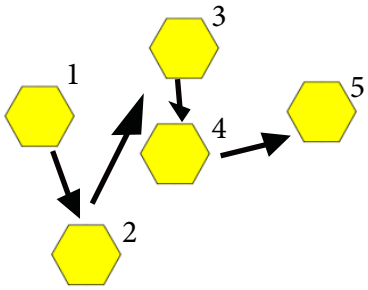
Counting Forward to 20

Mathematical Ideas

It is important for children to count forward and backwards from a variety of starting points. This will help them to understand the size of the number in relation to other numbers.

When counting, the number words are always said in the same order.
One, two, three, four,... not four, two, one, three

Counting can begin with any item in a set. Each item must be counted only once (one to one correspondence). The quantity will always be the same for that set.



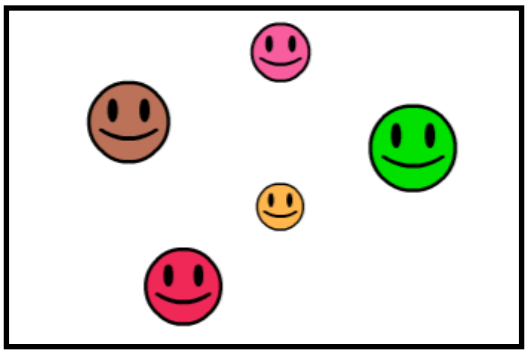
As you count forwards, the quantity increases.

As you count backwards, the quantity decreases.

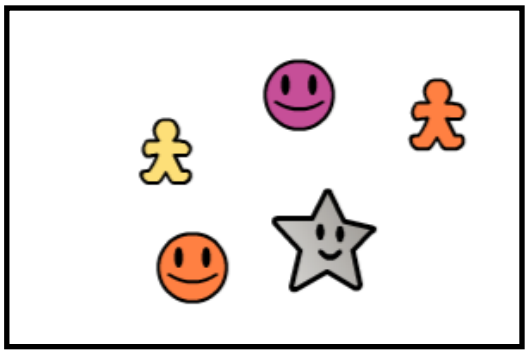
The last counting word tells us how many are in the set.

"There are five pattern blocks in this set."

Quantity is related to 'how many' rather than size, shape, or position. The quantity of a set stays the same even if the appearance of the set changes.



Set of 5 Objects



Set of 5 Objects

Counting Forward to 20

Helpful Information

Tips

- Don't rush these activities. It is important that children become comfortable and accurate using the counting sequence.
- Encourage your child to move the objects as they are being counted so your child learns to count each item only once.
- If your child confuses the counting order (e.g., 1, 3, 2), point to the items and model the correct counting order.
- Encourage your child to state what is being counted (e.g., 1, 2, 3 blocks, not just 1, 2, 3).
- Organized concrete and visual representations can help with understanding numbers and the relationships between numbers.

Mathematical Words/Symbols

Attribute – an aspect of an object that can be used to compare objects (e.g., colour, size, thickness, number of sides)

Set – a collection of objects or numbers

Skip counting - usually means counting forwards or backwards by numbers other than 1, such as by twos (2, 4, 6, 8); by fives (20, 15, 20, 5)

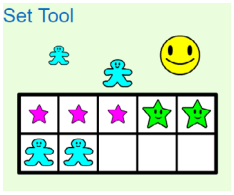
Materials

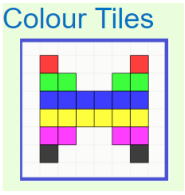
Activity 1, 2:
- Set Tool

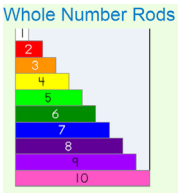
Activity 3:
- Colour Tiles

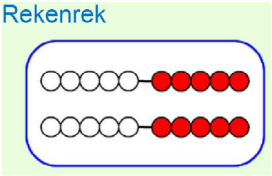
Activity 4:
- Whole Number Rod

Activity 5:
- Rekenrek









Learning Tools and Games can be accessed at mathies.ca

Counting Forward to 20

How Many Objects Now?

Activity 1

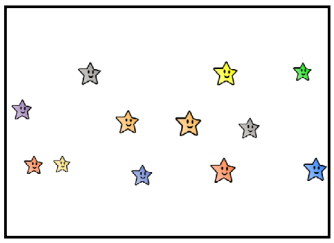
Set Up for the Activity:

- Open the Set learning tool.
  - » Select the Auto mode.
  - » Select one of the three shapes (happy face, star, gingerbread).
  - » Set the number of objects to a number between 10 and 15.
  - » Close the picker using the arrow so the number of objects is hidden.

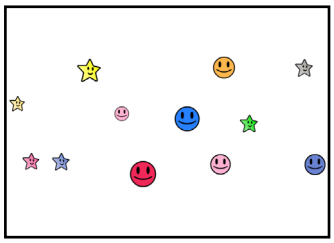
How to Do the Activity:

1. Select one of the three shapes (happy face, star, gingerbread).
2. Ask your child how many objects are in the workspace.
3. Scramble the objects on the workspace by using the  button.
4. Ask your child how many objects there are now in the workspace.
5. Repeat scrambling the objects and have your child count until your child sees that the location of the objects does not affect the count.
6. Open the picker palette and click another shape so that two are selected. The number of objects should remain the same. Select New.
7. Ask your child how many objects there are now in the workspace. Also, ask how many of each type of object.
8. Select all three shapes. The number of objects should remain the same.
9. Ask your child how many objects there are now in the workspace. Also, ask how many of each type of object.
10. Repeat activity as desired for other number of objects.

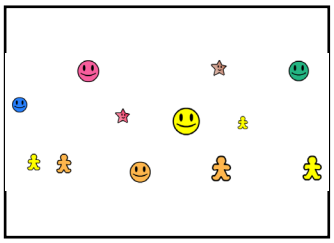
Example:



Count: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 stars



Count: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 objects
6 stars, 6 happy faces



Count: 1,2,3,4,5,6,7,8,9,10,11,12 objects
2 stars, 5 happy faces,
5 gingerbread

Your child may sort the objects by type when counting.

Let's Talk About It

How can you be sure you counted all the objects?
Why does it help to sort the objects?
Why does the number of objects stay the same?

Counting Forward to 20

Look Then Count

Activity 2

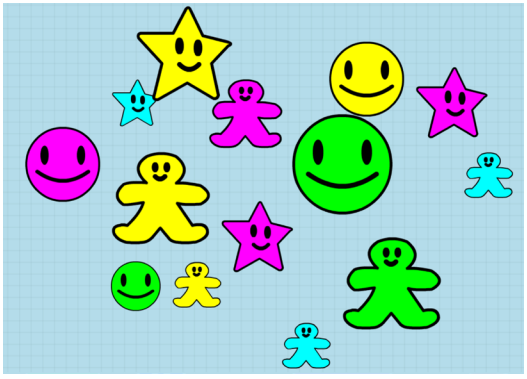
Set Up for the Activity:

- Open the Set learning tool.
  - » Use the Auto mode and set the number of objects to a number 20 or less.

How to Do the Activity:

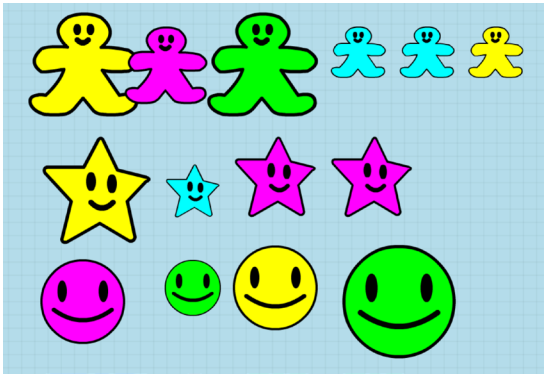
1. Ask your child to look at the objects on the workspace and, without counting, tell you if there are more gingerbreads, happy faces, or stars.
2. Ask your child to look at the objects on the workspace and without counting, tell you if there are fewer gingerbreads, happy faces, or stars.
3. Have your child count each of the types of objects: happy faces, stars, and gingerbread.
4. Repeat activity as desired.

Example:



I think there are more gingerbread
I think there are fewer happy faces

Your child may organize the shapes into rows to compare the quantities.



Count: 1, 2, 3, 4, 5, 6 gingerbread

Count: 1, 2, 3, 4 stars

Count: 1, 2, 3, 4 happy faces

Let's Talk About It

Why did you think there are more (gingerbreads, stars or happy faces)? Were you correct?
Why did you think there are fewer (gingerbreads, stars or happy faces)? Were you correct?
Why does it help to sort the shapes?

Counting Forward to 20

Counting Tiles

Activity 3
Number of Players: 2

Object of the Game: The player, who places the last tile without going over 20, wins.

Set Up for the Game:

- Open the Colour Tiles learning tool.
  - » Each player pick a colour.
- Make five number cards labelled 1, five labelled 2, and five labelled 3. Shuffle and place face down on the table.

How to Play the Game:

1. Player 1 picks up a card from the pile and moves that many tiles onto the workspace.
2. Player 2 picks up a card from the pile and moves that many tiles onto the workspace.
3. Have your child count all of the tiles on the workspace.
4. Players continue to take turns picking up a card and move the 1, 2 or 3 tiles onto the workspace.
5. After each turn have your child count to see if there are 20 tiles.
6. The player, who places the last tile to make 20 tiles in the workspace without going over, wins. If the last turn results in 21 tiles in the workspace, the game is a tie.
7. Clear the workspace and play again.

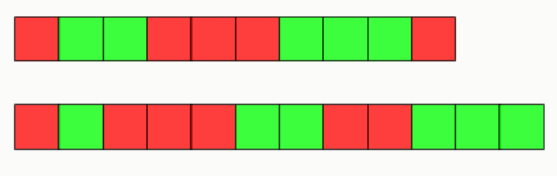
Example:

Player 1's First Turn **1**

Count: 1, 2, 3

Player 2's First Turn **2**

Last turn, **3**



Your child may group 10 tiles together, and then count on from 10.

Count: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Result: Tie Game

Let's Talk About It

How do you know you have counted all the tiles?
How many tiles did you put on the workspace?
How many tiles did I put on the workspace?

Counting Forward to 20

Counting Forwards by 2s

Activity 4

Set Up for the Activity:

- Open the Whole Number Rods learning tool.
- Shuffle one set of number cards 10, 12, 14, 16, 18 and 20 and place them face down in a pile.

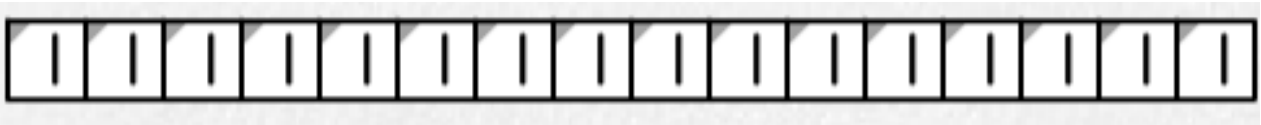
How to Do the Activity:

1. Have your child pick a card from the pile. The number on the card represents the number of 1-rods your child will place into the Whole Number Rods workspace.
2. Have your child arrange the 1-rods end to end just above the unit train at the bottom of the workspace. (This is called a train.)
3. Ask your child how many 2-rods would be needed to replace the 1-rods in the train. Have your child replace the 1-rods with the 2-rods to confirm.
4. As your child counts out loud, record what is said.
5. Have your child count the train by twos, record what is said.
6. Share your recording with your child. Have your child look to see if the final count is the same as the number of 1-rods that were originally placed in the workspace (number on the card).. If not, have your child determine where the error occurred.
7. Repeat activity as desired.

Example:

16

Sixteen 1-rods to make a train



1-rods traded with 2-rods

Count by twos: *2, 4, 6, 8, 10, 12, 14, 16*
The train has a value of 16 units.

Let's Talk About It

What do you notice about the relationship between the number of 1-rods and the number of 2-rods you need to make the train?
Why is counting by twos a good skill to have?
How can you be sure you have counted all the parts of your train?

Counting on by 2s

Activity 5

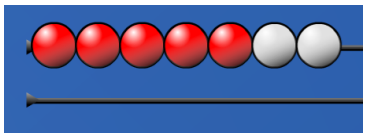
Set Up for the Activity:

- Open the Rekenrek learning tool.
- Shuffle one set of number cards 3 to 6 and place them face down in a pile.

How to Do the Activity:

1. Place 5 to 8 beads on the left side of the top rack.
2. Ask your child how many beads are shown.
3. Have your child pick a card from the pile. (The number on the card represents the number of sets of 2 beads that your child will be moving in the next step.)
4. Starting on a new rack, have your child slide two beads at a time from right to left 'on the racks' until the number of sets of 2 indicated by the card has been moved.
5. Have your child count on out loud by twos from the original amount of beads to determine the total number of beads now shown. Record what is said.
6. Share this record with your child. Have your child check the count.
7. Repeat activity as desired.

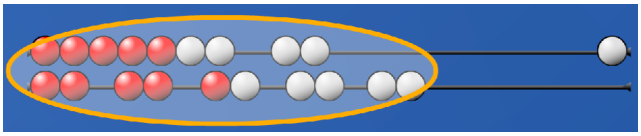
Example:



7 beads

6 Six sets of 2 beads to count on

Your child may check the count by noticing the 5 sets of 2 beads on the 2nd rack make 10. Then count 10 onto the first rack to make 20. Then count back one since there are only 9 beads on the first rack.



Count: *7, 9, 11, 13, 15, 17, 19*
There are 19 beads.

Let's Talk About It

Why do we sometimes count by twos?
How can you keep track of how many sets of two beads you moved?
Does it help to make groups of ten or five? Why or why not?

Skip Counting Forward Using the Set Tool

Activity 6

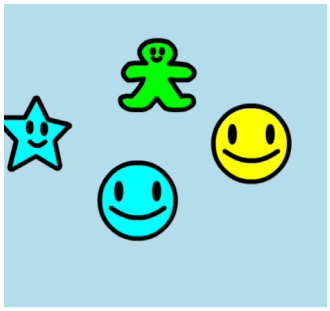
Set Up for the Activity:

- Open the Set Tool learning tool.
  - » Work in Create mode.
  - » Place a set of 2 to 8 objects on the workspace.
  - » Set the number of copies to two. 

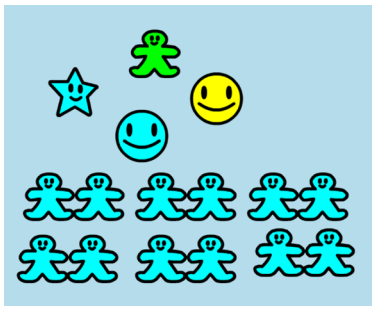
How to Do the Activity:

1. Ask your child to count the objects. Check the total using the counter icon. 
2. Have your child move six pairs of objects onto the workspace.
3. Ask your child to skip count by twos as the pairs of objects are moved onto the workspace.
4. When your child has moved the correct number of pairs ask your child to confirm the final count using the counter icon.
5. Repeat activity with different starting number of objects and different number of skips forward.

Example:



There are 4 objects.



Count: 4, 6, 8, 10, 12, 14, 16 objects

Six skips of 2

Your child may check the count using the counter feature after each pair is moved onto the workspace.

Let's Talk About It

Why is counting by twos a good skill to have?
What do you notice about your count if you start with an even number?
What do you notice about your count if you start with an odd number?
What is another way to check if your final count is correct?