Trust the Count

Activities for the Classroom

Programming decisions and the selection of learning resources are made by school authorities, schools, teachers and students. The use of authorized resources is not mandatory. A broad range of learning resources may be used to meet the needs of all students.

The activities and links below will provide you with a variety of resources that may come in handy when teaching the concept of "Trusting the Count". These resources are suggestions and are meant to complement what you are already using. These resources are not affiliated with Alberta Education.

Background Information

What is "Trusting the Count"?

"Trusting the count" is knowing that

- when you're counting a set of objects, the last number you say represents the total number in the set.
- if you count a set of objects and then count it again, you'll get the same answer…every time.
- if you move around a set of objects but nothing is added or removed from the set, you'll get the same answer…every time.

Misconceptions

- *If a student can count to 100, they "trust the count".* Preschoolers who know the Alphabet song usually don't know the letter symbols that match. Students who can tell you a book by memory may not know be able to read the words in the book. Students who can count may not know what those numbers mean.
- *If a student can add small numbers, they "trust the count".* If a student is adding 5 + 8 but counts out 1-2-3-4-5-6-7-8-9-10-11-12-13, they do not trust the count. They are recounting both numbers. If this continues, imagine the issues when adding 345 + 471.

Alberta Outcomes:

The following outcomes focus on developing students' ability to "Trust the Count".

Grade 1 Number Strand

Outcome	Achievement Indicators
2. Subitize (recognize at a glance) and name familiar arrangements of 1 to 10 objects or dots. [C, CN, ME, V]	➢ Look briefly at a given familiar arrangement of objects or dots, and identify how many objects or dots there are without counting. ➢ Identify the number represented by a given arrangement of dots on a ten frame.
3. Demonstrate an understanding of counting by: • Indicating that the last number said identifies "how many" • Showing that any set has only one count • Using counting-on • Using parts or equal groups to count sets. [C, CN, ME, R, V]	➢ Answer the question, "How many are in the set?", using the last number counted in a given set. ➢ Identify and correct counting errors in a given counting sequence. ➢ Show that the count of the number of objects in a given set does not change regardless of the order in which the objects are counted. ➢ Count the number of objects in a given set, rearrange the objects, predict the new count and recount to verify the prediction. ➢ Determine the total number of objects in a given set, starting from a known quantity and counting on. ➢ Count quantity, using groups of 2, 5 or 10 and counting on. ➢ Record the number of objects in a given set (up to 100).
7. Demonstrate an understanding of conservation of number. [C, R, V]	➢ Explain why for a given number of counters, no matter how they are grouped, the total number of counters does not change. ➢ Group a set of given counters in more than one way.

Mini Assessment: How to test if students "Trust the Count"

Materials needed:

- 8 small objects (bingo chips, unifix cubes, tiles, toy cars, etc)

Instructions:

- Place 5 objects in front of the student, close together but not too close. You could choose to arrange them in the standard dice pattern if you wish but this is not necessary.

- Ask, "How many are there?" and wait for a response.
- Ask, "How did you know?" Students may count each individual object or they may have subitized 5.

- Move around the 5 objects. Make sure it's obvious that you have not added any or removed any objects.
- Ask, "How many are there now?" and wait for a response.
    - If the student says, "5" without recounting, ask "How did you know?" If they tell you that you didn't add or remove any, then they trust the count.
    - If a student recounts the objects, they do not trust the count. If this is the case, skip the next assessment question.

- Add 3 more objects to the group but slightly away from the original 5. They should be able to see the original 5 as a separate group.
- Ask, "How many are there now?" and gesture to the entire 8.
    - A student who does not trust the count will count all 8 objects again.
    - A student who trusts the count but can't subitize 8 objects should say 5-6-7-8.

How to Teach Students to "Trust the Count"

The previous mini assessment will provide you with an idea of the numbers you should begin working with. It is always better to start with small numbers and progress to larger ones.

Time Allotment: Do not spend more than 5 minutes at a time working on any activity. It's better to repeat the same activity over multiple days.

Activity 1: Building "Trust the Count"

- Place objects in front of the student, close together but not too close.
- Ask, "How many are there?" and wait for a response.
- Ask, "How did you know?" Students may count each individual object or they may have subitized.

- Move around the objects. Make sure it's obvious that you have not added any or removed any objects.
    - Layout options: Close together; far apart; in a line; in two lines; like a dice; like a ten frame; in a V shape, etc.
- Ask, "Did I add any objects?" (No) Ask, "Did I remove any objects?" (No)
- Ask, "How many are there now?" and wait for a response.
- NOTE: If a student, before counting, starts to guess at an answer, regardless of whether it's correct or incorrect, say "Let's check!" and have them count it out.

- After 2-3 repeats, say, "I'm going to move the objects again. This time, I want you to give me your best guess BEFORE counting."

Important Note: Even if a student gets to the point where they are confidently giving an answer before counting, this does not mean they trust the count. Sometimes, they'll be confident for a few rounds and then start second-guessing themselves again. So regardless of whether the answer is correct or incorrect, regardless of how confident they sound, always have them recheck by counting.

- Every mini session, change up the objects but keep the same number until they are completely comfortable with the number they are working with.
- Once they are comfortable with one number, move on to the next activity.

Activity 2: Building "Counting On"

This activity can be done once students "Trust the Count" for a specific number. For this example, we'll assume that they trust the count for the number 5.

- Place 5 small objects on the table and ask, "How many are there?" (5)
- Cover with a container. (In the beginning, you might want to make this container transparent so they can see the objects but not count them but this is optional.)
- Ask, "How many are under there?" (If the student isn't sure, lift the container so they can relook. Allow them to recount if needed.)
- Re-cover and ask, "How many are under there?" (You may have to repeat this several times in order for the student to be comfortable with the quantity under the container. Don't rush this.)
- Say, "There are 5 objects under the container. Let's add 3 more" and place three more objects on the table but not under the container.
- Ask, "How many are there altogether now?"
- The first time you do this, the student might be confused as to what you are asking them. You may have to point to the container and say, "There's 5 under the container. 5" and then point at one of the new objects and say "sssssssssssiiiiiiiiiiiixxxxxxxxxx", dragging it out. Hopefully the student will say 6. If not, don't worry. They'll figure it out on the next one. Point at the next one and say ssssssseeeeeeevvvvvvveeeeennnnnn", again dragging it out. Hopefully by this time, they understand and when you point at the 8th object, they'll say 8. If not, drag it out.
- Move the 3 objects around and ask, "How many are there altogether now?" Repeat the steps above as needed.
- Clear all objects from the table. Grab 2 dice – the bigger the better. Turn one to 5 and the other to 3.
- Ask, "How many dots?" They will probably count every dot but watch to see if they count on from the 5. If not, complete the next steps.
- Point to the 5. Ask, "How many dots?"
- Cover the die with your hand. Ask, "How many dots?" (5)
- Ask, "How many dots are there altogether now?"
- Next steps would be to return to physical objects again, 5 under the container but a different number outside. Repeat with the dice as well.
- Once the student is comfortable, with 5 under the container, change the number under the container.

Games for "Trust the Count" Reinforcement

Yahtzee Games

Description: Yahtzee Games are 2 player games (with a second board you could play with 3 players) that have students racing to cover their side of the board.

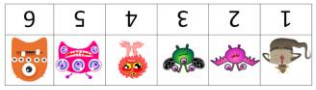
Materials:

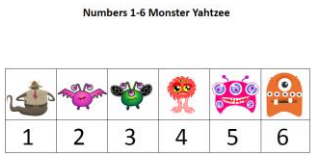
- Dice – the game board always indicates how many and the type
- Bingo chips, integer tiles, unifix cubes, etc. – each player needs enough to cover their side of the board. Ex. If there are 6 numbers on my side of the board, I need 6 bingo chips. My partner also needs 6 bingo chips.

How to Play:

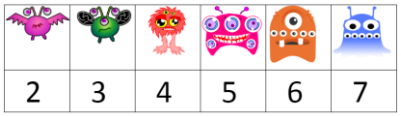
- Print one board game for each pair of students.
- Player 1 rolls a dot die and covers the number on his side of the board that matches.
- Player 2 rolls a dot die and covers the number on her side of the board that matches.
- If a player rolls a number that is already covered, he misses his turn.
- The winner is the person who covers all of his/her numbers first.

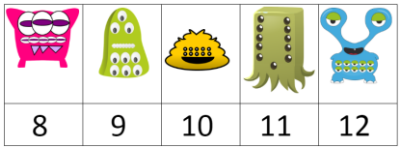
Monster Yahtzee Numbers 1-6





Monster Yahtzee Numbers 2-12





Games for "Trust the Count" Reinforcement

Bump Games

Description: Bump Games are 2 player games where students "battle it out" for space on the board.

Materials:

- Dice – the game board always indicates how many and the type
- Bingo chips, integer tiles, unifix cubes, etc. – Usually about 12 each. Each player needs a color different than their partner's chips.

How to Play:

- Print one board game for each pair of students.
- Player 1 rolls a dot die.
  - If that number is open, Player 1 places a tile on the ladybug.
  - If that number is already covered by Player 2's tile, Player 1 bumps it off (gives it back to Player 2) and places his own tile on the ladybug.
  - If that number is already covered by Player 1's tile, Player 1 covers the number. (So now both the ladybug and number are covered by Player 1's tile). This ladybug is now Player 1's and the tiles can not be bumped off. You can not put 3 or more tiles on a ladybug.
  - If Player 1 does not have a number that can be played on, he loses his turn.
- Player 2 rolls and follows the same rules.
- The winner is the person who
  - Has used all of his/her tiles first,
  - Has used the most tiles when the teacher calls the end of the game, or
  - Has used the most tiles when the entire board is filled.

Ladybug Bump Games

Contains:

- Numerals 1-6
- Numerals 2-12
- Word Numerals 2-12