspond with the numbers in the first column.
3. The student will acknowledge the increasing quantities of objects in the second column.

Definitions/Examples for STAAR Reporting Category 3 (A.5)
Essence Statement C

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Level 2: page 14

two-column table – a table with two columns of data.

- Example of a two-column table appropriate for this Level 2 task:

Number of Days Riding Bus	Cost of Riding Bus
1	\$2.00
2	\$4.00
3	\$6.00
4	\$8.00
5	

STAAR Reporting Category 3 – Linear Functions: The student will demonstrate an understanding of linear functions.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations	Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations
<p>Algebra (5) Linear functions. The student understands that linear functions can be represented in different ways and translates among their various representations. The student is expected to</p> <ul style="list-style-type: none"> (A) determine whether or not given situations can be represented by linear functions; Supporting Standard (B) determine the domain and range for linear functions in given situations; Supporting Standard (C) use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions. Readiness Standard 	<p>Essence Statement C: Understands different representations of linear functions.</p>

Level 3

Prerequisite skill: formulate problem situations when given a simple equation and formulate an equation when given a problem situation

The student will be presented a real-life problem in which he or she works at a job, earns a specific amount an hour, and works a specific number of hours each day. The student will determine how much he or she earns each day. The student will generate a graph or a table to show the total earned each day for a five-day period. The student will generate an equation to show the total earned for the five-day period.

Predetermined Criteria

1. The student will determine how much he or she earns each day.
2. The student will generate a graph or a table to show the total earned each day for a five-day period.
3. The student will generate an equation to show the total earned for the five-day period.

Process skill: identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics

Transition

Algebra I; Reporting Category 3 Alg (5); Essence Statement: C

Level 2

Prerequisite skill: describe the relationship between two sets of related data such as ordered pairs in a table

The student will be presented a real-life problem that requires the student to find the cost of riding the bus for five days. The student will be presented a two-column table with five rows. The table will have one column for number of days and one column for cost. The first four rows of the table will be completed. The fifth row will only have the number of days recorded. The student will identify the cost of riding the bus for one day. The student will identify the cost of riding the bus for three days. The student will complete the table supplying the cost of riding the bus for five days.

Predetermined Criteria

1. The student will identify the cost of riding the bus for one day.
2. The student will identify the cost of riding the bus for three days.
3. The student will complete the table supplying the cost of riding the bus for five days.

Process skill: identify mathematics in everyday situations

Transition

Level 1

Prerequisite skill: identify patterns in related addition and subtraction sentences (fact families for sums to 18) such as $2 + 3 = 5$, $3 + 2 = 5$, $5 - 2 = 3$, and $5 - 3 = 2$

The student will participate in a task that earns him or her a dollar that can be exchanged for a preferred activity. The student will acknowledge the dollar. The student will participate in pairing the dollar with the equation $0 + 1 = 1$. The student will participate in exchanging the dollar to engage in a preferred activity. The student will acknowledge the equation $1 - 1 = 0$ that represents the exchange.

Predetermined Criteria

1. The student will participate in a task that earns him or her a dollar.
2. The student will participate in pairing the dollar with the equation $0 + 1 = 1$.
3. The student will acknowledge the equation $1 - 1 = 0$ that represents the exchange.

Transition

STAAR Reporting Category 4 – Linear Equations and Inequalities: The student will formulate and use linear equations and inequalities.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations	Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations
<p>Algebra (7) Linear functions. The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. The student is expected to</p> <ul style="list-style-type: none"> (A) analyze situations involving linear functions and formulate linear equations or inequalities to solve problems; Supporting Standard (B) investigate methods for solving linear equations and inequalities using [concrete] models, graphs, and the properties of equality, select a method, and solve the equations and inequalities; Readiness Standard (C) interpret and determine the reasonableness of solutions to linear equations and inequalities. Supporting Standard 	<p>Essence Statement D: Formulates and solves equations and inequalities of linear functions.</p>

Level 3

Prerequisite skill: formulate equations from problem situations described by linear relationships

The student will be presented a real-life problem in which a specific number of items need to be divided among a given number of people. The student will generate a division equation to represent the real-life problem. The student will generate a multiplication equation to check his or her work. The student will generate a new equation for an increased number of people.

Predetermined Criteria

1. The student will generate a division equation to represent the real-life problem.
2. The student will generate a multiplication equation to check his or her work.
3. The student will generate a new equation for an increased number of people.

Process skill: identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics

Algebra I; Reporting Category 4 Alg (7); Essence Statement: D

Level 2

Prerequisite skill: describe the relationship between sets of data in graphic organizers such as lists, tables, charts, and diagrams

The student will be presented a table of paired numbers. The first column of the table will be labeled "Number of People" and the second column will be labeled "Number of Items." The first two rows of the table will be completed. The student will be presented a scenario in which a given number of people each need the same number of items. The student will complete the third row of the table. After reviewing the data, the student will be presented four equations containing different operations and constants. The student will identify the equation that represents the process used to complete the third row. The student will complete the fourth and fifth rows of the table using the equation.

Predetermined Criteria

1. The student will complete the third row of the table.
2. The student will identify the equation that represents the process used to complete the third row.
3. The student will complete the fourth and fifth rows of the table using the equation.

Process skill: identify mathematics in everyday situations

Level 1

Prerequisite skill: use patterns and relationships to develop strategies to remember basic addition and subtraction facts. Determine patterns in related addition and subtraction number sentences (including fact families) such as $8 + 9 = 17$, $9 + 8 = 17$, $17 - 8 = 9$, and $17 - 9 = 8$

The student will be presented a pie chart divided into equal sections with each section having a different sensory component. The student will explore each of the sensory components in the pie chart. The student will participate in distributing each section of the pie chart to a different person. The student will acknowledge a subtraction equation as it is built throughout the task.

Predetermined Criteria

1. The student will explore each of the sensory components in the pie chart.
2. The student will participate in distributing each section of the pie chart to a different person.
3. The student will acknowledge a subtraction equation as it is built throughout the task.