# Keenville User Guide 

User Guide for 2023-2024<br>Part 3: Mathematics Games



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## Introduction

Keenville includes 17 games aligned to mathematics standards (15 games are assigned by the teacher and 2 games are free play [mini-game]). The Keenville mathematics games assess students' knowledge and mathematical reasoning skills.

## Mathematics Games

| Games | Grades | Skills Assessed |
| :--- | :---: | :---: |
| Cloud Hopper | 1 and 2 | Reading and Writing Numerals |
| Treat Factory | 1 and 2 | Interpreting Data with Charts and Graphs |
| Farmers Market | 1 and 2 | Identifying and Determining the Value of Money |
| Keenville Sheriff | 1 and 2 | Solving Word Problems |

## Cloud Hopper



In Cloud Hopper, students fly through clouds that represent alternate ways of indicating a given target numeral in order to fly to their destination.

## Cloud Hopper Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :--- | :--- | :--- | :--- |
| Kindergarten | NA | Students performing in <br> kindergarten level 3 can <br> identify numerals up to <br> 20 with a number, set of <br> objects, base ten blocks <br> (pictures only), and <br> number lines. |  |
| Grade 1 | Students performing in <br> grade 1 level 1 can <br> identify numerals up to <br> 50 with a number, set of <br> objects, base ten blocks <br> (pictures only), and <br> number lines. | Students performing in <br> grade 1 level 2 can <br> identify numerals up to <br> 100 with a number, set <br> of objects, base ten <br> block (pictures only), <br> and number lines. | Students performing in <br> grade 1 level 3 can <br> identify numerals up to <br> 120 with a number, set <br> of objects, base ten <br> blocks (pictures and <br> written form), and <br> number lines. |


|  | Students performing in <br> grade 2 level 1 can <br> identify numerals up to <br> Grade 2 <br> 300 with numbers set of <br> objects, base ten blocks <br> (pictures or written <br> form), and number lines. | Students performing in <br> grade 2 level 2 can <br> identify numerals up to <br> 600 with numbers, base <br> ten blocks (pictures and <br> written form), numbers <br> lines, number names, <br> and expanded form (with <br> non-zero digits). | Students performing in <br> grade 2 level 3 can <br> identify numerals up to <br> 1,000 with numbers, <br> base ten blocks <br> (pictures and written <br> form), numbers lines, <br> number names, and <br> expanded form. |
| :--- | :--- | :--- | :--- |
| Grade 3 | Students performing in <br> grade 3 level 1 can <br> identify numerals up to <br> 2,00 with numbers, <br> base ten blocks <br> (pictures and written <br> form), numbers lines, <br> number names, and <br> expanded form. |  |  |

## Cloud Hopper Sample Item



## Student Leveling Information

Leveling Rule for Cloud Hopper: Students will begin a round of play by matching the target number to a number set displayed in the clouds. Students will match the target to a set of objects, number line, base ten blocks, base ten numbers, expanded form, or number name. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Treat Factory



Treat Factory is set in a factory that makes treats for the Keens' parties. Students help the head chef organize and interpret the Keens' orders.

## Treat Factory Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Kindergarten | NA | NA | Students performing in kindergarten level 3 can observe, gather, and organize data in a frequency chart with two categories. Students can interpret data on single-scaled bar or pictographs with two categories and up to 10 total data points with no more than 5 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. |


| Grade 1 | Students performing in grade 1 level 1 can observe, gather, and organize data in a frequency chart with two categories. Students can interpret data on single-scaled bar or pictographs with two categories and up to 14 total data points with no more than 7 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. | Students performing in grade 1 level 2 can observe, gather, and organize data in a frequency chart with three categories. Students can interpret data on single-scaled bar or pictographs with three categories and up to 15 total data points with no more than 5 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. | Students performing in grade 1 level 3 can observe, gather, and organize data in a frequency chart with three categories. Students can interpret data on single-scaled bar or pictographs with three categories and up to 18 total data points with no more than 6 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. |
| :---: | :---: | :---: | :---: |
| Grade 2 | Students performing in grade 2 level 1 can observe, gather, and organize data in a single-scaled bar or pictograph with three categories. Students can interpret data on single-scaled bar or pictographs with three categories and up to 30 total data points with no more than 10 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. | Students performing in grade 2 level 2 can observe, gather, and organize data in a single-scaled bar or pictograph with three categories. Students can interpret data on single-scaled bar or pictographs with three categories and up to 45 total data points with no more than 15 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. | Students performing in grade 2 level 3 can observe, gather, and organize data in a single-scaled bar or pictograph with four categories. Students can interpret data on single-scaled bar or pictographs with four categories and up to 60 total data points with no more than 15 in a category. Students interpret and answer questions about data in a single-scaled bar or pictograph. |
| Grade 3 | Students performing in grade 3 level 1 can observe, gather, and organize data in a multiscaled bar or pictograph with four categories. Students can interpret data on single-scaled bar or pictographs with four categories and up | Students performing in grade 3 level 2 can observe, gather, and organize data in a multiscaled bar or pictograph with four categories. Students can interpret data on single-scaled bar or pictographs with four categories and up | Students performing in grade 3 level 3 can observe, gather, and organize data in a multiscaled bar or pictograph with five categories. Students can interpret data on single-scaled bar or pictographs with five categories and up to |

$\left.\begin{array}{|l|l|l|l|}\hline & \text { to } 60 \text { total data points } \\ \text { with no more than 15 in } \\ \text { a category. Students } \\ \text { interpret and answer } \\ \text { questions about data in } \\ \text { a multi-scaled bar or } \\ \text { pictograph. }\end{array} \quad \begin{array}{l}\text { to data points } \\ \text { with no more than 20 in } \\ \text { a category. Students } \\ \text { interpret and answer } \\ \text { questions about data in } \\ \text { a multi-scaled bar or } \\ \text { pictograph. }\end{array} \quad \begin{array}{l}100 \text { total data points } \\ \text { with no more than 20 in } \\ \text { a category. Students } \\ \text { interpret and answer } \\ \text { questions about data in } \\ \text { a multi-scaled bar or } \\ \text { pictograph. }\end{array}\right]$.

## Treat Factory Sample Item



## Student Leveling Information

Leveling Rule for Treat Factory: Students will begin a round of play by organizing a displayed data set into a tally chart or graph and then using the chart or graph to answer interpretation questions associated with the data. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds are available in a level? | What's in a round of play? | $1^{\text {st }}$ Scoring and Leveling decision is based on the Creation of the Graph. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 unique rounds of play in a level. <br> $2^{*}$ graphs in each round of play. |  | Did the student correctly create the graph on the first try? |  |  | Did the student create the graph correctly on the first try? |  |
|  |  | YES |  |  | NO |  |
| Each graph has 5* interpretation questions. |  | $2^{\text {nd }}$ Scoring and Leveling decision is based on the Interpretation Questions. |  |  |  |  |
|  |  | $\begin{aligned} & \text { Move } \\ & \text { Up } \end{aligned}$ | Stay and Play | Move Down | Stay and Play | Move Down |
|  |  | $80 \%$ or more correct | 41-79\% correct | $40 \%$ or less correct | $61 \%$ or more correct | $60 \%$ or less correct |
| Note: Students must organize data on the graph correctly to level up. After three incorrect attempts to create the graph, the game will provide a correct graph for the student to reference while answering interpretation questions. <br> *For game levels K-1, students respond to 1 graph and 3 interpretation questions. |  |  |  |  |  |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


Farmers Market


Farmers Market is set at the Keenville grocery store. The Keens need help purchasing items at the store, so students help shop for items, pay, and make change at the register using coins and dollar bills up to $\$ 1,000$.

Farmers Market Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :--- | :--- | :--- | :--- |
| Kindergarten | NA | Students performing in <br> kindergarten level 3 <br> can identify pennies, <br> nickels, and dimes and <br> know their name and <br> value. |  |
| Grade 1 | Students performing <br> grade 1 level 1 can <br> identify the value of all <br> coins and pay with the <br> correct number of <br> pennies, nickels, <br> dimes, or quarters <br> aligned to a given <br> value. | Students performing <br> grade 1 level 2 can <br> compare values of <br> pennies, nickels, <br> dimes, and quarters <br> equal in value and pay <br> with the correct value <br> of pennies, nickels, <br> dimes, or quarters or <br> combined coin value. | Students performing <br> grade 1 level 3 can <br> compare values of <br> pennies, nickels, dimes <br> and quarters less than <br> or greater than a given <br> amount and pay with <br> the correct value of <br> pennies, nickels, <br> dimes, and quarters. |


|  | Students performing in <br> grade 2 level 1 can find <br> the value of a group of <br> coins up to 50 cents <br> without given the <br> number of items to <br> purchase and can pay <br> with the correct value <br> of pennies, nickels, <br> dimes, or quarters or <br> combined coin value. | Students performing in <br> grade 2 level 2 can find <br> the value of a group of <br> bills up to 50 dollars <br> without given the <br> number of items to <br> purchase and can pay <br> with the correct value <br> of dollar bills or <br> combined dollar value. | Students performing in <br> grade 2 level 3 can find <br> the value of a group of <br> coins up to 100 cents <br> without given the <br> number of items to <br> purchase and can pay <br> with the correct value <br> of pennies, nickels, <br> dimes, or quarters or <br> combined coin value. <br> Students can find the <br> value of a group of bills <br> up to 100 dollars <br> without given the <br> number of items to <br> purchase and can pay <br> with the correct value <br> of dollar bills or <br> combined dollar value. |
| :--- | :--- | :--- | :--- |
| Grade 3 | Students performing in <br> grade 3 level 1 can find <br> the value of a group of <br> bills up to 1,000 dollars <br> without given the <br> number of items to <br> purchase and can pay <br> with the correct value <br> of dollar bills or <br> combined dollar value. |  | NA |

## Farmers Market Sample Item



## Student Leveling Information

Leveling Rule for Farmers Market: Market - Students will begin a round of play by choosing items for purchase and then placing the items on the checkout counter. The cashier will total the cost of the items and present the amount on the register. Students will use bills and/or coins to pay for the selected items. The total cost will be presented on the register. Students will determine if they have the exact change or if they need to larger bill for change. Then, when paying, students must pay the exact amount presented on the register using the bills and coins. Students will follow this process, market and then paying, 5 times within a round of play. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds | When does a student... |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Wre available in a <br> level? |  | Move up a <br> level? |  |  |
| Stay in the <br> level? |  |  |  |  |
| 2 unique rounds of <br> play | 5 unique questions | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Keenville Sheriff



Keenville Sheriff is set in the Sheriff's Office where Keens can bring their "problems" to the Sheriff to solve. Students can use tools such as counters, number lines, hundreds charts, and base ten blocks to help the Keenville Sheriff solve the Keen's problems.

## Keenville Sheriff Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Kindergarten | NA | NA | Students performing in kindergarten level 3 can use a variety of strategies to solve real-life result unknown addition and subtraction problems within 10 involving single-digit whole numbers. Students will choose a too, such as counters, number line, or 100 s chart, to solve. |
| Grade 1 | Students performing in grade 1 level 1 can use a variety of strategies to solve real-life result unknown addition and subtraction problems within 20 involving single-digit whole numbers. Students will choose a tool, such as counters, number line, or 100 s chart, to solve. | Students performing in grade 1 level 2 can use a variety of strategies to solve real-life change unknown addition and subtraction problems within 20 involving single-digit whole numbers. Students will choose a tool, such as counters, number line, or 100 s chart, to solve. | Students performing in grade 1 level 3 can use a variety of strategies to solve real-life start unknown addition and subtraction problems within 20 involving single-digit whole numbers. Students will choose a tool, such as counters, number line, or 100 s chart, to solve. |
| Grade 2 | Students performing in grade 2 level 1 can use a variety of strategies to solve real-life one-step addition and subtraction word problems within 100 with no regrouping. Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. | Students performing in grade 2 level 2 can use a variety of strategies to solve real-life two-step addition and subtraction word problems within 50 with no regrouping. Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. | Students performing in grade 2 level 3 can use a variety of strategies to solve real-life two-step addition and subtraction word problems within 100 with regrouping. Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. |


|  | Students performing in <br> grade 3 level 1 can <br> use a variety of <br> strategies to solve <br> real-life two-step <br> addition and <br> subtraction word <br> problems within 1,000 <br> using various <br> strategies and tools. <br> Students will choose a <br> tool, such as number <br> line, 100s chart, or <br> base ten blocks, to <br> solve. | NA | NA |
| :--- | :--- | :--- | :--- |

## Keenville Sheriff Sample Item



## Student Leveling Information

Leveling Rule for Keenville Sheriff: Students will begin a round of play by listening to the Keens' problems and helping Sheriff Keen choose a strategy to solve the problem. Students will be presented real-world addition and subtraction word problems and will choose an interactive strategy to solve the problem and present their answer. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Stay in the <br> level? | Move down a <br> level? |  |
| 2 unique rounds of <br> play | 8 unique questions | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## High-Rise Builders



High-Rise Builders is set on a construction site where Keens must solve addition and subtraction number sentences using formal and informal strategies to "balance" the construction beam.

High-Rise Builders Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :--- | :--- | :--- | :--- |
| Kindergarten | NA | NA | Students performing in <br> kindergarten level 3 <br> can add and subtract <br> up to 10 using <br> equations. |
|  | Students performing in <br> grade 1 level 1 can use <br> formal and informal <br> properties and <br> strategies to add and <br> subtract within 20. | Students performing in <br> grade 1 level 2 can use <br> formal and informal <br> properties and <br> strategies to subtract a <br> 2-digit number and a 1- <br> digit number or a 2- <br> digit number and a <br> multiple of 10 within <br> 50. | Students performing in <br> frade 1 level 3 can use <br> fropal and informal <br> straterties and <br> subtract a 2-digit and <br> number and a 1-digit <br> number or a 2-digit <br> number and a multiple <br> of 10 within 100. |


|  | Students performing in <br> grade 2 level 1 can use <br> formal and informal <br> properties and <br> strategies to add two 2- <br> digit numbers or <br> subtract two 2-digit <br> numbers with no <br> regrouping within 50. | Students performing in <br> grade 2 level 2 can use <br> formal and informal <br> properties and <br> strategies to add three <br> 2-digit numbers or <br> subtract two 2-digit <br> numbers with <br> regrouping within 50. | Students performing in <br> grade 2 level 3 can use <br> formal and informal <br> properties and <br> strategies to add four <br> 2-digit numbers or <br> subtract two 2-digit <br> numbers. |
| :--- | :--- | :--- | :--- |
|  | Students performing in <br> grade 3 level 1 can use <br> formal and informal <br> properties and <br> strategies to add and <br> subtract up to 3-digit <br> numbers within 1,000 <br> with no regrouping. | Students performing in <br> grade 3 level 2 can use <br> formal and informal <br> properties and <br> strategies to add and <br> subtract up to 3-digit <br> numbers within 1,000 <br> with regrouping. |  |

High-Rise Builders Sample Item


## Student Leveling Information

Leveling Rule for High-Rise Builders: Students will begin a round of play by solving a given equation using mental math strategies. This game has two parts. In Part A, students will present the solution to the equation, and in Part B, students will show the strategy they used to solve the equation. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| 2 unique rounds of <br> play | 10 unique <br> questions having a <br> Part A and a Part B | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.
 so that more Keens and Peachlings will have a place to live! The crew must load the beam equally before they move it to the skyscraper, but they have forgotten their math strategies! Can you help them load the beams and build the skyscraper?


## Captain Peachbeard



Captain Peachbeard measures a student's ability to add or subtract using strategies such as counters, number lines, hundreds charts, and base ten blocks.

## Captain Peachbeard Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :--- |
| Kindergarten | NA | Students performing in <br> kindergarten level 3 <br> can use strategies to <br> add and subtract <br> within10. Students will <br> choose a tool, such as <br> counters, number line, <br> or 100s chart, to solve <br> problems. |  |


| Grade 1 | Students performing in grade 1 level 1 can use strategies to add or subtract within 20. Students will choose a tool, such as counters, number line, or 100s chart, to solve problems. | Students performing in grade 1 level 2 can use a variety of strategies to solve real-life addition and subtraction problems with one- and two-digit whole numbers and adding and subtracting one-digit and two-digit numbers with multiples of 10 up to 50 . <br> Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. | Students performing in grade 1 level 3 can use a variety of strategies to solve real-life addition and subtraction problems with one- and two-digit whole numbers and adding and subtracting one-digit and two-digit numbers with a multiple of 10 up to 100. Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. |
| :---: | :---: | :---: | :---: |
| Grade 2 | Students performing in grade 2 level 1 can use interactive tools and strategies to add two 2-digit numbers or subtract two 2-digit numbers with no regrouping within 50. Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. | Students performing in grade 2 level 2 can use interactive tools and strategies to add three 2-digit numbers or subtract two 2-digit numbers with regrouping within 50. | Students performing in grade 2 level 3 can use interactive tools and strategies to add four 2-digit numbers or subtract two 2-digit numbers. |
| Grade 3 | Students performing in grade 3 level 1 use a variety of strategies to solve real-life addition and subtraction problems to solve problems within 2,000. Students will choose a tool, such as number line, 100s chart, or base ten blocks, to solve. | NA | NA |

## Captain Peachbeard Sample Item



## Student Leveling Information

Leveling Rule for Captain Peachbeard: Students will begin a round of play by choosing an interactive strategy to solve a given addition or subtraction problem. Each problem holds a secret number that Captain Peachbeard needs to unlock the treasure chests. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## River Tubing



River Tubing is set on a river where students decompose, add, subtract, or multiply to help Keens begin their trip down the river on tubes.

River Tubing Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Kindergarten | NA | NA | Students performing in kindergarten level 3 compose and decompose numbers less than or equal to 10. |
| Grade 1 | NA | Students performing in grade 1 level 2 can add or subtract from $0-9$ solving for a number when result, change, or start are unknown. | Students performing in grade 1 level 3 can add or subtract from 0-20 solving for a number when result, change, or start are unknown. |
| Grade 2 | Students performing in grade 2 level 2 can add or subtract up to 100 without regrouping when result, change, or start are unknown. | Students performing in grade 2 level 2 can add or subtract up to 100 with regrouping when result, change, or start are unknown. | Students performing in grade 2 level 3 can write an equation up to $5 \times 5$ to represent repeated addition. |
| Grade 3 | Students performing in grade 3 level 1 can determine the unknown whole number in multiplication problems up to $5 \times$ 5. | Students performing in grade 3 level 2 can write an equation up to $10 \times 10$ to represent repeated addition. | Students performing in grade 3 level 3 can determine the unknown whole number in multiplication problems up to $10 \times 10$. |

## River Tubing Sample Item



## Student Leveling Information

Leveling Rule for River Tubing: Students will begin a round of play by determining the number of Keens needed to make the equation true. Students are challenged to use their skills of decomposing numbers, adding, subtracting, or multiplying to help Lifeguard Keen group the Keens and send them safely tubing down the river. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| varies per level | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Carnival Time



Carnival Time is set at the town center where there is a giant analog clock that is also a fun Ferris-wheel ride. Students help run the ride by telling time to the nearest hour, half-hour, quarter-hour, five minutes, and minute, distinguish between a.m. and p.m., and solve problems involving elapsed time.

## Carnival Time Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :--- | :--- | :--- | :--- |
| Kindergarten | NA | NA | NA |
| Grade 1 | Students performing in <br> grade 1 level 1 can tell <br> time to the hour when <br> shown an analog and <br> digital clock. | Students performing in <br> grade 1 level 2 can tell <br> time to the half-hour <br> when shown an analog <br> and digital clock. | Students performing in <br> grade 1 level 3 can <br> measure elapsed time <br> to the hour. |
| Grade 2 | Students performing in <br> grade 2 level 1 can tell <br> time to the nearest five <br> minutes using an <br> analog and digital clock. | Students performing in <br> grade 2 level 2 can tell <br> time to the nearest five <br> minutes, indicating a.m. <br> or p.m., using an analog <br> and digital clock. | Students performing in <br> grade 2 level 3 can <br> estimate and measure <br> elapsed time to the <br> nearest hour and half <br> hour, indicating if the <br> time of day is a.m. or <br> p.m., using analog and <br> digital clocks. |


| Grade 3 | Students performing in grade 3 level 1 can tell time to the nearest minute, indicating if the time of day is a.m. or p.m., using analog and digital clocks. | Students performing in grade 3 level 2 can tell time to the nearest fifteen minutes within an hour, indicating if the time of day is a.m. or p.m., using analog and digital clocks. | Students performing in grade 3 level 3 can solve real-life elapsed time problems to the hour, half hour and quarter hour with a.m. or p.m. where times presented are only on the hour, half hour, or quarter hour using analog and digital clocks. |
| :---: | :---: | :---: | :---: |

## Carnival Time Sample Item



## Student Leveling Information

Leveling Rule for Carnival Time: Students will begin a round of play by determining the correct time to display on the clock. When students display the correct time for the given problem, the Ferris wheel clock will take the Keens soaring through the skies. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| 10 unique <br> unique rounds of <br> play | questions <br> Note: most rounds are 10, but <br> not always. See play history <br> report for items per round of <br> play, | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Bargain Hunters



Bargain Hunters is set at Keenville's flea market where Keens must help College Keen choose furniture and decorations for their dorm room. College Keen needs to make sure everything they buy is the right size to fit in their apartment, so the Keens will need to help measure each object and choose objects to buy that are the correct size.

Bargain Hunters Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :--- | :--- | :--- |
| Kindergarten | NA | Students performing in <br> kindergarten level 3 <br> can compare two <br> objects with a <br> measurable attribute. |  |
| Grade 1 | Students performing in <br> grade 1 level 1 can <br> compare three objects <br> and place them in <br> order by length. | Students performing in <br> grade 1 level 2 can <br> compare the lengths of <br> two objects indirectly <br> by using a third object. | Students performing in <br> grade 1 level 3 can <br> measure the length <br> and width of objects <br> using non-standard <br> units. |


|  | Students performing in <br> grade 2 level 1 can <br> choose the appropriate <br> tool to use for <br> measuring a given <br> object. | Students performing in <br> grade 2 level 2 can <br> estimate the lengths of <br> objects with units of <br> measure such as <br> inches, feet, and yards. | Students performing in <br> grade 2 level 3 can <br> measure to determine <br> how much longer one <br> object is than another <br> object. |
| :--- | :--- | :--- | :--- |
| Grade 3 | Students performing in <br> grade 3 level 1 can find <br> the area of objects <br> when given the length <br> measurements. | Students performing in <br> grade 3 level 2 can find <br> the length of a side <br> length when given the <br> perimeter and one side <br> length. |  |

## Bargain Hunters Sample Item



## Student Leveling Information

Leveling Rule for Bargain Hunters: Students will begin a round of play by building a Peachling measuring tool to be used to measure bargains found at the Keenville Market. Students will advance to using a standard measuring tool as they level up in the game. After completion of each round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| 10 unique <br> questions | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Peachling Gym



Peachling Gym is set in a gym where students help Peachlings sort cards comparing numerals to a specified target numeral card. The playing cards may be greater than, less than, or equal to the target numeral. At the end of the round of play, students will record the results of comparisons using written descriptions or symbol cards.

Peachling Gym Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Kindergarten | NA | NA | Students performing in kindergarten level 3 compare two sets of items up to 10 using the words "less than, greater than, or the same as." |
| Grade 1 | Students performing in grade 1 level 1 compare two 2-digit numbers up to 50 using concrete models and the words "less than, greater than, or the same as." | Students performing in grade 1 level 2 compare two 2-digit numbers up to 80 using concrete models, the words "less than, greater than, or equal to," and symbols >, <, or =. | Students performing in grade 1 level 3 compare two 2-digit numbers up to 100 using concrete models and symbols <, $>$, and $=$. |
| Grade 2 | Students performing in grade 2 level 1 compare two 2-digit numbers up to 250 using concrete models and symbols <, $>$, and =. | Students performing in grade 2 level 2 compare two 2-digit numbers up to 500 using concrete models and symbols <, $>$, and =. | Students performing in grade 2 level 3 compare two 2-digit numbers up to 1000 using concrete models and symbols <, $>$, and $=$. |
| Grade 3 | Students performing in grade 3 level 1 compare two 2-digit numbers from $1,000-$ 2,000 using symbols <, $>$, and $=$. | Students performing in grade 3 level 2 compare two 2-digit numbers from 2,000- <br> 3,000 using symbols <, $>\text {, and }=\text {. }$ | NA |

## Peachling Gym Sample Item



## Student Leveling Information

Leveling Rule for Peachling Gym: Students will begin a round of play by determining how to sort the playing cards based on the target number. Students will then sort the remaining cards into the appropriate box based on comparison rules. Once students sort the cards, they label the sorted groups as less than, greater than, or equal to the target number. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds are available in a level? | What's in a round of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Move up a level? | Stay in the level? | Move down a level? |
| 4 unique rounds of play | 5 unique items (including 3 label cards) | $75 \%$ or more correct | 51-74\% correct | $50 \%$ or less correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Peachling Café



Peachling Café is set at the Keenville café where Chef Keen discovered a secret recipe to make food that the Peachlings love, but he cannot feed all the Peachlings by himself. Students help feed the Peachlings by working with numbers up to the three digits to show they understand place value.

Peachling Café Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :--- | :--- | :--- |
| Kindergarten | NA | NA | Students performing in <br> kindergarten level 3 <br> compose and <br> decompose numbers <br> from 11-19 into tens <br> and ones. |
| Grade 1 | Students performing in <br> grade 1 level 1 <br> understand that a ten is <br> a bundle of ten ones. | Students performing in <br> grade 1 level 2 <br> understand how to <br> represent numbers 21- <br> 50 using base ten to <br> show the amount of <br> tens and ones. | Students performing in <br> grade 1 level 3 <br> understand how to <br> represent numbers 51- <br> 120 using base ten to <br> show the amount of <br> tens and ones. |

\(\left.$$
\begin{array}{|l|l|l|l|}\hline & & \begin{array}{l}\text { Students performing in } \\
\text { grade 2 level 2 } \\
\text { understand how to } \\
\text { represent numbers in } \\
\text { Gase ten to show a 3- } \\
\text { Grade 2 }\end{array} & \begin{array}{l}\text { Students performing in } \\
\text { grade 2 level 1 } \\
\text { understand that a } \\
\text { hundred is a bundle of } \\
\text { ten tens. }\end{array}\end{array}
$$ $$
\begin{array}{l}\text { Students performing in } \\
\text { amounts of hundreds 2 level 3 } \\
\text { and tens. }\end{array}
$$ \quad \begin{array}{l}understand that the <br>
three digits of a 3-digit <br>
number represent <br>
amounts of hundreds, <br>

tens, and ones.\end{array}\right]\)|  |
| :--- |

## Peachling Café Sample Item



## Student Leveling Information

Leveling Rule for Peachling Café: Students will begin a round of play by counting the number of Peachlings sitting in the dining room and determine how many Peachlings need to be fed. Students will then use the interactive place value strategy to serve that amount of food for the Peachlings. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| ler 15 unique <br> items | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Guitar Maker



Guitar Maker is set in a guitar shop where students choose various shapes to build guitars for the Keens. Students sort cards based on specified prompts to compare shapes.

## Guitar Maker Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Kindergarten | NA | NA | Students performing in kindergarten level 3 can identify shapes. Students can also identify shapes as two-dimensional (flat) or three-dimensional (solid). Students can compare similarities and differences between and among twodimensional (flat) and threedimensional (solid) shapes. Students can compose simple shapes to form larger shapes. |
| Grade 1 | Students performing in grade 1 level 1 can identify 2-D and 3-D shapes with specific non-defining attributes including. | Students performing in grade 1 level 2 can identify 2-D and 3-D shapes with specific defining attributes. | Students performing in grade 1 level 3 can distinguish between different types of attributes (both defining and nondefining). Students can identify 2-D and 3-D composite shapes. |
| Grade 2 | Students performing in grade 2 level 1 identify 2-D and 3-D shapes. | Students performing in grade 2 level 2 can identify 2-D and 3-D shapes having a specified attribute. | Students performing in grade 2 level 3 can sort 2-D and 3-D shapes having a specified attribute or set of attributes and can compare attributes of a given shape within the category of quadrilaterals. |


| Grade 3 | Students performing in grade 3 level 1 can sort shapes that are quadrilaterals and those that are not. Students can identify quadrilaterals with specified attributes. | Students performing in grade 3 level 2 can identify defining attributes of quadrilaterals and can sort quadrilaterals by defining attributes. Students can compare attributes of a given shape within the category of quadrilaterals. Students can analyze specific 3-D figures to identify quadrilaterals as faces of these figures. | NA |
| :---: | :---: | :---: | :---: |

## Guitar Maker Sample Item



## Student Leveling Information

Leveling Rule for Guitar Maker: Students will begin a round of play by determining which shape each Peachling needs to build their guitar. After determining the sorting rule, students will sort the remaining shapes into the appropriate boxes, so each Peachling has all the shapes needed to build their guitar. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| 4 unique rounds of <br> play | 5 unique items | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Ski Lodge



Ski Lodge is set in a ski lodge in the snowy mountains where Keens visit to gather winter gear or purchase food and drinks for a fun day in the snow. Students observe, gather, and organize data in a frequency chart and then answer questions about data in a bar or pictograph.

## Ski Lodge Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Grade 1 | NA | NA | Students performing in grade 1 level 3 can observe, gather, and organize data in a frequency chart with two or three categories. Students can interpret data on single-scaled bar or pictographs with two or three categories and up to 20 total data points with no more than 10 in a category. Students can answer questions about the total number of data points on a singlescaled bar graph or pictograph. Students can answer questions about how many are in each category on a single-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one category than in another on a singlescaled bar graph or pictograph. |
| Grade 2 | Students performing in grade 2 level 1 can observe, gather, and organize data in a frequency chart with three categories. Students can interpret data on single-scaled bar or pictographs with three categories and up to 30 total data points | Students performing in grade 2 level 2 can observe, gather, and organize data in a frequency chart with three categories. Students can interpret data on single-scaled bar or pictographs with three categories and up to 45 total data points | Students performing in grade 2 level 3 can observe, gather, and organize data in a frequency chart with up to four categories. Students can interpret data on single-scaled bar or pictographs with up to four categories and up to 60 total data |


|  | with no more than 10 in a category. Students can answer questions about the total number of data points on a single-scaled bar graph or pictograph. Students can answer questions about how many are in each category on a single-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one category than in another on a singlescaled bar graph or pictograph. | with no more than 15 in a category. Students can answer questions about the total number of data points on a single-scaled bar graph or pictograph. Students can answer questions about how many are in each category on a single-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one category than in another on a singlescaled bar graph or pictograph. | points with no more than 15 in a category. Students can answer questions about the total number of data points on a singlescaled bar graph or pictograph. Students can answer questions about how many are in each category on a single-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one category than in another on a singlescaled bar graph or pictograph. |
| :---: | :---: | :---: | :---: |
| Grade 3 | Students performing in grade 3 level 1 can observe, gather, and organize data in a frequency chart with four categories. Students can interpret data on multi-scaled bar or pictographs with four categories and up to 60 total data points with no more than 15 in a category. Students can answer questions about the total number of data points on a multi-scaled bar graph or pictograph. Students can answer questions about how many are in each category on a multi-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one | Students performing in grade 3 level 2 can observe, gather, and organize data in a frequency chart with four categories. Students can interpret data on multi-scaled bar or pictographs with four categories and up to 80 total data points with no more than 20 in a category. Students can answer questions about the total number of data points on a multi-scaled bar graph or pictograph. Students can answer questions about how many are in each category on a multi-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one | Students performing in grade 3 level 3 can observe, gather, and organize data in a frequency chart with five categories. Students can interpret data on multi-scaled bar or pictographs with five categories and up to 100 total data points with no more than 20 in a category. Students can answer questions about the total number of data points on a multi-scaled bar graph or pictograph. Students can answer questions about how many are in each category on a multi-scaled bar graph or pictograph. Students can answer questions about how many more or less are in one |

$\left.\begin{array}{|l|l|l|}\hline & \begin{array}{l}\text { category than in } \\ \text { another on a multi- } \\ \text { scaled bar graph or } \\ \text { pictograph. }\end{array} & \begin{array}{l}\text { category than in } \\ \text { another on a multi- } \\ \text { scaled bar graph or } \\ \text { pictograph. }\end{array}\end{array} \begin{array}{l}\text { lategory than in } \\ \text { another on a multi- } \\ \text { scaled bar graph or } \\ \text { pictograph. }\end{array}\right]$.

## Ski Lodge Sample Item



The Snowy Snack Shack is having a chili cookoff! Can you help the snack manager determine the total number of Keens who will participate in the chili cookoff? Which question is important to ask to determine the number


## Done

## Student Leveling Information

Leveling Rule for Ski Lodge: Students will begin a round of play by organizing the Keens' orders on a graph. Once the graph is correctly organized, students will use the graph to answer interpretation questions. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds are available in a level? | What's in a round of play? |  |  | When does a student... |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 unique rounds of play in a level. <br> 2 graphs in each round of play*. | Did the student correctly create the graph on the first try? |  |  | Did the student correctly create the graph on the first try? |  |
|  | YES |  |  | NO |  |
| Each graph has 3-5* interpretation questions aligned to each graph. | $2^{\text {nd }}$ Scoring and Leveling decision is based on the Interpretation Questions. |  |  |  |  |
|  | Move Up | Stay and Play | Move Down | Stay and Play | Move Down |
|  | $\begin{aligned} & 80 \% \text { or } \\ & \text { more } \\ & \text { correct } \end{aligned}$ | $\begin{gathered} 41- \\ 79 \% \end{gathered}$ correct | $\begin{aligned} & 40 \% \text { or } \\ & \text { less } \\ & \text { correct } \end{aligned}$ | $60 \%$ or more correct | Below 60\% correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Lunch Munch



Lunch Munch is set in a food truck where students help Keens get food orders to the Peachlings. Students sort cards based on specified prompts to identify fractional parts.

## Lunch Munch Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :--- | :--- | :--- | :--- |
| Grade 1 | NA | Students performing in <br> grade 1 level 3 can <br> partition circles and <br> rectangles in halves <br> and fourths and <br> identify the shares with <br> words. |  |
| Grade 2 | Students performing in <br> grade 2 level 1 can <br> partition circles and <br> rectangles in thirds and <br> identify the shares with <br> words. | Students performing in <br> grade 2 level 2 can <br> partition circles and <br> rectangles in halves <br> and thirds and identify <br> the shares with words. | Students performing in <br> grade 2 level 3 can <br> partition circles and <br> rectangles in halves, <br> thirds, and fourths and <br> identify the shares in <br> words. |
| Grade 3 | Students performing in <br> grade 3 level 1 can <br> partition various <br> shapes into halves, <br> thirds, and fourths. | NA. | NA |

## Lunch Munch Sample Item



## Student Leveling Information

Leveling Rule for Lunch Munch: Students will begin a round of play by determining how each Peachling ordered their food and serving the correctly partitioned food to the Peachlings. Once the orders are determined, the student will serve the rest of the partitioned food to the Peachlings' tables, so each Peachling has the food it likes. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| 4 unique rounds of <br> play | 5 unique items | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


Intergalactic Fair


Intergalactic Fair is set at the fair where Keens must create and find the area of arrays in order to build the world fair for aliens to come visit to learn about Keenville.

## Intergalactic Fair Game Level Content Descriptions

| Grade | Game Level 1 | Game Level 2 | Game Level 3 |
| :---: | :---: | :---: | :---: |
| Grade 2 | Students performing in grade 2 level 1 can create a rectangle up to 5 by 5 based on the given columns and rows and answer how many total squares in the array. | Students performing in grade 2 level 2 can create a rectangle based on given columns and rows and answer how many total squares are in each row or column. | Students performing in grade 2 level 3 can create rectangles based on a given repeated addition expression to find the total number of square units in the array or write an equation to express the total as a sum of equal addends in a rectangular array. |
| Grade 3 | Students performing in grade 3 level 1 can create a rectangle up to 10 by 10 based on the given columns and rows and answer how many total squares in the array, create a rectangle based on given columns and rows and answer how many total squares are in each row or column, and write an equation to express the total as a sum of equal addends in a rectangular array. | Students performing in grade 3 level 2 can find the area of a rectangle array by using multiplication of the side lengths or relating multiplication when given a repeated addition expression. | Students performing in grade 3 level 3 can find the area of a rectangular array by multiplying the dimensions of a rectangle. |

## Intergalactic Fair Sample Item



## Student Leveling Information

Leveling Rule for Intergalactic Fair: Students will begin a round of play by choosing a strategy to solve the presented problem. Students use the strategy to solve addition and multiplication word problems using arrays to create fun activities for the Keens to enjoy at the Intergalactic Fair. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round <br> of play? | When does a student... |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move up a <br> level? | Stay in the <br> level? | Move down a <br> level? |  |
| 10 unique items | $80 \%$ or more <br> correct | $51-79 \%$ <br> correct | $50 \%$ or less <br> correct |  |

If a student completes all levels within a game, he/she will be given the opportunity to return to the game and play again. Students who choose to replay the game will re-enter the game at their current grade level.

Note: When students level down and then level back up, they may encounter previously assessed items.


## Get Those Beans



Get Those Beans! is a mini-game that students can play at-will. The mini-game is designed to promote practice with numeracy skills and build students' confidence to add and subtract within 100. Students start play with the least complex skills and progress to the most complex skills. Students will enter the game from their Keen's home via the Smart TV and select the channel for Get Those Beans!

## Get Those Beans! Game Level Content Descriptions

| Grade | Game Level | Skill Assessed |
| :---: | :---: | :---: |
| Grade 1 | 1 | Add 1-10 (start, change, and result unknown) |
|  | 2 | Add 10 and some more |
|  | 3 | Subtract 1-20 |
|  | 4 | Add doubles within 50 |
|  | 5 | Add doubles within 100 |
|  | 6 | Add near doubles (+/-1 or 2 ) |
| Grade 2 | 7 | Add two-digit number + a multiple of 10 <br> OR <br> Add two-digit number + two-digit number making a multiple of 10 |
|  | 8 | Add two-digit numbers within 100 (tens are 1-5 and ones are 0-5) |
|  | 9 | Add two-digit numbers within 100 (tens are 1-9 and ones are 0-9) |
|  | 10 | Subtract one- or two-digit numbers up to 100 |

## Student Leveling Information

Leveling Rule for Get Those Beans!: Students will begin a round of play by choosing the missing numeral either in the start, change, or result unknown position. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds <br> are available in a <br> level? | What's in a round of <br> play? | When does a student... |  |
| :---: | :---: | :---: | :---: |
|  |  | move up a level? | re-start the game? |
| 10 unique rounds |  |  |  |
| of play |  |  |  |

Note: When students level down and then level back up, they may encounter previously assessed items.
$\qquad$

## Space Train



Space Train is a mini-game that is designed to promote practice investigating repeating patterns to make predictions such as repeating an operation, a series of shapes, or a number string. Students start play with the least complex content/skills and progress to the most complex content/skills.

## Space Train Game Level Content Descriptions

| Grade | Game Level | Skill Assessed |
| :---: | :---: | :---: |
| Grade 1 | 1 | Extend the pattern up to 4 (shapes, symbols, colors) |
|  | 2 | Extend the pattern of up to 10 attributes (shapes or number strings) |
|  | 3 | Extend the pattern of up to 10 attributes (repeating operations, a series of shapes, or number strings) |
|  | 4 | Identify growing pattern (shapes or number string) |
|  | 5 | Identify shrinking pattern (shapes or number string) |
|  | 6 | Describe and identify numerical patterns from repeating operations (addition or subtraction) |
| Grade 2 | 7 | Describe and identify the missing number in the shrinking or growing pattern within 500 |
|  | 8 | Describe and identify the shrinking or growing number patterns |
|  | 9 | Identify what is true about the shrinking or growing number pattern within 1,000 and identify the changes in terms |
|  | 10 | Identify and describe the shrinking or growing number pattern (backward or forward within 1,000 ) and identify the changes in terms |

## Space Train Sample Item



## Student Leveling Information

Leveling Rule for Space Train: Students will begin a round of play by extending the pattern up to 4. After completion of the round of play, continued student play will follow the leveling rules summarized in the table below.

| How many rounds are available in a level? | What's in a round of play? | When does a student... |  |
| :---: | :---: | :---: | :---: |
|  |  | move up a level? | re-start the game? |
| 10 unique rounds of play | 10 unique items | If the student gets 8/10 items correct within a round of play, he or she will level up. Note: if a student successfully completes level 5 with 8/10 items correct and then leaves the game, the student will restart the game at level 6 every time they stop and re-enter the game until the game is completed, at which time they will start over at level 1. | If the student gets less than 8/10 items correct in a round of play, he or she will start over at level 1 when re-entering the game. |

Note: When students level down and then level back up, they may encounter previously assessed items.

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