

NZ
Numeracy
Project

Activities

Stage

One

Adding and Subtracting with One Hand – Stage One

Skill Number: 1:2; 1:3; 1:4

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|------------------|
| 1:9 | Recognizing patterns to 5 | MCC.K.OA.1 |

Required Resource Materials:

- None

Activity:

Adding on One Hand:

State the following problem:

"Jill has 3 apples and she buys 2 more apples. How many apples does she have altogether?"

Record $3 + 2$ on the board. Have student model 3 fingers then 2 more fingers **on the same hand**. Be sure the student recognizes that 3 fingers and 2 fingers equal 5 **without counting** to solve the problem.

Record $3 + 2 = 5$ on the board.

Continue with word problem stories and recordings for: $5 + 0, 4 + 1, 2 + 3, 1 + 4, 0 + 5, 4 + 0, 3 + 1, 2 + 2, 1 + 3, 0 + 4,$

$3 + 0, 2 + 1, 1 + 2, 0 + 3, 2 + 0, 1 + 1, 0 + 2, 1 + 0, 0 + 1$

Subtracting on One Hand:

State the following problem:

"Norman had 5 cars. He sold 2 of his cars. How many cars does he have now?"

Record $5 - 2$ on the board. Have student model 5 fingers then taking away 2 fingers **on the same hand**. Be sure the student recognizes that 5 fingers minus 2 fingers equal 3 **without counting** to solve the problem.

Record $5 - 2 = 3$ on the board.

Continue with word problem stories and recordings for: $5 - 0, 5 - 1, 5 - 3, 5 - 4, 5 - 5, 4 - 0, 4 - 1, 4 - 2, 4 - 3, 4 - 4,$

$3 - 0, 3 - 1, 3 - 2, 3 - 3, 2 - 0, 2 - 1, 2 - 2, 1 - 0, 1 - 1$

Source URL: <http://www.nzmaths.co.nz/resource/adding-and-subtracting-one-hand>

Before and After – Stage One

Skill Number: 1:2; 1:4

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Before and After 1-10 - Game Board
- Number Cards for Before and After 1-10 (cut apart)

Activity:

Provide each student with a 'Before and After 1-10 - Game Board'. Place the number cards (*that have been cut apart*) face down in a stack (*or you can spread them out on the table face down*). Each student takes turns drawing a card from the stack of number cards. When a student chooses a card, he looks at the game board and decides if the number drawn comes before or after a number on his game card. If it does, the student must say, "The number ___ comes before/after the number ___." He then places the number card in the correct square on his game board. If the number cannot be used on the game board the student loses his turn and returns the card to the stack so that it can be drawn again. The game ends when a student covers all of the blank squares on his game board.

Source URL: <http://www.nzmaths.co.nz/resource/and-after>

Birthday Cakes – Stage One

Skill Number: 1:2; 1:3; 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Toothpicks
- Numeral Cards 0-10
- Birthday Cake Sheet

Activity:

In pairs, the students select cards for the age of a student having a party (between the ages of 1-10) and match this with "candles" (toothpicks) on the birthday cake. Repeat this except ask questions like 'How many more candles will be needed in 2 years' time?' and "How many more candles will be needed when the student goes from 7 to 9 years of age?"

Source URL: <http://www.nzmaths.co.nz/resource/birthday-cakes-0>

Blast Off in 5 – Stage One

Skill Number: 1:9

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------|
| 1:9 | Recognizing patterns to 5 | <i>MCC.K.OA.1</i> |

Required Resource Materials:

- Blast Off Rocket Sheet
- Blast Off Five Frame cards (it is best to copy onto card stock paper to make the cards durable)
- Counters

Activity:

1. Players are dealt five 5-Frame cards each.
2. Taking turns, players try to find 2 cards in their hand that have 5 black dots in total.
3. If the player has 2 cards that add to 5 they put the cards down and cover one of the 5's on their rocket with a counter.
4. Only one number may be covered in a turn.
5. If a player cannot make a 5 they must pick up a card.
6. If the player is left with 1 or no cards in their hand after their turn they may pick up a card(s) so they have 2 cards.
7. The first person to fill up their Blast Off rocket is the winner!

Source URL: <http://nzmaths.co.nz/resource/blast-5>

Card Ordering – Stage One

Skill Number: 1:5

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--|------------------|
| 1:5 | Ordering the numbers in the range 0-10 | MCC.K.CC.7 |

Required Resource Materials:

- A deck of cards with picture cards removed (but not the aces) or four sets of number cards 1-10.

Activity:

The object of the game is to play the cards in order and be the student to play the cards that has 10 on it. Each ace is worth one.

Place the aces face up to begin four stacks. Shuffle the cards. Deal each student five cards. A student with a two card begins by placing it on top of the ace. Students take turns putting one card on a stack of their choice. They must add to the stacks in sequence from 1 to 10. After each student has had their turn, they pick up a new card from the pack.

If a student cannot go, then they keep picking up cards from the pack until they can go. The student who plays the 10 collects the stack. They receive a point and put that stack of cards to one side. The students continue to play their cards until there are no cards left and four stacks of 1 to 10 have been completed.

Source URL: <http://www.nzmaths.co.nz/resource/card-ordering>

Caterpillar Legs – Stage One

Skill Number: 1:1; 1:2; 1:3; 1:5; 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:5 | Ordering the numbers in the range 0-10 | <i>MCC.K.CC.7</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Toothpicks
- Numeral Cards 0-10
- Caterpillar Legs Sheet

Activity:

Place a blank caterpillar in front of the student. Explain that a numeral card (between 1-10) will be placed on the caterpillar and that he/she will use toothpicks to put that number of legs on the caterpillar (if the student has little number recognition the numeral cards should be initially 1, 2, or 3 and then gradually increase the number size). Continue the activity by placing new blank caterpillars in front of the student with different numbers and having him/her add the correct number of legs for each. When several are complete, have the student order the caterpillars from the smallest number of legs to the largest.

Source URL: <http://nzmaths.co.nz/resource/caterpillar-legs>

Clapping – Stage One

Skill Number: 1:1; 1:2; 1:4

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- None

Activity:

By **clapping hands** in time, the student:

- Counts from 0 to 10
- Counts from a number other than 1 and stops at a specific number (between 1 and 10)
- Counts backwards from 10 to 0
- Counts backwards to a different number (other than 10) and stop at a specific number (between 0 and 10)

By **clapping hands and slapping knees alternately** in time, the student:

- Counts from 0 to 10
- Counts from a number other than 1 and stops at a specific number (between 0 and 10)
- Counts backwards from 10 to 0
- Counts backwards to a different number (other than 10) and stop at a specific number (between 0 and 10)

By **slapping knees, then chest, then clapping hands alternately** in time, the student:

- Counts from 0 to 10
- Counts from a number other than 1 and stops at a specific number (between 0 and 10)
- Counts backwards from 10 to 0
- Counts backwards to a different number (other than 10) and stop at a specific number (between 0 and 10)

Source URL: <http://nzmaths.co.nz/resource/clapping>

Comparing Sets of Claps – Stage One

Skill Number: 1:8

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------------------|------------------|
| 1:8 | Comparing two sets in the range 0-10 | MCC.K.CC.7 |

Required Resource Materials:

- None

Activity:

State the following:

"I am going to make a set of claps and I want you to tell me how many times I clap." Clap three times. Ask, "How many claps were in that set?" Have students say the number. Then clap two more times and ask, "How many claps were in that set?" Have students say the number and then ask, "Which set had the most claps? Which set had the least claps?" (3 claps = most; 2 claps = least)

Continue with more clapping sets in the number range of 1-10.

Notes:

- Ask the child to look away so that they do not observe you making the claps.
- Typically, children are less able to count clapping sequences than at counting collections, for example, counting a sequence of ten claps versus a collection of ten counters.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 54.

Comparing Small Collections – Stage One

Skill Number: 1:8

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

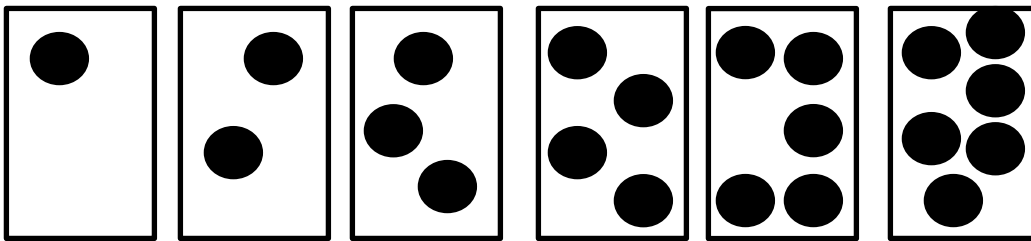
| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------------------|------------------|
| 1:8 | Comparing two sets in the range 0-10 | MCC.K.CC.7 |

Required Resource Materials:

- Cards with one, two Six dots
- Dots are randomly arranged (not in regular spatial pattern)
- About 10 cards for each number of dots (60 cards in all)



Activity:

Place out two cards, for example, 2 dots and 4 dots. *Pick up the card which has more dots.* Repeat with other pairs of cards showing different numbers of dots.

Notes:

- This task is relatively easy for 5-year-olds and above. Accordingly, the task might reveal a lack of very beginning number knowledge.
- Children might spontaneously say a number to indicate how many dots on a card.
- Children who are not able to ascribe numerosity to a collection might nevertheless be successful on these tasks.
- An alternative phrasing is to use the term "spot" rather than "dot".

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 51.

Comparisons with Counters – Stage One

Skill Number: 1:8

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------------------|-------------------|
| 1:8 | Comparing two sets in the range 0-10 | <i>MCC.K.CC.7</i> |

Required Resource Materials:

- Counters

Activity:

Give each student 10 counters and pair them with a partner. Tell one of the pair to make a line of 5 counters. Have him/her count aloud as the counters are placed on the table. Tell the other student to make a line of 7 counters underneath his/her partner's counters (making sure that they line up the same with the same distance between them). Ask questions such as "*Who has the longest line? Who has the shortest line? Which set has the most? Which set has the least? How many more would you need in the short line to be equal to the long line?*"

Continue with different set amounts in the number range of 1-10.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 54.

Comparisons with Fingers – Stage One

Skill Number: 1:8

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------------------|-------------------------|
| 1:8 | Comparing two sets in the range 0-10 | <i>MCC.K.CC.7</i> |

Required Resource Materials:

- None

Activity:

Pair each student with a partner. Have each student make a finger pattern behind their backs (in the number range 1-10). On the 'count of 3' have the students show their finger pattern to their partners. Ask questions such as "Who is holding up the greatest number of fingers?" or "Who is holding up the most fingers?" Who is holding up the least number of fingers? How many more fingers would the least amount have to hold up to be equal with the greatest amount?"

Continue with different set amounts in the number range of 1-10.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 54.

Counting – Stage One

Skill Number: 1:1; 1:2

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Large Hundreds Board (preferably one that is laminated and can be written on with dry erase marker)
- Rekenrek with at least 10 beads (one for each student)

Activity:

With Hundreds Board

Have students clap as they count in ones to 10. Mark off each number on the hundreds board as they are said. Practice the number sequences forwards and backwards. Ask the students to identify individual numbers on the hundreds board from the sequence they have just counted.

With Rekenrek

Have students count aloud as they move one bead at a time on the Rekenrek from one side to the other. Practice the number sequences forwards and backwards (moving beads from left to right and from right to left).

Source URL: <http://www.nzmaths.co.nz/resource/counting>

Counting as We Go – Stage One

Skill Number: 1:1; 1:2; 1:4

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Objects to pass around

Activity:

The students get into groups and arrange themselves in circles. Choose a student in each group to start at 1. They then pass an object around and count as it passes each student. The students count as far as 10.

Examples. Repeat counting from 1.

Challenging examples. The group selects a single digit number. Repeat the above activity, but count backwards from the selected number. Before counting back the students predict who will be number 1. They check their prediction by passing an object and counting down out loud.

More challenging examples. Give all groups the same starting number. All groups count forward (up to 10). Play some music. When you stop the music each student draws the group's current number in the air. Record the numbers of all groups on the board and discuss whose number is biggest.

Source URL: <http://nzmaths.co.nz/resource/counting-we-go>

Fabulous Fives – Stage One

Skill Number: 1.9

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------|
| 1:9 | Recognizing patterns to 5 | <i>MCC.K.OA.1</i> |

Required Resource Materials:

- Rekenrek
- Hands

Activity:

The focus in these lessons is *not* on counting but is on *instantly recognizing or subitizing* combinations to five. The ability of some young children to recognize small quantities without counting has been somewhat overlooked in the emphasis we have recently given to counting. This lesson is a combination of recognizing and just knowing groupings to five, and recording these combinations and separations in multiple ways, and in so doing establishing a base for continued strategy development.

Practice making finger patterns for the numbers 0 to 5. The focus is on grouping not counting.

Many students like to show "bunny ears." This is where the student puts their hands behind their head and their fingers are like bunny ears sticking up.

Begin with finger patterns the students will know, like 1, 2 and 5. Find other patterns from these numbers. For example: "Show me 5 fingers ... Can you show me a different way?" Point out different ways to make 0 - 5.

"Show me 4 fingers... How do you know it is 4?" (2 and 2) "Change it into 3." "How did you do that" (took off a finger) "What would 3 look like?"

Repeat this activity with the students hiding their fingers behind their backs and imagining the finger patterns.

Activity - Rekenrek

Push over a small number of beads, for example, six. Ask "How many beads did I just push over?" and "How did you know it was six without counting the beads?" Aim for responses like "I know that one more

than five is six." Get the students to show you six fingers to reinforce the connection. Try this for other "five and ..." groupings. For example, "Eight is five and what?"

Alternatively, start by pushing across five beads and ask "How many more to make eight?"

Follow up by asking "How did you know?" Ask the students to show you the same fact with their fingers.

Push across a small number of beads and ask how many more are needed to make 10. This is reinforcing the key knowledge of pairs of numbers that add up to 10. Connect this with the finger patterns and matching fly flip card.

Source URL: <http://www.nzmaths.co.nz/resource/fabulous-fives>

Facts to 10 – Stage One

Skill Number: 1:6

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------|------------------|
| 1:6 | Counting sets 0-10 | MCC.K.CC.5 |

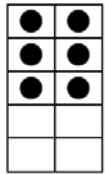
Required Resource Materials:

- Counters (place markers for the gameboards)
- Dice Groups sheet
- Facts to Ten sheet

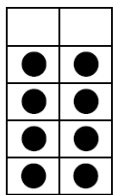
Activity:

Have a pile of tens frames with five or more dots on each that will be the "draw" pile. One person shows a tens frame briefly. That player says how many empty spaces there are on the card. If correct, the player moves their counter forward that number of spaces. Now, it is the next players turn. The first person to reach the end is the winner.

Examples:



Student 1 draws the card to the left. Student 1 says 4 and moves 4 spaces on the game board.



Student 2 draws the card to the left. If the student says 2, the student can move 2 spaces on the board. Now it's player 1's turn again.

Source URL: <http://www.nzmaths.co.nz/resource/facts-10>

Feed the Elephants – Stage One

Skill Number: 1:2; 1:3; 1:4; 1:5; 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |
| 1:5 | Ordering the numbers in the range 0-10 | <i>MCC.K.CC.7</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Paper cups
- Counters
- Feed the Elephants Sheet

Activity:

Cut apart the elephants on the 'Feed the Elephants' Sheet (copy enough sheets to have 10 elephants). Write a number (between 1 and 10) in the "speech bubble" on each elephant and paperclip each to a paper cup. The student "feeds" each elephant the correct amount of food (counters) and checks their answer. The student then orders the cups either forwards or backwards.

Source URL: <http://nzmaths.co.nz/resource/feed-elephants>

Finger Patterns to 5 – Stage One

Skill Number: 1:9

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------|
| 1:9 | Recognizing patterns to 5 | <i>MCC.K.OA.1</i> |

Required Resource Materials:

- None (students use one hand to create finger patterns to 5)

Activity:

Practice making finger patterns for the numbers 1 to 5. *The focus is on grouping not counting.*

Begin by modeling how to create finger patterns for each number 1-5 using one hand. Have students practice making each number. State a number (between 1 and 5) and have the student show the number with his finger(s).

Find addition (plus one) patterns from these numbers. For example: "Show me 3 fingers ... Now, show me 4. What did you do to make 4?" (add a finger); "Show me 2 fingers ... Now show me 3. What did you do to make 3?", etc.

Find subtraction (minus one) patterns from these numbers. For example: "Show me 5 fingers ... Now, show me 4. What did you do to make 4?" (took a finger away); "Show me 2 fingers ... Now show me 1. What did you do to make 1?", etc.

Repeat this activity with the students hiding their fingers behind their backs and imagining the finger patterns.

Source URL: <http://nzmaths.co.nz/resource/fabulous-fives>

Flower Petals – Stage One

Skill Number: 1:1; 1:2; 1:3; 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Counters or other objects that can represent flower petals
- Flower Petals Sheet

Activity:

Using the circles from the 'Flower Petals Sheet' the student surrounds the circle (the center of the flower) with the correct number of petals (counters) that correspond to the number on the circle. Have student touch each 'petal' and say its number as he places it on the flower. Then have the student 'pluck' the flower and count backwards from the number on the flower.

Source URL: <http://nzmaths.co.nz/resource/petals-and-flower-centres>

Give Me Five – Stage One

Skill Number: 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------------|
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Ping-pong balls numbered 1 to 10
- Bag or box
- Objects to collect
- Hoops or containers

Activity:

Group ten children into pairs. Place ping-pong balls numbered 1 to 10 in a bag or box. One pair of children pick out a ping-pong ball and say the number (with assistance if required). Each pair then goes to collect that number of named objects for example, pencils, books, beanbags. They bring the items back and place them in a hoop or container. Each pair checks the other children's collections to see if they have the correct number of objects. The group then counts each collection in turn using a child to act as a pointer. Continue the activity with other numbers.

- Vary the activity by giving each pair a different number.
- Collect mixed items, for example, one pencil, one book, one beanbag.
- Place other containers with a differently numbered ping-pong ball in each. Children match the collections to the numbers.
- Use a wider range of numbers.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 62.

How Many ...? – Stage One

Skill Number: 1:1; 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Marbles or heavy counters
- Container with a hole in the top

Activity:

The students close their eyes and listen and count as you drop objects into a container. At the end ask how many objects are in the container. Check by emptying the container and counting them. Repeat with students in pairs. One student does the dropping and the other does the counting. Then they swap roles.

Source URL: <http://nzmaths.co.nz/resource/how-many-1>

How Many Claps? – Stage One

Skill Number: 1:1; 1:3

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------|------------------|
| 1:1 | Rote counting 0-10 | MCC.K.CC.1 |
| 1:3 | Numeral recognition 0-10 | MCC.K.CC.3 |

Required Resource Materials:

- Number cards 1-10

Activity:

"I am going to make some claps and I want you to count aloud as I clap" Clap three times. Ask, "How many times did I clap?" Have students state the number and also show them the number card '3'.

Continue with other sets of claps in the number range 1-10.

Notes:

- Ask the child to look away so that they do not observe you making the claps.
- Typically, children are less able to count clapping sequences than at counting collections, for example, counting a sequence of ten claps versus a collection of ten counters.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 54.

How Many Claps in All? – Stage One

Skill Number: 1:9

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|------------------|
| 1:9 | Recognizing patterns to 5 | MCC.K.OA.1 |

Required Resource Materials:

- None

Activity:

State the following:

"I am going to make some claps and I want you to tell me how many times I clap." Clap three times. Ask, "How many times did I clap?" Have students say the number. Then clap two more times and ask, "How many times did I clap?" Have students say the number and then ask, "How many claps was that altogether?" (3 claps + 2 claps = 5 claps)

Continue with patterns to 5 such as: 1-1, 1-2, 1-3, 1-4, 2-1, 2-2, 2-3, 3-1, 3-2, 4-1.

Notes:

- Ask the child to look away so that they do not observe you making the claps.
- Typically, children are less able to count clapping sequences than at counting collections, for example, counting a sequence of ten claps versus a collection of ten counters.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 54.

How Many Cubes? – Stage One

Skill Number: 1:6

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------|------------------|
| 1:6 | Counting sets 0-10 | MCC.K.CC.5 |

Required Resource Materials:

- Wooden cubes or Unifix/Multilink

Activity:

- Place 10 loose cubes in front of the student. Pick up a handful of cubes and show them very briefly to the student. Have him estimate how many cubes he thinks are in your hands (without counting).
- Have the student count the cubes (using one-to-one correspondence) and state the number. See if it is the same number that was estimated.
- Do the same activity but have the student pick up the cubes and estimate how many he thinks are in his hands (without counting).
- Have him count the cubes and state the number. See if it is the same number that was estimated.
- Continue in like manner with different amounts in the range 1-10.

Source URL: <http://nzmaths.co.nz/resource/how-many-cubes>

How Many Taps? – Stage One

Skill Number: 1:1; 1:2; 1:3; 1:4; 1:6

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |

Required Resource Materials:

- Number Cards 1-10

Activity:

Have the student sit directly in front of you with his back to you. Give student the number cards 1-10. Tap a specific number of times on the student's back and then have him hold up the number card that corresponds. Continue with different numbers.

Once comfortable with identifying the number of taps, have the student also show the number card for the number before and the number after the specific number.

After holding up the number card for a specific number of taps, have the student rote count to that specific number starting with 1. Also have him count backwards from the specific number down to 1.

Source URL: <http://nzmaths.co.nz>

Lily Pads – Stage One

Skill Number: 1:2; 1:3; 1:4

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Large Number Cards 0-10 (*you can use large number flashcards or write numbers on large blank index cards or create large number cards on the computer*)

Activity:

Tape large number cards in order of 0-10 on the floor to create "lily pads". The student acts as a frog and jumps on specific numbers, sequences of numbers, or the number just after or before a given number.

Source URL: <http://nzmaths.co.nz/resource/number-mat-and-lily-pads>

Loud and Soft – Stage One

Skill Number: 1:1; 1:2; 1:4

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1.1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1.2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1.4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Two Puppets

Activity:

Students will practice counting with two puppets to ten forwards and backwards. One puppet (student) speaks loudly and the other speaks softly. Counting from zero the puppets say the numbers alternately and the students count with the puppets loudly then softly. If a puppet can squeak, get the students to close their eyes and count the squeaks the puppet made. Examples. Repeat by starting and counting forwards and backwards from different starting and ending points.

Source URL: <http://www.nzmaths.co.nz/resource/loud-and-soft>

Lucky Dip – Stage One

Skill Number: 1:3

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------|-------------------|
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |

Required Resource Materials:

- A container
- Numeral cards 0-10

Activity:

Show the students a card and ask them what number it is. "Draw" the number in the air with your hand. "Draw" the number on the table, board, or floor in large writing. Have students also "draw" the number in the air then the table, desk, floor, etc. Repeat with further cards.

Source URL: <http://nzmaths.co.nz/resource/lucky-dip>

Match it Up – Stage One

Skill Number: 1:3; 1:6

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------------|
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |

Required Resource Materials:

- Match it Up Sheet

Activity:

The students place the dot cards face down in one row and the numeral cards face down in a parallel row. Then they take turns to turn over a card from each row and see if the numeral card and the dot card match. If there is a match, the student keeps the pair. The game continues until all the pairs are matched.

Source URL: <http://nzmaths.co.nz/resource/match-it>

Number Fans – Stage One

Skill Number: 1:1, 1:2; 1:3; 1:4; 1:7

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Fan Numbers Sheet

Activity:

The students use the fans to show numbers. Teacher states a number between 0 and 10 and the student holds up that number in the fan (student folds under the numbers not being called). Have student rote count from 0-10 showing each number with the fan. Have student count backwards from 10 showing each number. Have student show the numbers that come before and after a specific number using the fan numbers. Have student create a set using objects (in the range from 1-10) then show the amount using the fan numbers.

Source URL: <http://nzmaths.co.nz/resource/number-fans>

Number Line Flips – Stage One

Skill Number: 1:2; 1:3; 1:4; 1:5

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |
| 1:5 | Ordering the numbers in the range 0-10 | <i>MCC.K.CC.7</i> |

Required Resource Materials:

- Number Line Flips Sheet

Activity:

Construct the number line flaps (see 'Number Line Flips' Sheet) so that a number line can be inserted to create 'hidden' numbers. Insert the 1-10 number line (from the 'Number Line Flips' sheet) and have the student flip up the first and last number on the number line. Point to one of the hidden numbers on the line and have the student state which number it is. Flip up the flap to check for correctness. Continue by using different numbers and number lines. Expand the activity by having the student state the number that comes before and after the hidden number. Have student count up to a certain number from the hidden number. Have student count backwards from the hidden number.

Source URL: <http://nzmaths.co.nz/resource/number-line-flips>

Number Mat – Stage One

Skill Number: 1:1, 1:2; 1:3; 1:4

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|------------------|
| 1:1 | Rote counting 0-10 | MCC.K.CC.1 |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | MCC.K.CC.2 |
| 1:3 | Numerical recognition 0-10 | MCC.K.CC.3 |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | MCC.K.CC.2 |

Required Resource Materials:

Number Mat: *The number mat is a large mat that students can stand, walk, or jump on. The mat can be created using a table cloth, shower curtain, carpet squares, fabric, etc. Use the template below to create the mat for this activity:*

| | | | |
|---|---|---|---|
| 5 | 8 | 9 | 3 |
| 2 | 7 | 5 | 0 |
| 0 | 1 | 4 | 6 |
| 7 | 9 | 2 | 8 |

The numbers can be drawn, stitched, taped, or painted on each square.

Activity:

- State a number and have student stand on that number. Repeat for additional numbers.
- Have student stand on a specific number. Have student state the number that comes after and have him jump to that number on the mat. Have student state the number that comes before and have him jump to that number. Repeat for additional numbers.
- Have student stand on the number '0'. Have him rote count from 0-9 as he jumps on each number stated. Have student stand on the number '9'. Have him count backwards from 9 to 0 as he jumps on each number stated.
- Give the student a number sequence to count. For example. "Start at 3 and count to 7"; or "Start at 6 and stop at 2."
- Give the student two or three numbers to touch and have him bend and stretch to touch them all at one time (similar to "Twister").
- Have student toss a bean bag onto the mat and have him state the number it lands on.

Source URL: <http://nzmaths.co.nz/resource/number-mat-and-lily-pads>

Pipe Cleaner Numbers – Stage One

Skill Number: 1:3

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------|-------------------|
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |

Required Resource Materials:

- One pipe cleaner for each student

Activity:

Say a number between 0 and 9. Have the student make that number with the pipe cleaner.

Source URL: <http://nzmaths.co.nz/resource/pipe-cleaner-numbers>

Rekenrek Patterns to Five – Stage One

Skill Number: 1:9

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|------------------|
| 1:9 | Recognizing patterns to 5 | MCC.K.OA.1 |

Required Resource Materials:

- Rekenrek

Activity:

Have students take out a rekenrek. Ask them to move a small number of beads (no more than 5) from the left to the right. Ask "How many beads did you just push over?" and "How did you know it was ____ (number) without counting the beads?"

The teacher should look for responses like "I know that one more than three is four."

Ask the student how many more are needed to make 5.

The goal of this task is for students to be able to subitize and reinforcing the key knowledge of pairs of numbers that add up to 5.

Source URL: <http://www.nzmaths.co.nz/resource/using-slavonic-abacus-reinforce-five-grouping>

Rocket – Where Will I Fit? – Stage One

Skill Number: 1:5

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

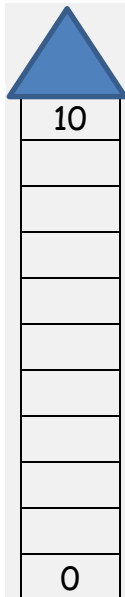
| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--|------------------|
| 1:5 | Ordering the numbers in the range 0-10 | MCC.K.CC.7 |

Required Resource Materials:

- Dodecahedral 0-9 dice



Activity:

Each student needs to draw a "rocket" playing board like the one shown (or have one provided for them). Be sure that each rocket has 11 floors in order to allow for each number in the range 0-10. The aim of the game is to fill every floor of the rocket with numbers in order.

Each player takes turns throwing the dice to make numbers for their rockets. The student records the number thrown on the rocket in the appropriate spot. If a player cannot place a number they have thrown (because they have already recorded it), they miss that turn.

The first student to complete his/her rocket is the winner.

Source URL: <http://www.nzmaths.co.nz/resource/rocket-where-will-i-fit>

Tens Frame Flashes – Empty Spaces – Stage One

Skill Number: 1:6; 1:8

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------------------|-------------------|
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:8 | Comparing two sets in the range 0-10 | <i>MCC.K.CC.7</i> |

Required Resource Materials:

- Counters to use for game pieces
- 'Tens Frame Flashes - Empty Spaces' game board
- Stack of Tens Frames with 5 or more dots

Activity:

- Place the 'Tens Frame Flashes - Empty Spaces' game board in front of the student(s). If instructing only one student, you will need to play in order to establish a 'winner' at the end of the game. Have the student(s) choose a counter/game piece.
- Flash a tens frame (with 5 or more dots) for 3 seconds. The student states the number of EMPTY (blank) spaces on the frame.
- If correct, the student moves that many spaces on the game board. The first student to the FINISH spot wins.
- Review the tens frame shown. Have student compare the number of empty spaces to dots on the card. Have student state which set has the greatest amount and which set has the least amount. ("The black dot set has the greatest amount. The empty spaces set has the least amount.")

Source URL: <http://nzmaths.co.nz>

Tens Frames – Stage One

Skill Number: 1:2; 1:3; 1:7; 1:8

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | MCC.K.CC.2 |
| 1:3 | Numeral recognition 0-10 | MCC.K.CC.3 |
| 1:7 | Forming sets 0-10 | MCC.K.CC.4 |
| 1:8 | Comparing two sets in the range 0-10 | MCC.K.CC.7 |

Required Resource Materials:

- Counters to use for game pieces
- 'Tens Frame Flashes - Empty Spaces' game board
- Stack of Tens Frames with 5 or more dots

Activity:

- Place the 'Tens Frame Flashes - Empty Spaces' game board in front of the student(s). If instructing only one student, you will need to play in order to establish a 'winner' at the end of the game. Have the student(s) choose a counter/game piece.
- Flash a tens frame (with 5 or more dots) for 3 seconds. The student states the number of EMPTY (blank) spaces on the frame.
- If correct, the student moves that many spaces on the game board. The first student to the FINISH spot wins.
- Review the tens frame shown. Have student compare the number of empty spaces to dots on the card. Have student state which set has the greatest amount and which set has the least amount. ("The black dot set has the greatest amount. The empty spaces set has the least amount.")

Source URL: <http://nzmaths.co.nz>

Tens Frames Game – Stage One

Skill Number: 1:6; 1:9

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------------|
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:9 | Recognizing patterns to 5 | <i>MCC.K.OA.1</i> |

Required Resource Materials:

- Counters to use for game pieces
- 'Tens Frame Flashes - Empty Spaces' game board
- Stack of Tens Frames with 5 or more dots

Activity:

- Place the 'Tens Frame Flashes - Empty Spaces' game board in front of the student(s). If instructing only one student, you will need to play in order to establish a 'winner' at the end of the game. Have the student(s) choose a counter/game piece.
- Flash a tens frame (with 5 or more dots) for 3 seconds. The student states the number of EMPTY (blank) spaces on the frame.
- If correct, the student moves that many spaces on the game board. The first student to the FINISH spot wins.
- Review the tens frame shown. Have student compare the number of empty spaces to dots on the card. Have student state which set has the greatest amount and which set has the least amount. ("The black dot set has the greatest amount. The empty spaces set has the least amount.")

Source URL: <http://nzmaths.co.nz>

TICK TOCK – Stage One

Skill Number: 1:1; 1:2

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------------|
| 1:1 | Rote counting 0-10 | <i>MCC.K.CC.1</i> |
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Weighted object on the end of a piece of string

Activity:

Have the student choose one of the following exercises: taking giant steps, taking baby steps, jumping in place, jumping jacks, or toe touches. Using the weighted object on the string (a pendulum) swing it to a specific number between 1 and 10. The student would count aloud for each swing. Then the student would do the chosen exercise for that same number while counting aloud.

Have student do the same exercise (or a different) exercise starting on the specified number and counting backwards to 1.

Source URL: <http://nzmaths.co.nz>

Toy Box – Stage One

Skill Number: 1:3; 1:6; 1:7

Teacher Learning and Understanding: **STAGE ONE**

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---------------------------|-------------------------|
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:6 | Counting sets 0-10 | <i>MCC.K.CC.5</i> |
| 1:7 | Forming sets 0-10 | <i>MCC.K.CC.4</i> |

Required Resource Materials:

- Collections of objects or counters
- Large die marked 0 and 1

Activity:

Place a collection of small objects in the center of the table. One child rolls a large die labeled 0 and 1. If the die displays 1, the child takes one object. If the die displays 0, the child does not take anything. Take turns with each child building individual collections. When one child has a few objects in their collection (a set in the number range of 1 to 10) ask: *"How many do you have?"* Encourage the child to touch and count each object, saying each number in turn. Ask: *"How many altogether?"* Emphasize that the last number in the count corresponds to the number of objects in the collection. Continue to play until one child has five objects.

- Varying the size of the objects counted (larger objects, smaller objects).
- Vary the objects in the collections, sometimes all of the same, sometimes different.
- Vary the way the children collect the objects, for example arranging in a row, a ring, or a container.
- Use a die numbered with 0, 1, and 2.

Notes:

- Children might have difficulty keeping track of the number words as they are counting.
- Children might not know the number word sequence very well.
- Children might have difficulty coordinating a number word with each item.
- Suitable for small groups.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 59.

Walk the Bridge – Stage One

Skill Number: 1:2; 1:3; 1:4

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|----------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|---|-------------------|
| 1:2 | Saying the forwards and backwards number word sequence in the range 0-10, starting and ending with any number | <i>MCC.K.CC.2</i> |
| 1:3 | Numeral recognition 0-10 | <i>MCC.K.CC.3</i> |
| 1:4 | Number order: What comes before and after a given number in the range 0-10 | <i>MCC.K.CC.2</i> |

Required Resource Materials:

- Large Numeral Cards (numbers 1-10)

Activity:

Place large numeral cards on the ground in order from 1 to 10 to form a bridge. The students count as one student steps on the number. The student who is "walking the bridge" may decide to walk forwards or backwards. The other students follow closely to produce the forward or backward counting sequence. Have the student stand on a number and discuss what is before and after that number.

Source URL: <http://www.nzmaths.co.nz/resource/walk-bridge>

Where Do I Go? – Stage One

Skill Number: 1:1; 1:3

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| Stage | Behavioral Indicator |
|-------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

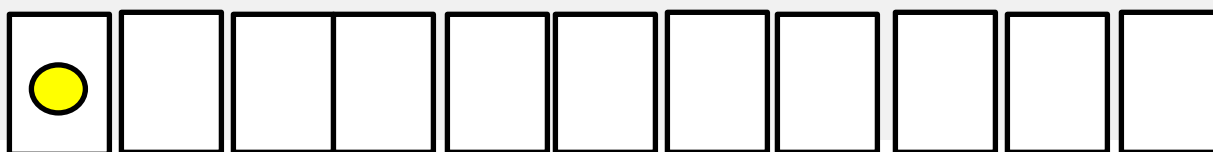
| | Skill Descriptions | Aligned to CCGPS |
|-----|--------------------------|------------------|
| 1:1 | Rote counting 0-10 | MCC.K.CC.1 |
| 1:3 | Numeral recognition 0-10 | MCC.K.CC.3 |

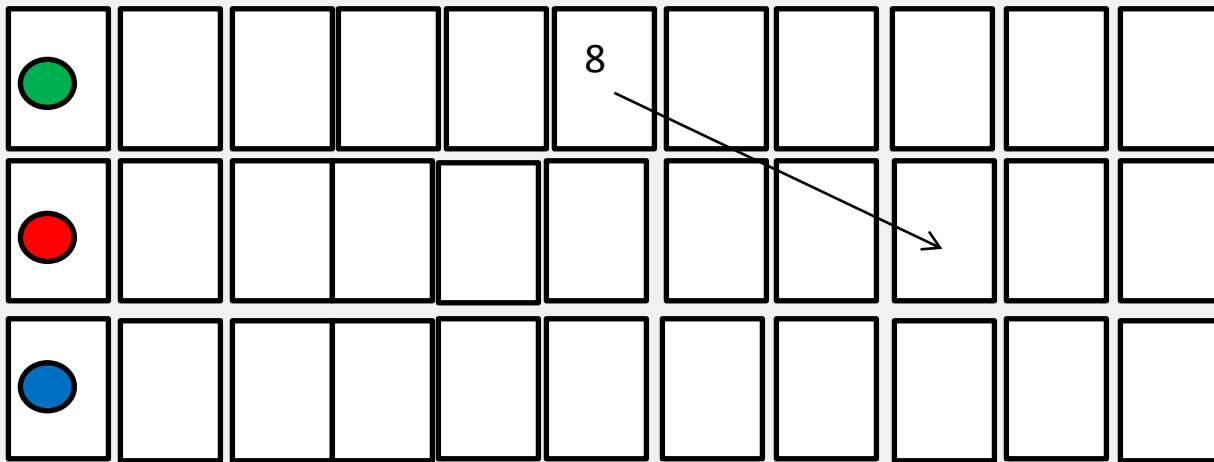
Required Resource Materials:

- 40 cards (numbers 1 to 10 in four different colors)
- 4 colored circle cards

Activity:

The teacher decides which numbers to use for the game. This will depend on the children's ability to identify numerals and also their forward number word sequence (FNWS) range. For example, a child might be able to say the FNWS to 10 but unable to identify some of the numerals from 1 - 10 and to count collections of up to 10 items. The teacher can decide to work in ranges such as: 1 to 3, 1 to 5, or 1 to 10. If working in the 1 to 10 range; the numerals 1 to 10 are written four times on cards. Each time in a different color (the number 9 for example could be red, yellow, green, and blue). Four other cards displaying a circle of each of the four colors are also needed. The teacher places the four colored circles in a column, shuffles all the other cards (40 if working in 1 to 10 range), and then places ten cards face down at the side of each circle. The teacher asks a child to turn over any card. If the child was to turn a red 8, the teacher then explains that this card is presently in the yellow row and must be placed in the red row in the eighth position. The child might need to start at one and count each card to determine the eighth position. The child then picks up the card in the eighth position in the red row and replaces it with the red 8. The new card must then be placed in the correct position. The game ends when each card is in its correct position.





Notes:

- This activity is appropriate for children having difficulty coordinating number words and items or having difficulty with numeral identification.
- When children are familiar with this game they might observe that the numbers in a given column are the same. If they make a mistake in their perceptual counting the numbers are not the same and the error is apparent.
- If a child turns over a card that is already in its correct position, any other card is turned over.
- Initially, two rows (two colors) rather than four could be used in order to reduce the complexity of the task.
- This activity is suitable for individuals, pairs or small groups of children take turns in placing cards.

Source: Martland, James; Stafford, Ann; Stanger, Garry; Wright, Robert; *Teaching Number in the Classroom with 4-8-year-olds*, SAGE, Los Angeles, p. 58.

Who is the Richest? – Stage One

Skill Number: 1:5; 1:8

Teacher Learning and Understanding: STAGE ONE

Students working on this activity are Stage Zero working towards Stage One.

| <i>Stage</i> | <i>Behavioral Indicator</i> |
|--------------|---|
| 0 | Emergent The student has no reliable strategy to count an unstructured collection of items. |
| 1 | One to One Counting The student has a reliable strategy to count an unstructured collection of items. |

Skill Descriptions Aligned to CCGPS:

| | Skill Descriptions | Aligned to CCGPS |
|-----|--|-------------------------|
| 1:5 | Ordering the numbers in the range 0-10 | <i>MCC.K.CC.7</i> |
| 1:8 | Comparing two sets in the range 0-10 | <i>MCC.K.CC.7</i> |

Required Resource Materials:

- Play money (at least 10 one dollar bills per child)

Activity:

Give each student in the group a number of one dollar bills in the number range of 1-10. Have each child count their money and state the amount that they have. Record the amounts in a table (see below). Then ask the question; "Who is the richest?" The students compare their money to the amounts the other students have and as a group the students declare the richest among them. Then using the information recorded in the table, assist the students in ordering the amounts from least to greatest and from greatest to least. Continue in like manner until each student has been the "richest" at least once.

Example of table:

| Name | Amount |
|-------|--------|
| Emily | \$5 |
| Phil | \$2 |
| Bryan | \$7 |

Source URL: <http://www.nzmaths.co.nz/resource/who-richest>