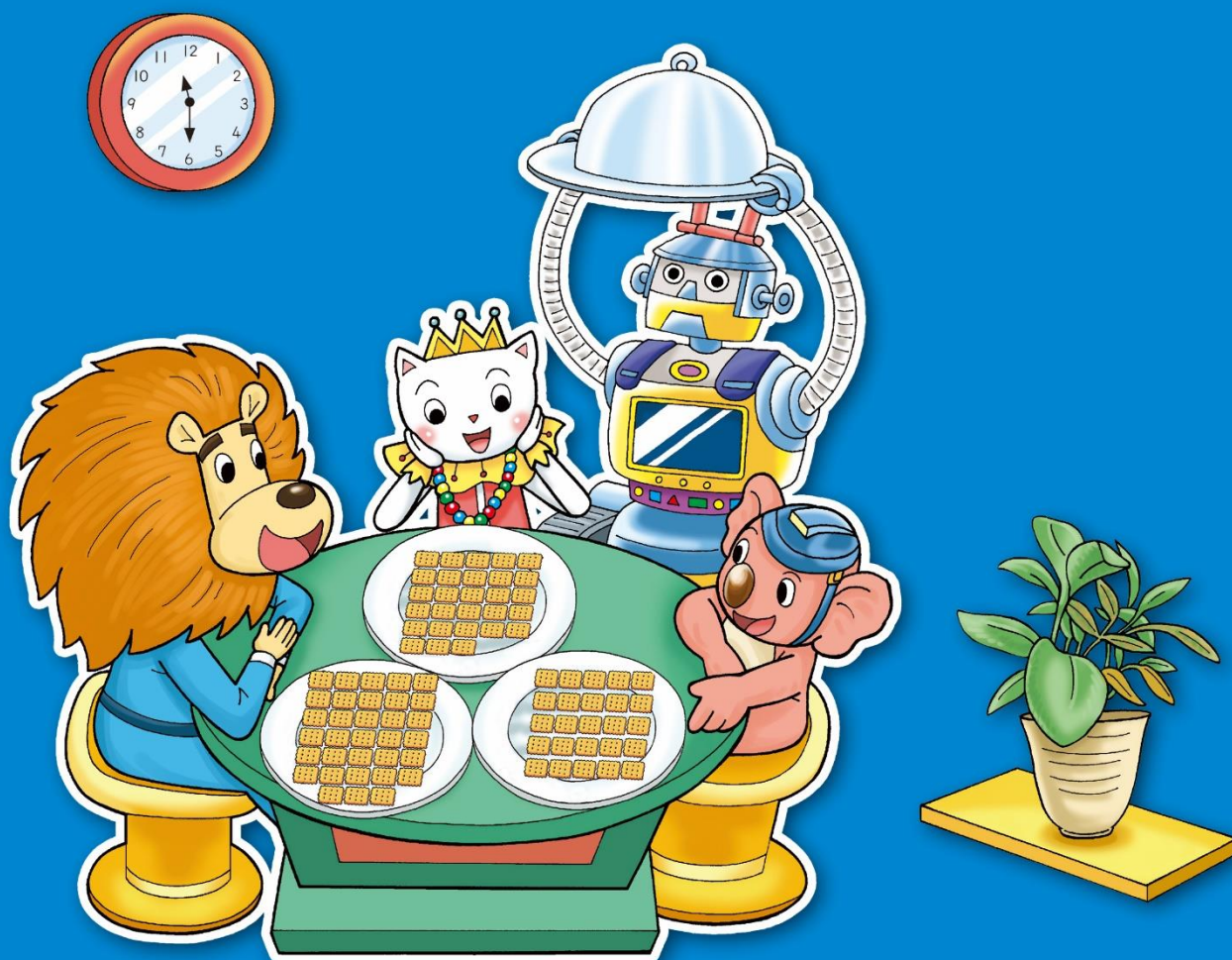




Fun Math

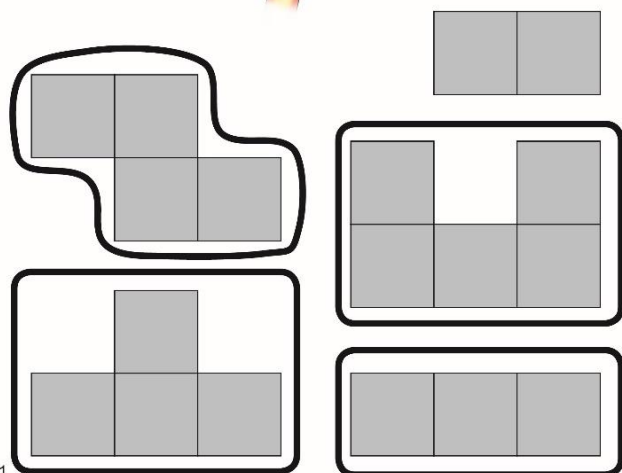
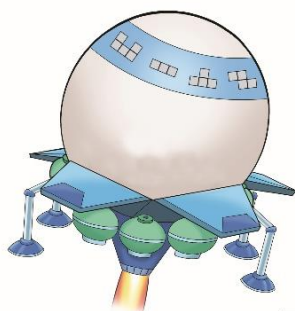
Teacher's Manual

E

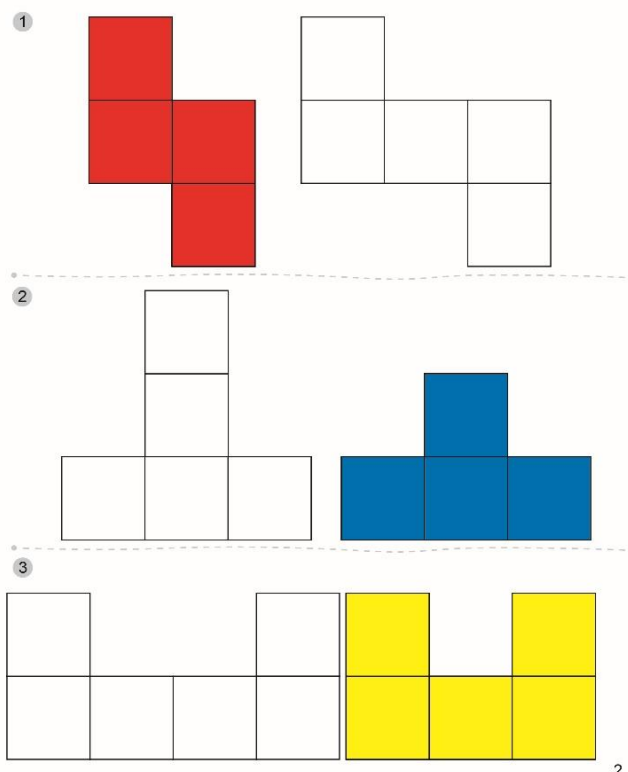




Please circle the figures that are shown on the spaceship.



Please take out the pattern blocks, and compare them with the figures below. Then color the figures according to the pattern blocks.



Class		Teacher	
Unit	E1-1	Topics	Geometric Shape Arrangements

Manipulatives: Pattern blocks

Learning Activities

1. Ask students to observe the figures that are shown on the spaceship. What do the figures look like?
2. Ask students to take out the pattern blocks. Guide students to flip the pattern blocks, compare them with the figures on the spaceship, and find the matching patterns.
3. Pick one pattern block, and ask students to find the same one from their own pattern blocks.
4. Show students a flipped or turn-around pattern block. Ask a student to come up with his/her pattern block, and flip/turn it around to match the teacher's.
5. Repeat the practice until students are familiar with the shapes of the pattern blocks.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Lucky matches:

1. Prepare two sets of pattern blocks. Keep each set in one mystery bag.
2. Have students come up to draw one pattern block from each bag. If the two pattern blocks match, then the student gains one point. If not, the student puts the blocks back to the bags, and another student comes up to play the game.



Please take out the pattern blocks, and find the blocks that are used to make the figures on the left. Then color the figures on the right according to the matching blocks.

Please take out the pattern blocks, and find the blocks that are used to make the figures on the left. Then connect the left figures to the blocks.

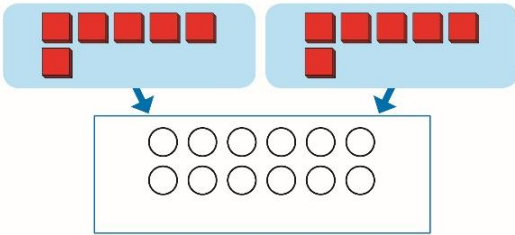
1

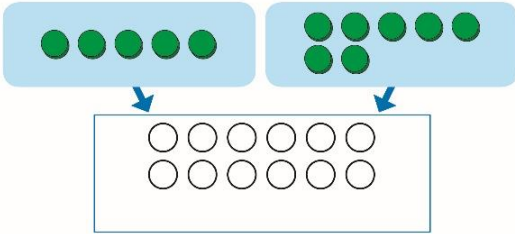
2

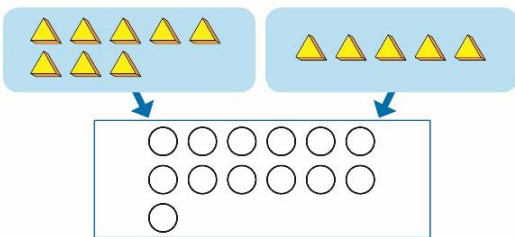
Class		Teacher	
Unit	E1-2	Topics	Geometric Shape Arrangements
Manipulatives: Pattern blocks			
Learning Activities - Show students one pattern block, and then ask them to find the same one from their own pattern blocks. - Have students create figures by putting two pattern blocks together. Each student takes turns to come up and show the figure he/she creates, while the rest of the students can try to make the same figure with their own pattern blocks. - Repeat step 2 with each of the four pattern blocks. - After students are familiar with the combinations of the 4 pattern blocks, divide students into several groups. Each group create a figure with these 4 pattern blocks, and takes turns to show the figures they create.			
Student Book Activities Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Jigsaw puzzle games: - Give each student a piece of plain paper. - Tell students to put the pattern blocks together to create a new figure. When students are done, help trace the outline of each figure on the paper. - Students exchange their paper, and try to build the figures with their pattern blocks.			



Please count the shapes in each group, and then draw the same number of circles in the big box below.

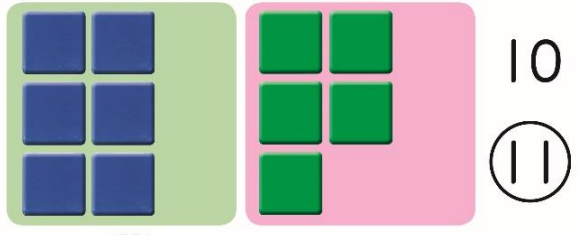
1. 

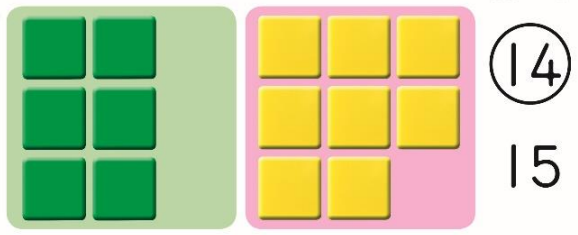
2. 

3. 

5

Please place a plastic squares on each square. Count all the squares in the two boxes, and then circle the correct number.

1. 

2. 

3. 

6

Class		Teacher	
Unit	E1-3	Topics	Composing Numbers up to 15

Manipulatives: Plastic squares

Learning Activities

1. Guide students to observe the shapes on Student Book page 5. How many squares are on the left, and how many are on the right? What's the total number of the squares? Guide students to count the squares.
2. Guide students to count the circles and triangles following step 1.
3. Draw two frames on the whiteboard. Ask two students to come up and place the assigned numbers of plastic squares in the frames respectively.
4. Ask Students to count the total number of squares in these two frames. Write down the number, and have one student draw the same number of circles next by the number.
5. Practice with different numbers until students are familiar with the composition of numbers.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Arriving the end:

1. Draw a 4x5 grid, and then write down numbers in the boxes from 1 to 20.
2. Have three students come up to the front. Each student picks a different color of plastic square.
3. Students take turns to roll a die, and move their plastic squares base on the numbers shown on the die, starting from number 1.
4. The first player arriving number 20 will win.



Please count the shapes that each character has. Then write down the number in each .

1

2

3

4

Please count the squares of each color. Write down the number in the . What is the sum of the numbers? Please circle the same amount of squares on the right.

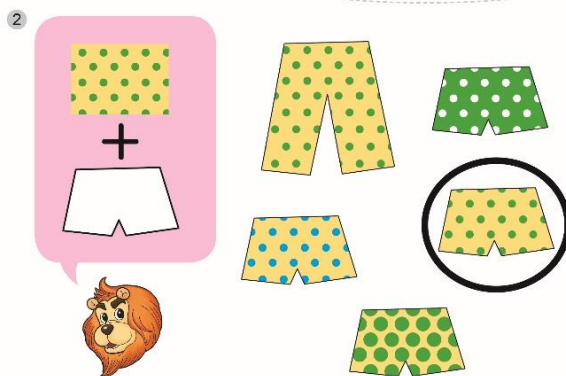
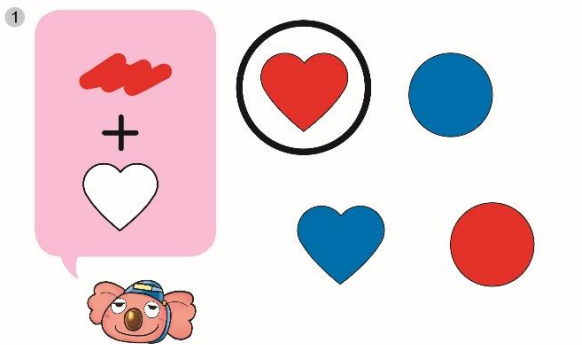
1

2

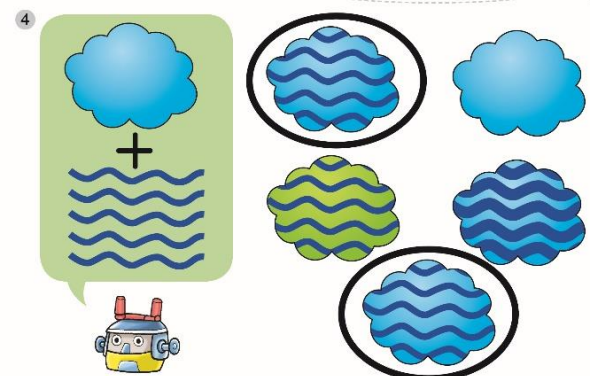
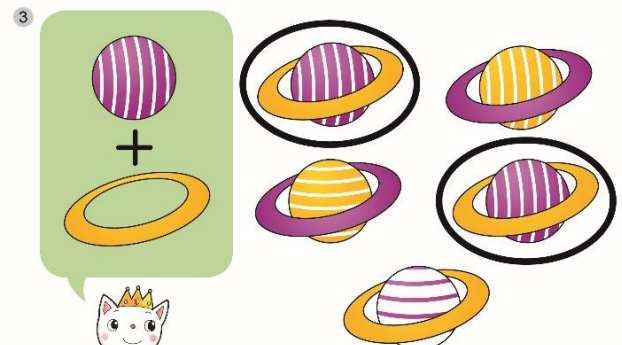
Class		Teacher	
Unit	E1-4	Topics	Composing Numbers up to 15
Manipulatives: Plastic squares			
Learning Activities			
1. Draw two big frames on the whiteboard, and a box below each frame. Draw 6 circles in the left frame, and 7 circles in the right frame.			
2. Guide students to count the circles. Have two students come up and write down the numbers of the circles in the .			
3. Count with students the total number of all circles. Invite one student to write down this number.			
4. Continue practicing with other numbers of objects until students are familiar with the composition of numbers.			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Writing numbers in sand:			
1. Prepare two sets of number cards and a sand tray. One set is regular number cards, and the other set has hollow numbers.			
2. Place the hollow number cards on the sand tray. Guide students to trace the hollow numbers with their fingers.			
3. For more advanced students, guide them to look at the regular number cards, and write in the sand.			



Please circle the item that has the two features shown on the left.



9



10

Class		Teacher	
Unit	E1-5	Topics	Finding the Common Features
Manipulatives: None			
Learning Activities			
1. Each student receives a drawing paper, and picks a red or blue crayon to draw a circle or a heart on the paper.			
2. Place all of the paper randomly on the floor. Tell students two features, for example, red color and heart shape. Ask students to find the drawings that has these two features.			
3. Practice with different assigned features.			
Student Book Activities			
Guide students to complete the practice using the crayons.			
Extended Activities			
Big wind blows:			
1. Place some chairs in the middle of the classroom. One chair for each student, minus one.			
2. Pick one student to be "it". The rest of the students, each have a seat.			
3. "It" says, for example, "The big wind blows the girl who's wearing a skirt." Those who has these features must stand up and quickly find a new seat. Whoever doesn't have a seat becomes "it".			



There are many stars in the sky. Please count the stars that have the exact features, and then write down the numbers.



1   → 3

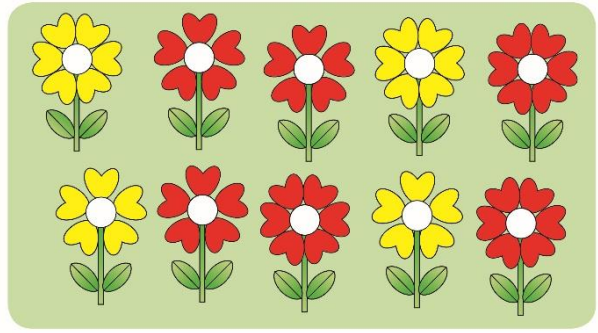
2   → 2

3   → 3

4   → 4

11

There are many flowers in the grass. Please count the flowers that have the exact features, and then write down the numbers.



1   → 2

2   → 3

3   → 2

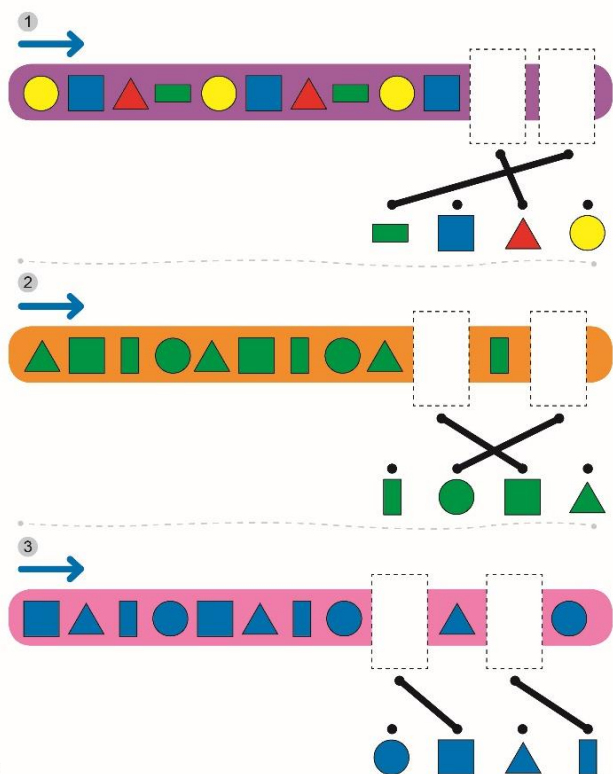
4   → 3

12

Class		Teacher	
Unit	E1-6	Topics	Finding the Common Features
Manipulatives: None			
Learning Activities			
1. Show students Student Book page 11, and then tell them a story about the stars. Ask students to observe the shapes and colors of the stars.			
2. Point at one star, and ask students to tell the color and the shape.			
3. Assign one color (red or yellow) and one shape (four-pointed star or five-pointed star). Ask students to find the stars that match these two features, and count the number of these stars.			
4. Practice with the stars that have different features.			
Student Book Activities			
Guide students to complete the practice using the crayons.			
Extended Activities			
My friends:			
1. Give each students a piece of plain paper.			
2. Pair students up. Guide students to draw their partners.			
3. Have students show and tell about their partners' facial features that they drew.			

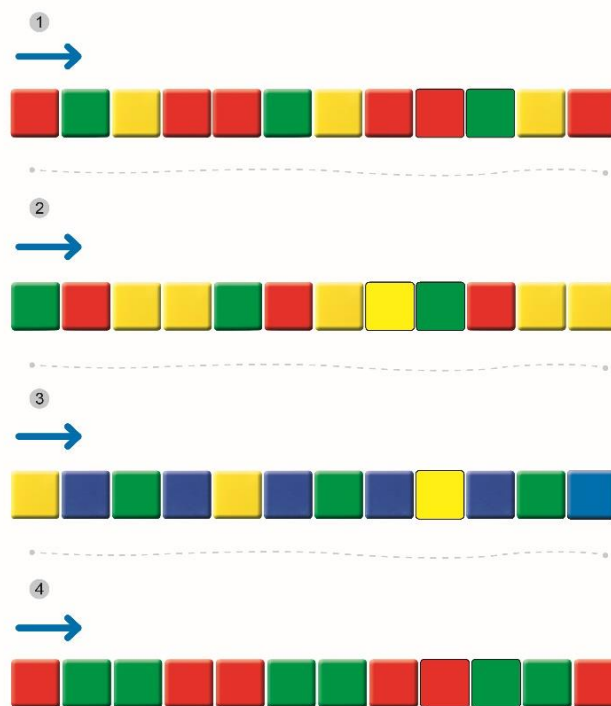


Please follow the direction of the →. Find out the pattern, and draw lines to match the shapes to the



13

Please take out the plastic squares. Starting from the →, place them in a row following the color pattern, and then color the □ according to the plastic squares.



14

Class		Teacher	
Unit	E1-7	Topics	Repeated Patterns of Four Elements

Manipulatives: Plastic squares

Learning Activities

1. Show the class Student Book p. 13. Guide students to say the names of the shapes, and find out the repeated pattern.
2. Prepare some plastic squares of four colors. Line up the squares in a pattern, for example: red, yellow, blue, green, red, yellow, blue, green. Ask one student to come up and continue lining up the squares according to the existing pattern.
3. Start to practice with pattern ABCDABCD, and later proceed to more advanced patterns like ABCAABCA, ABCBABCB.
4. Continue practicing until students are familiar with the repeated patterns of four elements.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

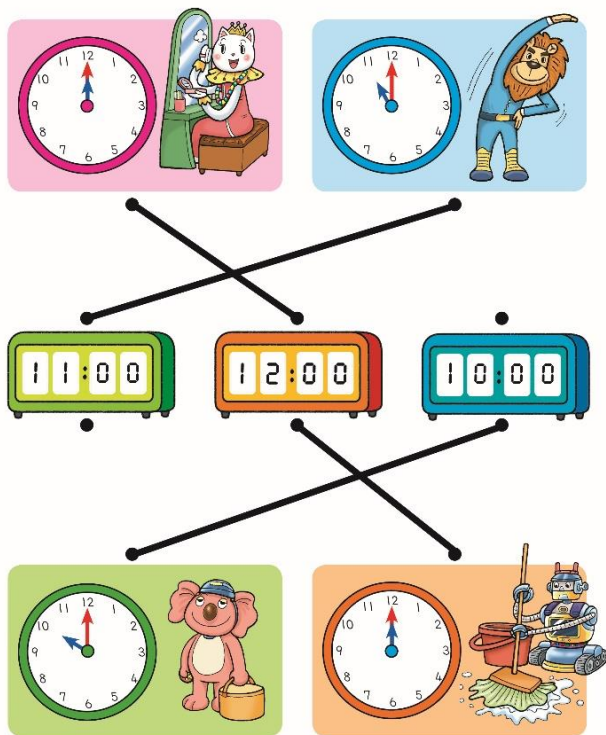
Extended Activities

Colorful trains:

1. Divide students into two groups. Each student draws a plastic square from the mystery bag.
2. Assign a pattern for the train, for example: red, yellow, green, blue.
3. Each group has to make a train by lining up according to this pattern.
4. Remind students to hold their plastic squares in hand.
5. The longer train with correct pattern wins the game.

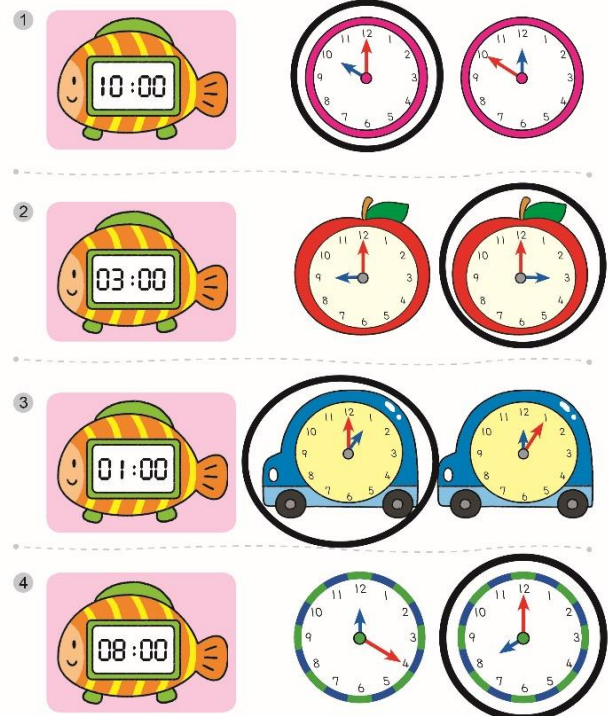


Please match each analog clock to the digital clock that shows the same time.



15

Please take out the plastic clock, and set it to the same time as the digital clock on the left. Then circle the correct clock on the right.

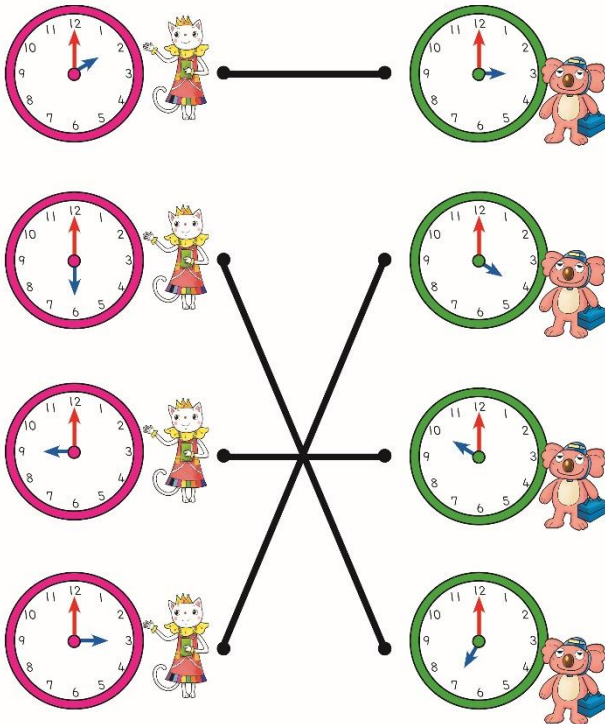


16

Class		Teacher	
Unit	E1-8	Topics	O'clock
Manipulatives: Plastic clock			
Learning Activities 1. Show students a plastic clock. Guide them to observe the numbers, and the positions of the minute hand and the hour hand. 2. Draw twelve clocks on the whiteboard starting from one o'clock. Introduce the time of each clock. 3. Say a time, and have students point to the corresponding clock. 4. Draw a digital clock below each analog clock, and teach student reading the digital clocks. 5. Erase the analog clocks, and ask students to take out their plastic clocks. 6. Point at one of the digital clocks, and guide students to move the hands of their clocks to match the time of the digital clock.			
Student Book Activities Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities A day of mine: 1. Take out a plastic clock, and discuss with students their daily activities at school. 2. Move the hands of the clock to show the time of each activity. (Hours only.)			

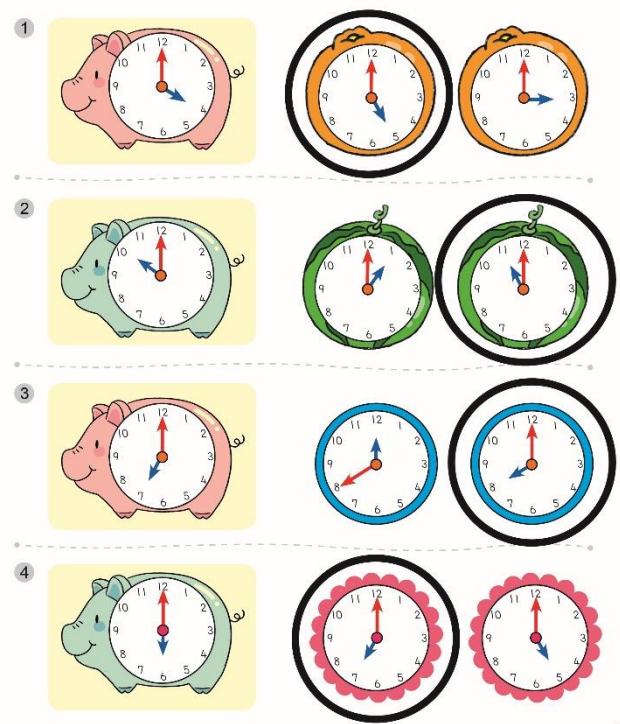


Please take out the plastic clock, and set it to the same time as the red clock. Make the long hand go around the clock once. What time is it then? Please draw a line to match the green clock that shows the same time.



17

Please take out the plastic clock, and set it to the same time as the clock on the left. Make the long hand go around the clock once. What time is it then? Please circle the correct clock on the right.



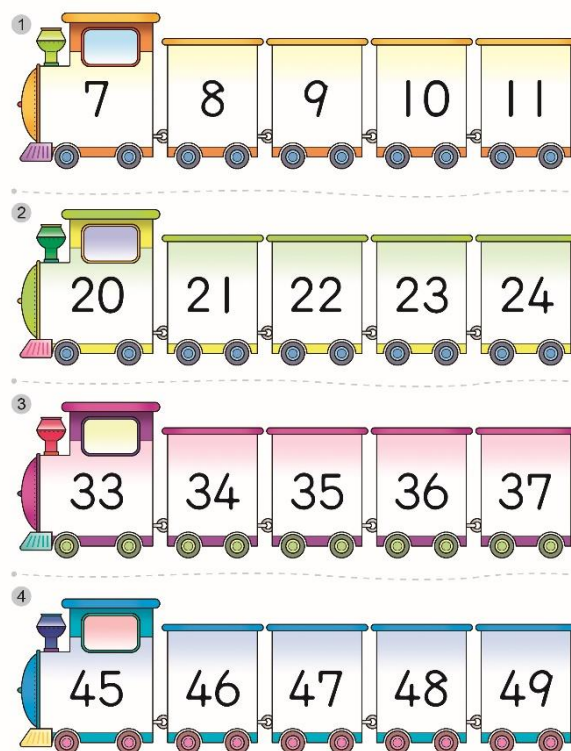
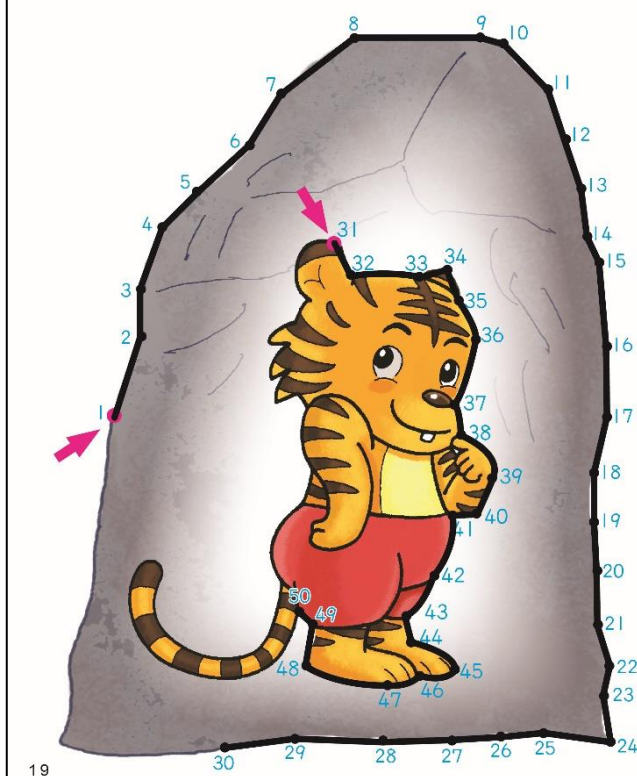
18

Class		Teacher	
Unit	E1-9	Topics	O'clock
Manipulatives: Plastic clock			
Learning Activities			
1. Show students a plastic clock, and set the time to 10 o'clock. 2. Move the minute hand around the clock once, and ask students what time it is. 3. Again, move the minute hand around the clock once, and ask students what time it is. 4. Set the clock to one o'clock. Ask students to take out their clocks and set their clocks to one o'clock too. 5. Guide students to move the minute hand around the clock once. Ask students to observe the clock and tell the time. Tell students, "It was one o'clock, but after the minute hand went around the clock once, the hour hand is now pointing at two. It's two o'clock now." 6. Continue practicing with each hour until it's twelve o'clock.			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Time line:			
1. Have twelve students set their clocks from one to twelve o'clock respectively. 2. Place the clocks on the floor randomly. 3. Ask students to find their own clocks, and line them up according to the time sequence.			



Little tiger is playing hide and seek. Please connect the dots from 1 → 30, and 31 → 50. Find out where Little Tiger is hiding at.

Please follow the order of 1 → 50, and fill in the blanks.



20

Class		Teacher	
Unit	E1-10	Topics	Counting to 50

Manipulatives: Number chart, plastic squares

Learning Activities

1. Show students the picture on Student Book page 19. Ask students to look and say the numbers that are around the cave.
2. Ask students to take out their Math Box and find the number chart on the bottom of the box. Count from 1 to 50.
3. After students are familiar with the numbers, cover some numbers with the plastic squares. Ask students to count from 1, and tell what the covered numbers are.
4. Practice more by covering different numbers.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Number relay:

1. Pass down number cards from 1 to 50. Some students might have more than one card.
2. Students slowly count together from 1 to 50. Each time a number is counted, the student with that number card comes up and place it in a row on the floor. Continue until all cards are counted.
3. Students look at the cards on the floor. Count again from the first card, and check if the number cards are in correct order.

E1-11 Counting Backward Within 20

Please follow the order of 20 → 1, and fill in the number of each cave.



21

The king's crown is missing. Please follow the order of 20 → 1, and find the crown.



22

Class		Teacher	
Unit	E1-11	Topics	Counting Backward Within 20

Manipulatives: Number chart, plastic squares

Learning Activities

1. Tell students to look at the caves on Student Book page 21. "There is a number in each cave. Let's count." Guide students to count from 1 to 20.
2. "If the animals follow the arrow, which number will they first get to? (20) And then what's next?" Guide students to count backward from 20 to 1 by pointing at and saying out each number.
3. Have students take out their Math Box and look at the number chart on the bottom. Cover some numbers with the plastic squares. Ask students to count backward and find out these covered numbers.
4. Practice more by covering different numbers.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

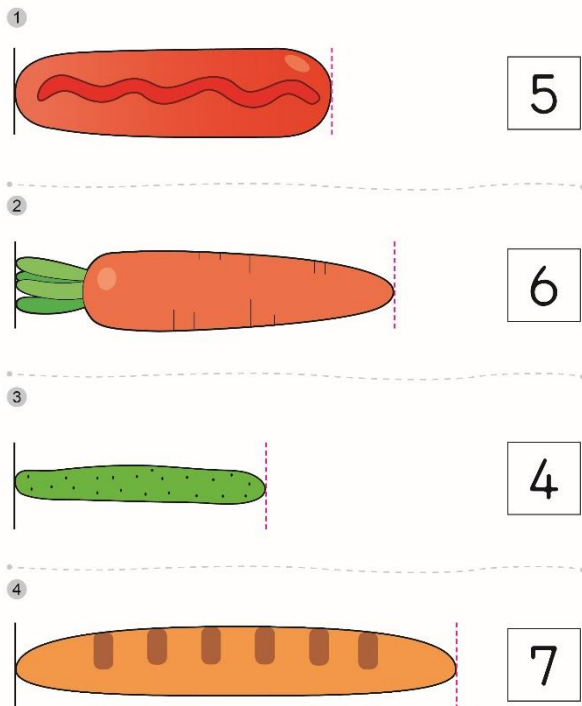
Extended Activities

Heart Attack:

1. Prepare 4 sets of number cards from 1 to 20. Shuffle the cards and place the deck of cards face down.
2. Divide students into groups of three to play the "Heart Attack" card game.
3. Start from counting 1 to 20. After students are familiar with the numbers, ask them to count backward.

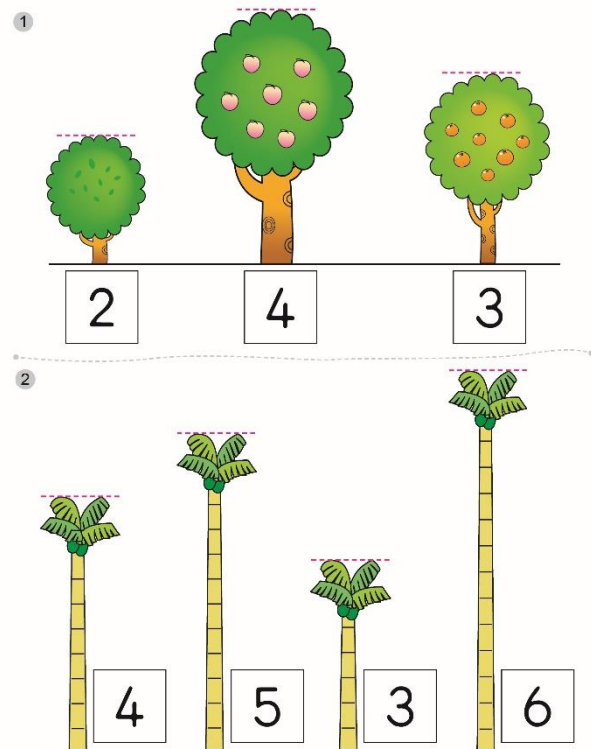


Please measure the food with the plastic squares. How many squares long is each food? Write down the number in the .



23

Please take out the plastic squares, and measure the trees with the squares. How tall is each tree? Write down the number in the .



24

Class		Teacher	
Unit	E1-12	Topics	Measuring with Objects

Manipulatives: Plastic squares

Learning Activities

1. Prepare three strings. The length of each string is multiple of a plastic square. Guide students to discuss about how to measure the strings.
2. Show students how to measure a string using plastic squares.
3. Divide students into three groups. Ask each group to measure one string with the plastic squares.
 - (1) Ask students to find the start and the end of the measurement.
 - (2) Help students draw a dotted line along the string.
 - (3) Guide students to line up the plastic squares along the line.
 - (4) Ask students to count the plastic squares.
4. Groups exchange their strings, measure and see if they get the same answer. Continue practicing until students are familiar with the measuring skills.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Long or short?

1. Prepare two strings. The length of each string is multiple of a plastic square.
2. Display the two strings on the floor or table. One is curved, and the other one is straight. Ask students which one is longer.
3. Straighten the curved string, and ask students to measure both strings with plastic squares.
4. Ask students if they guessed it right.



Please divide the keys into two groups. First, count the keys in the left box, and then circle the correct number of keys in the right box.

1

2

25

How to divide 12 apples among two people? Please circle the correct number of apples.

- 1 One person has 4 apples. Then how many apples does the other person has?

- 2 One person has 7 apples. Then how many apples does the other person has?

26

Class		Teacher	
Unit	E1-13	Topics	Decomposing Numbers Within 15

Manipulatives: Plastic squares

Learning Activities

- Have students look at the first picture on Student Book page 25. Tell students there are 15 keys in the first box. Observe how the keys are divided into two groups. How many keys are in each group? How are the key divided?
- Prepare 15 cookies. Ask one student to divide the cookies into two groups, and count how many cookies are in each group.
- Each student takes out 15 plastic squares, and divide them into two groups.
- Ask students to explain how they divide the plastic squares.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Fishing game:

- Prepare a basin with 15 plastic fish in it.
- Each student takes turns to catch the fish with a net (everyone has one chance only). Then count the fish in the net, and the fish in the basin.



Please count the keys in the left box, and divide the keys into two groups. Circle the keys in the second group, and then write down the number in the .

1

2

3

27

How to divide the plastic squares below into two groups? Please write down the number in the .

1

2

3

28

Class		Teacher	
Unit	E1-14	Topics	Decomposing Numbers within 15

Manipulatives: Plastic squares

Learning Activities

1. Draw a big frame and two small frames on the whiteboard. Then draw a below each frame. Place 15 cookie cards in the big frame. Ask students to count the cookies. Write down the number in the below the big frame.
2. Ask student how they can divide the cookie cards into two groups. Ask a student to move the cookies into the two small frames. Count the cookies in each frame, and then write down the number in the below each small frame.
3. Have other students come up, and try to divide the cookie cards in different ways.
4. Change the quantity of the cookie cards, and have students practice until they are familiar with the decomposition of numbers.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

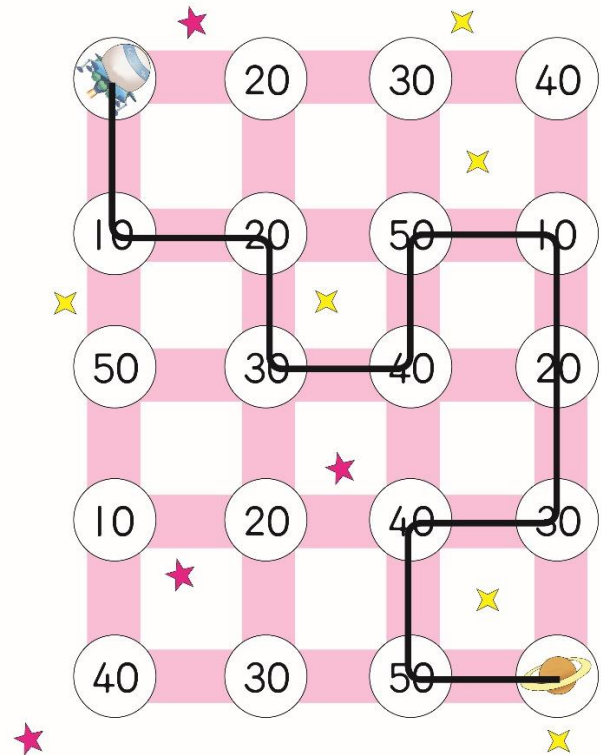
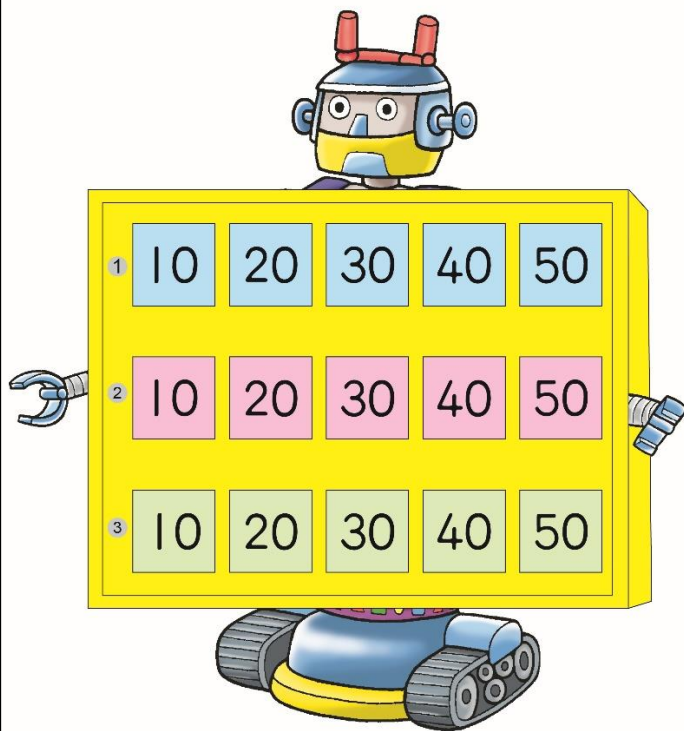
Who has more?

1. Draw 12 boxes on a piece of paper. (Each box should be slightly bigger than a plastic square.)
2. Have two students come up, and give each of them 12 plastic squares of the same color. (Each student uses a different color.)
3. Students play rock-paper-scissors. The winner can place a plastic square in one of the boxes.
4. Continue the game until all of the boxes are occupied. Count the plastic squares of each color, and see which color has more?
5. Continue practicing with different numbers of boxes.



Please follow the order of 10→20→.....→50, and fill in the blanks.

Count by 10's to help the spaceship find its way to the planet.



Class		Teacher	
Unit	E1-15	Topics	Counting by 10's

Manipulatives: Number chart, plastic squares

Learning Activities

1. Have students take out their Math Box and look at the number chart on the bottom. Guide students to say the numbers from 1 to 50. Tell students to observe the numbers in the 10's column. Guide them to skip count by 10's.
2. Cover some of the numbers in the 10's column with the plastic squares. Ask students to find out the missing numbers by counting by 10's.
3. Continue practicing skip count by covering different numbers.

Student Book Activities

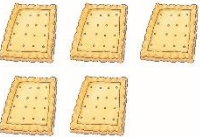
Guide students to complete the practice using the manipulatives and crayons.

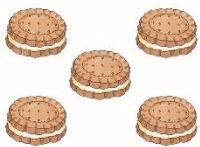
Extended Activities

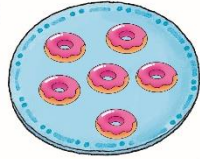
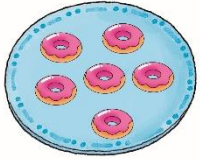
Hula fun:

1. Place 5 hula hoops on the floor. Put number cards 10, 20, 30, 40, 50 in the hoops respectively.
2. Lead students to hop from 10 to 50.

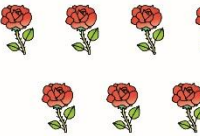
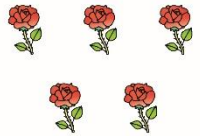
The signs ">(greater than), <(less than)" look like a mouth. The mouth always open towards to the bigger numbers. Please count the objects of both sides, draw a > or < in the $\square$. Draw an =(equal) if they have the same amount.

1   

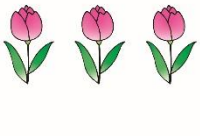
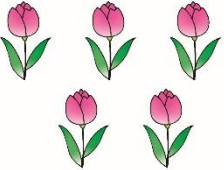
2   

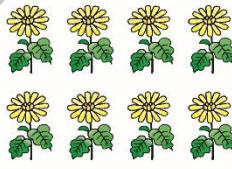
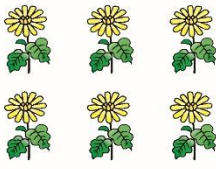
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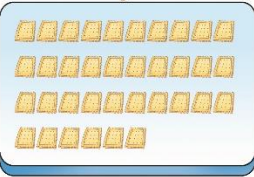
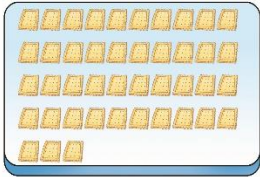
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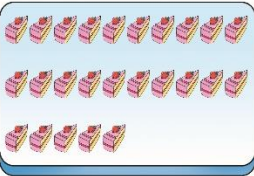
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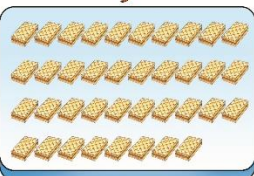
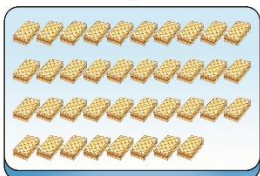
Class		Teacher	
Unit	E1-16	Topics	Using >, <, =
Manipulatives: None			
Learning Activities			
1. Draw a square on the whiteboard. Have one student put some cookie cards on the left side of the square, and another student put some cookie cards on the right side of the square.			
2. Each student writes down the number of the cookie cards that he/she put on the whiteboard. Find out which side has more cookies.			
3. Introduce <, >, and = to students. (Explain that the signs > and < are like a mouth. The mouth always open towards to the bigger numbers.) Ask students which sign should be written in the square.			
4. Continue practicing with different numbers of cookies until students are familiar with the signs.			
Student Book Activities			
Guide students to complete the practice using the crayons.			
Extended Activities			
Scavenger Hunt:			
1. Divide students into two groups. Each group has to find the items that the teacher asks for. As many as possible. For example, pens.			
2. When time's up, count the items. Compare the numbers, and see which group has more.			



Please count the snacks in each group, and compare the numbers. Then draw a $>$, $<$ or $=$ in the $\square$.

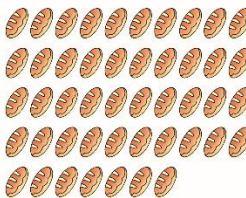
1.   $<$ 

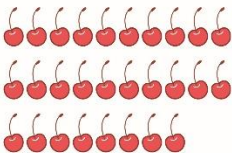
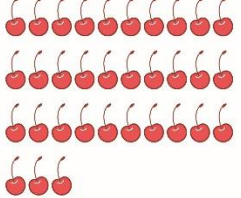
2.   $>$ 

3.   $=$ 

33

4.  $=$ 

5.  $>$ 

6.  $<$ 

34

Class		Teacher	
Unit	E1-17	Topics	Comparing Numbers Within 50

Manipulatives: None

Learning Activities

1. Draw a square on the whiteboard. Take out some cookie cards.
2. First, place 36 cookies cards in rows of 10. Guide students to count by 10's and 1's. Have one student put the cards on the left side of the square.
3. Repeat step 2 with 43 cookie cards. Put the cards on the right side of the square.
4. Ask student which side has more cookie cards? Which sign should be written in the square? $<$, $>$ or $=$?
5. Continue practicing with different numbers of cookies until students are familiar with the signs.

Student Book Activities

Guide students to complete the practice using the crayons.

Extended Activities

Big or small?

1. Divide students into two groups. Give each group 50 building blocks and cards of $<$, $>$, and $=$.
2. Each group brings up a certain amount of building blocks to the front, count the other group's building blocks, and then quickly place a sign card between the two groups of blocks. The first group placing the correct sign between the blocks wins.



Please look at the clocks on the robot and on the wall. Color the ☐ if the clocks are showing the same time.

Please match each digital clock to the analog clock that shows the same time.

1 ☐ 



2 ☐ 



3 ☐ 



4 ☐ 



















Class		Teacher	
Unit	E2-1	Topics	Half Past
Manipulatives: Plastic clock			
Learning Activities			
1. Guide students to look at the clock in the classroom. Ask them what numbers are the hour hand and minute hand pointing at. 2. Take out the plastic clock, and set the time to one o'clock. Move the minute hand around from twelve to six. Tell students, "The minute hand reaches 6, and the hour hand is pointing half way between 1 and 2. It's half pass one now." 3. Continue to practice with half pass two all the way to half pass twelve. 4. Draw a digital clock on the whiteboard. Write 1:30, and tell students it equals to half pass one. Continue introducing digital clocks from 1:30 to 12:30. 5. Ask students to set the time of their plastic clocks according to the digital clock on the whiteboard.			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Lining up the clocks:			
1. Prepare some cards of clocks showing hours and half hours. (Analog or digital clocks) 2. Ask students to line up the clock pictures according to the time sequence.			



Please circle the analog clock that shows the same time as the digital clock in the picture.

1

2

3

4

3

Please draw a ○ in the □ under the digital clock that shows the same time as the analog clock.

1
□ □

2
□ ○

3
○ □

4
○ □

4

Class		Teacher	
Unit	E2-2	Topics	Half Past

Manipulatives: Plastic clock

Learning Activities

1. Guide students to set their plastic clock according to the teacher's instructions.
2. Have twelve students set their clocks from half past one to half past twelve respectively.
3. Draw a digital clock on the whiteboard, write a time, for example, 5:30. Ask students who has the same time as the digital clock. Explain that half past 5 is between 5 o'clock and 6 o'clock, so the minute hand should point at 6, and the hour hand is between 5 and 6.
4. Continue practicing until students are familiar with half hours.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

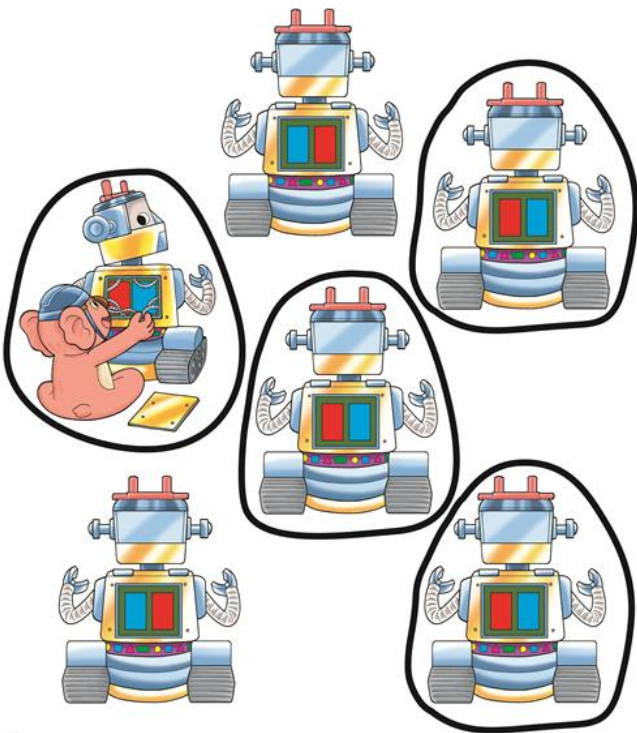
Extended Activities

Matching times:

1. Prepare some cards of digital clocks with different hours. Keep the cards in a mystery bag.
2. Each student draws a card from the bag, and set the plastic clock to the same time as the card.

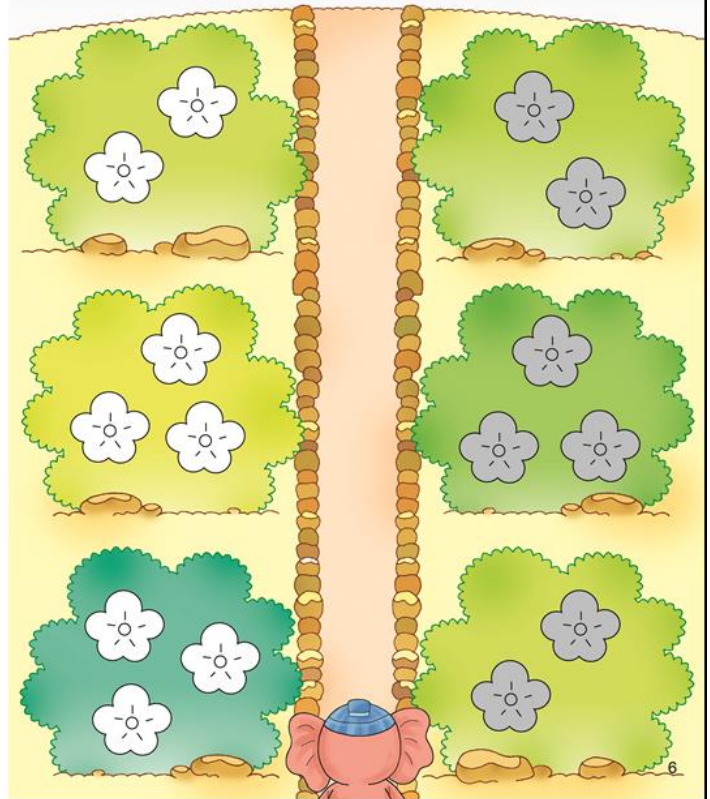
E2-3 Left or Right

Each robot has two chips. A red chip on the left and a blue chip on the right. Please circle the robots that are correct.



5

There are flowers blooming in the garden. Please color the flowers that are on the right side of the path.

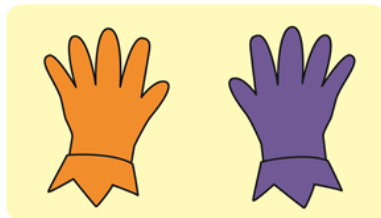
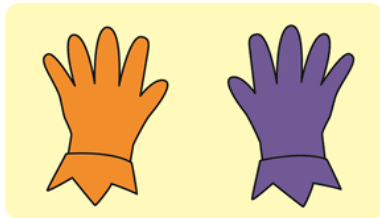
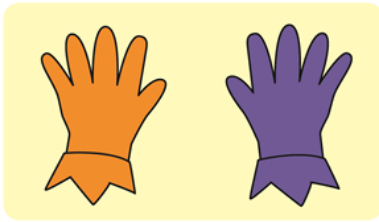


6

Class		Teacher	
Unit	E2-3	Topics	Left or Right
Manipulatives: None			
Learning Activities 1. Draw a robot with a blue chip on the right and a red chip on the left. 2. Guide students to observe the position of the chips. Tell them the blue chip is on the right, and the red chip is on the left. 3. Draw two squares on the whiteboard. Practice telling left or right with the two squares. 4. Prepare two picture cards. Instruct students to place the cards at the assigned position.			
Student Book Activities Guide students to complete the practice using the crayons.			
Extended Activities			
Hands and feet: 1. Prepare some drawing paper and watercolor paint. Guide students to make handprints and footprints. 2. Ask students to find their left footprints and left handprints, and then decorate them.			

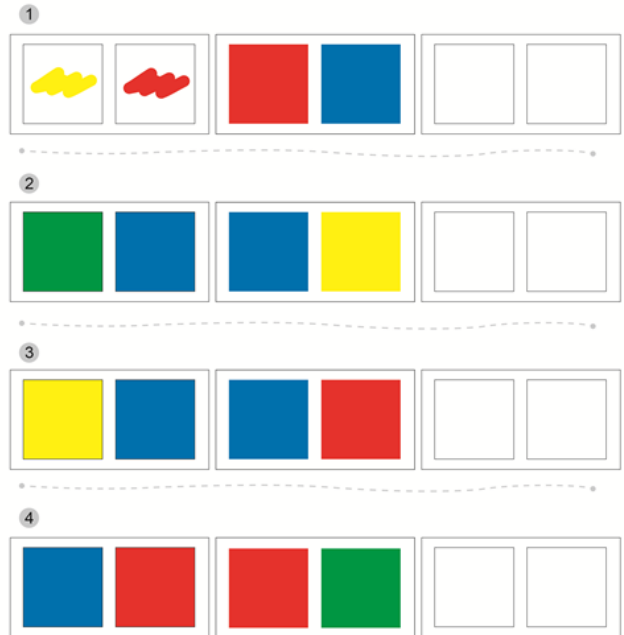


Princess Sasa has many pairs of gloves. The left-hand gloves are orange, while the right-hand gloves are purple. Please color the gloves with correct colors.



7

Please take out the domino cards. Only the ends with the same color can be placed next to each other. Please arrange the cards according to this rule, and then color the blank cards on the page.



* The suggested answers are indicative only.



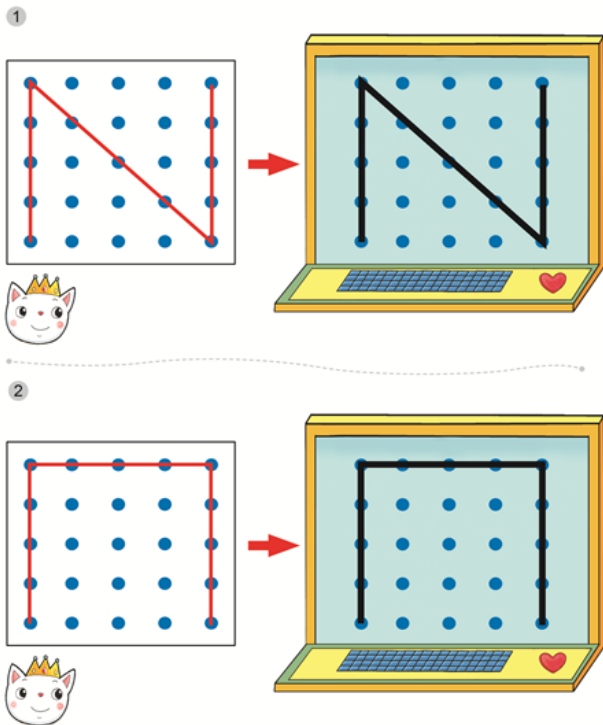
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Class		Teacher	
Unit	E2-4	Topics	Left or Right
Manipulatives: Domino cards			
Learning Activities			
- Show students the gloves on Student Book page 7. Ask students to tell which one is right, and which one is left. - Practice right and left by asking students to raise their hands. - Demonstrate how to play with the color domino cards. - Place all the domino cards face up. - Randomly pick one domino card. Guide students to observe the color on the right and left of the card. - Tell students to look for domino cards that match either ends of this domino. - Practice until students are familiar with domino game rules.			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Fancy gloves:			
- Prepare pairs of gloves and ornaments, for example, yarn, spangles and ribbons. - Ask students to decorate both gloves differently with the ornaments. - After everyone is done, have students show and tell about the designs of their left and right gloves.			

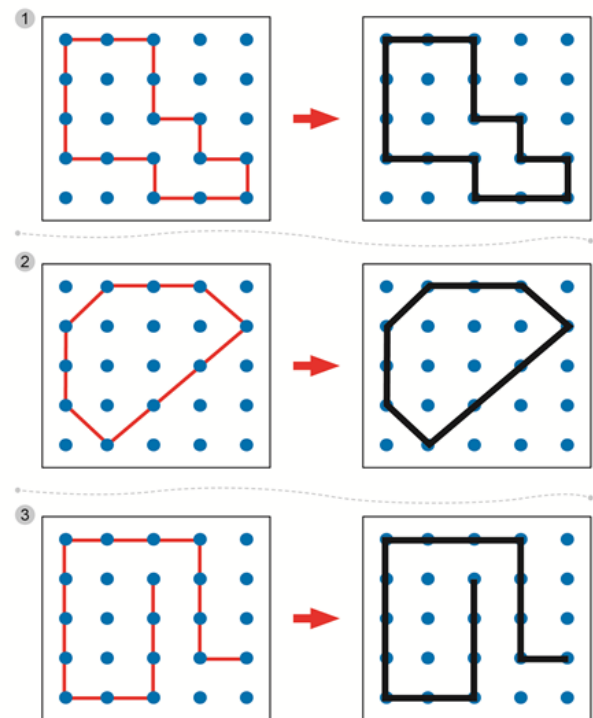


Please copy Princess Sasa's maps into the screens on the right. You can also use a nail board and rubber bands to mark the routes.

Please draw the same patterns into the right boxes.



9

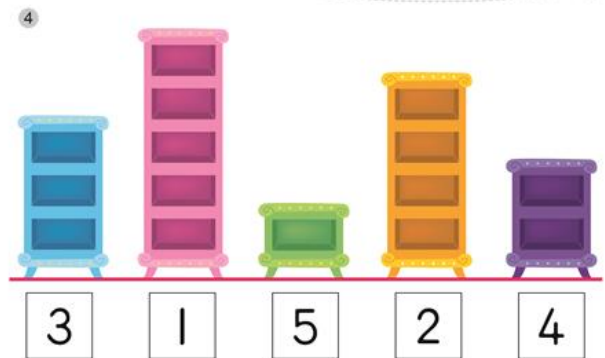
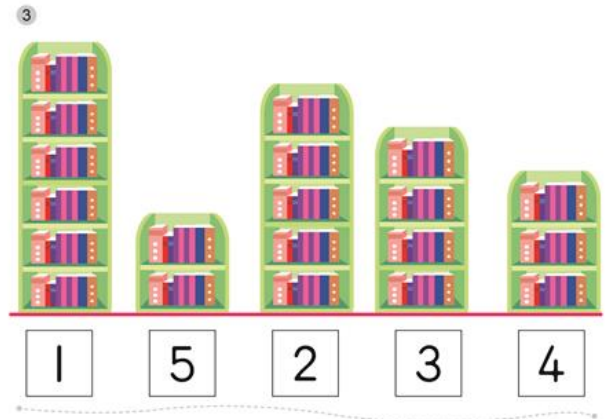
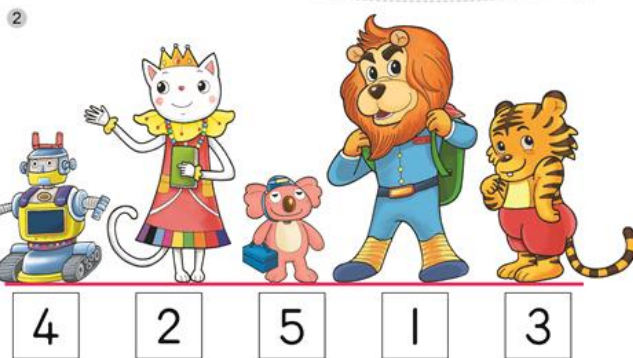
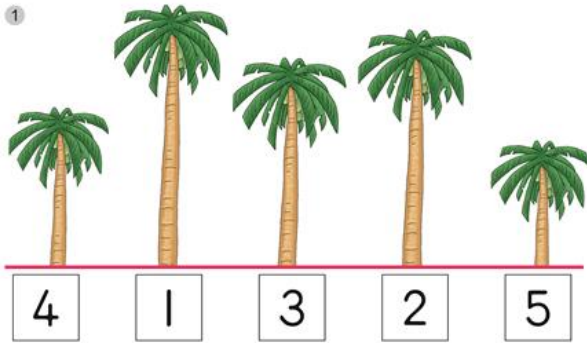


10

Class		Teacher	
Unit	E2-5	Topics	Dots and Lines
Manipulatives: Nail board, rubber bands			
Learning Activities			
1. Draw two nail boards on the whiteboard. Draw a route on one nail board, and ask a student to draw the same route on the other nail board. 2. Ask the student how he/she drew the same route. Guide students to mark the dots from 1 to 25, or to locate the dots by counting from the top and from the left. 3. Continue to practice with the nail board, or ask students to make patterns with their nail boards and rubber bands. (Keep the patterns simple.)			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Lacing game:			
1. Punch holes in a cardboard. (5 by 5 array) 2. Prepare some shoe laces for students to practice weaving through the holes. 3. Variations: Use different colors of shoe laces for more creative patterns, or provide a sample card for students to make the same pattern.			



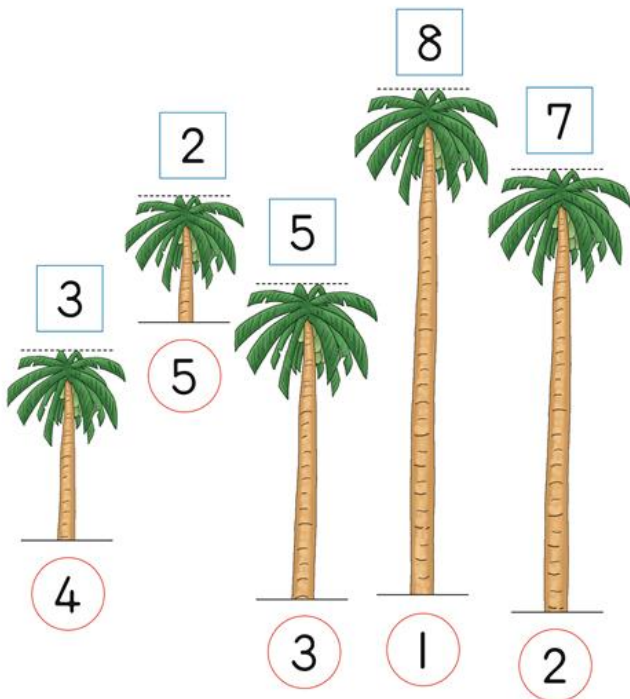
Please compare the height of the objects. Write down number 1 to 5 in the ☐ from the tallest to the shortest.



Class		Teacher	
Unit	E2-6	Topics	Comparing and Sorting Five Objects
Manipulatives: None			
Learning Activities			
1. Draw five coconut trees of different heights on the whiteboard, and prepare five figure cards of different heights.			
2. Have students observe the five coconut trees, and ask them to tell which is the tallest, the second, the third, the forth, and the shortest.			
3. Draw a line on the whiteboard. Align two figure cards on the line, and ask students to compare the heights of these two figures.			
4. Add on one more figure card, and ask one student to sort the figure cards according to their heights.			
5. Add on the forth and the fifth figure card. Have students sort the figure cards according to their heights.			
6. Practice until students are familiar with the activity.			
Student Book Activities			
Guide students to complete the practice using the crayons.			
Extended Activities			
Fun in building:			
1. Have five students come up. Give each students some building blocks.			
2. Each student puts his/her blocks together to make a tall building in two minutes.			
3. When time is up, sort the buildings according to their heights.			

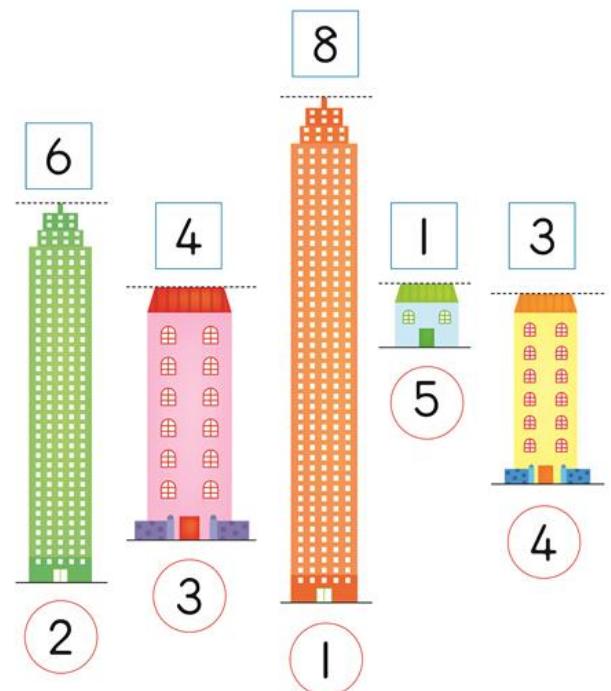


Please measure each tree with the plastic squares. How many squares tall is each tree? Write down the number of the squares in the □, and fill in number 1 to 5 in the ○ from the tallest to the shortest.



13

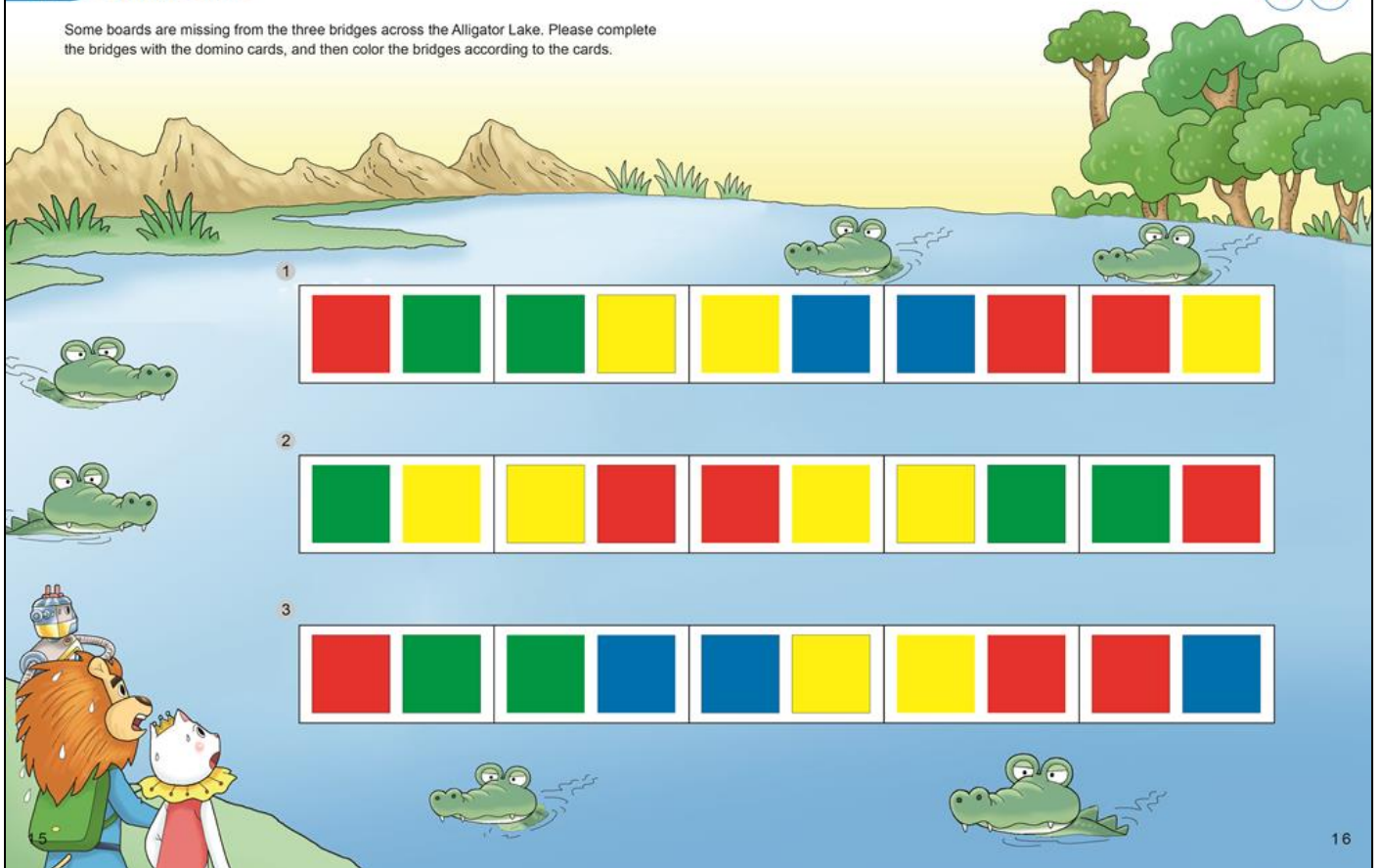
Please measure each building with the plastic squares. How many squares tall is each building? Write down the number of the squares in the □, and fill in number 1 to 5 in the ○ from the tallest to the shortest.



14

Class		Teacher	
Unit	E2-7	Topics	Comparing and Sorting Five Objects
Manipulatives: Plastic squares			
Learning Activities			
1. Draw five trees on a poster paper. The height of each tree is multiple of a plastic square. Ask students how they can measure the heights.			
2. Take out the plastic squares, and guide students to measure the trees. Write down the numbers of the squares above each tree.			
3. Sort the trees, and write down numbers below the trees from 1 to 5 (the tallest to the shortest).			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Water glass music			
1. Prepare some glasses, and fill each glass with different amounts of water.			
2. Ask students to arrange the glasses according to the amounts of water.			
3. Make sounds by tapping the rim of the glasses with a chopstick. Ask students to listen to the sounds made by glasses with different amounts of water.			
4. Have students gently tap the glasses and make sounds.			

Some boards are missing from the three bridges across the Alligator Lake. Please complete the bridges with the domino cards, and then color the bridges according to the cards.



Class		Teacher	
Unit	E2-8	Topics	Domino Game

Manipulatives: Domino cards

Learning Activities

1. Pretend the table is a lake. Build a bridge with some domino cards, and then build a broken bridge above it. Tell students that the bridge in the lake is the shadow of a broken bridge.
2. Guide students to observe the boards of both bridges, and find out the rules of the dominoes. (Give hints if students can't tell the rules.)
3. Tell students, "The bridge across the lake is broken. Let's fix it." Ask students to observe, and tell the color of the board next to the missing one.
4. Have students place the correct domino cards to complete the bridge.
5. Make a line with domino cards on the whiteboard. Remove some domino cards.
6. Ask students what the missing domino cards are.
7. Practice more until students are familiar with the rules of the dominoes.

Student Book Activities

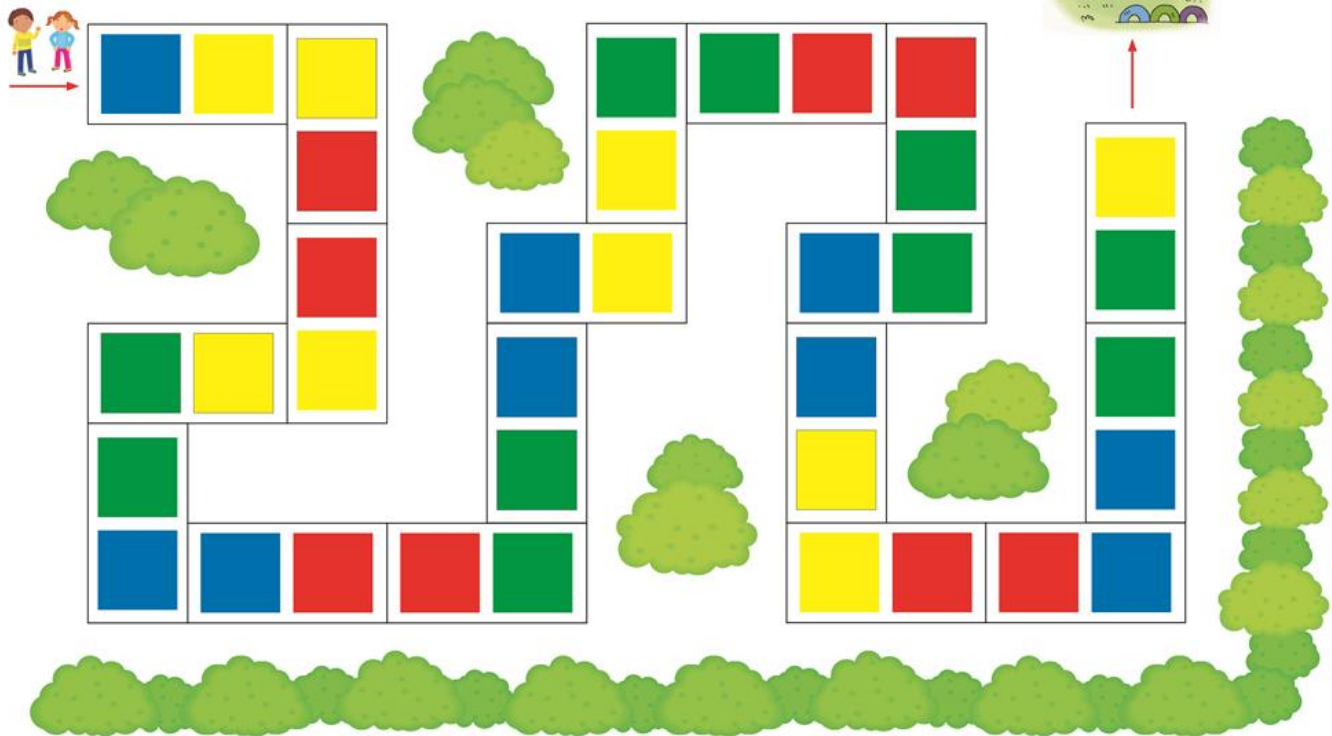
Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Word relay:

1. Make a big circle with students.
2. Guide students to play word relay. For example, ant→talk→kite.

To complete the path, please place the domino cards on the path following the pattern.
Then color the path according to the cards.



17

18

Class		Teacher	
Unit	E2-9	Topics	Domino Game
Manipulatives: Domino cards			
Learning Activities			
1. Pretend the table is a lake. Build two bridges with some domino cards. One of the bridges has an incorrect card. 2. Ask students to find which bridge is built falsely. 3. Divide students into two groups. Each group follow the rules to build a long bridge with domino cards. After the bridges are built, the teacher replaces some of the domino cards with the wrong ones. 4. Each group exams the other group's bridge, and try to find the wrong domino cards. 5. Invite some students to come up to the front, and give each student a domino card. 6. Pick two students to be the start and the end. The rest of the students hold their cards, and find their positions by connecting their cards according to the colors. 7. Repeat this activity, or pair up students to play games with their domino cards.			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Pass the love			
1. Give each student a red card. 2. Guide students to cut out a heart shape. Tell students to pass the card to the person they help. The person receiving the heart should help someone else, and pass the heart. 3. After doing this activity for a while, invite students to share what they had done to help others, and what they had been helped with.			



Please count the coconuts in the trees, and add them up. Then write down the correct numbers in the .

1

6 4

$6 + 4 = 10$

2

5 3

$5 + 3 = 8$

3

5 2

$5 + 2 = 7$

4

7 3

$7 + 3 = 10$

19

Please count the flowers in each basket, and fill in the missing numbers.

1

5 3

$5 + 3 = 8$

2

3 6

$3 + 6 = 9$

3

4 3

$4 + 3 = 7$

4

2 6

$2 + 6 = 8$

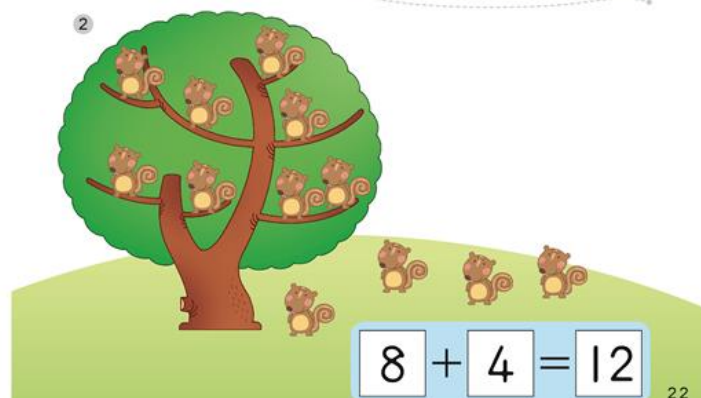
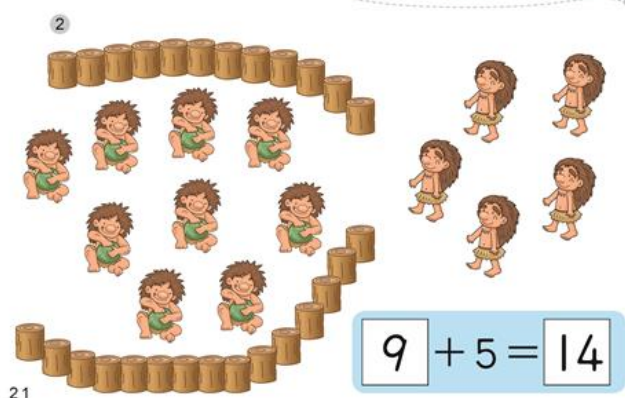
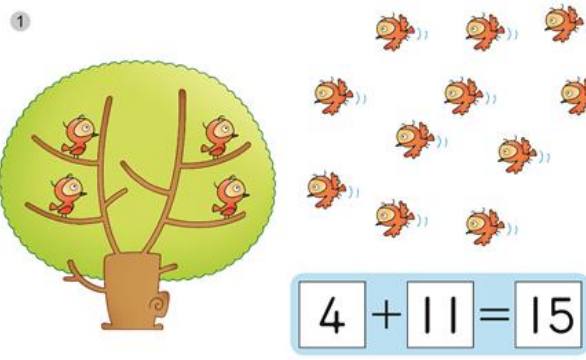
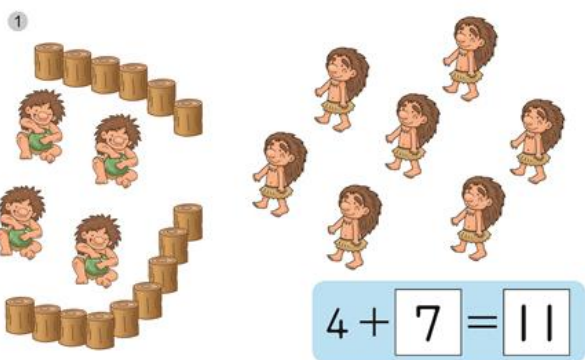
20

Class		Teacher	
Unit	E2-10	Topics	Plus sign "+"; Addition Within 10
Manipulatives: None			
Learning Activities			
1. Prepare ten cookie cards. Draw two frames, and write down an addition sentence " $\square + \square = \square$ " on the whiteboard.			
2. Place 4 and 5 cookies in the frames respectively.			
3. Ask students to count the cookies in each frame, and then write down 4 and 5 in the first two .			
4. Guide students to count all the cookies and write the total in the last of the addition sentence.			
5. Explain the signs "+" and "=". Teach students to do the adding using addition sentences.			
6. Give one more example, and guide student to develop the sentence.			
Student Book Activities			
Guide students to complete the practice using the crayons.			
Extended Activities			
How many?			
1. Pair up students for the finger game.			
2. Each time after students say "How many? How many? No more than five!", both students play with one hand and extend no more than five fingers. Count and add the numbers of all fingers.			



The tribe is having a party. Please count the people, and fill in the missing numbers.

How many animals are there? Please count, and then fill in the missing numbers.



Class		Teacher	
Unit	E2-11	Topics	Addition Sentences up to 15

Manipulatives: None

Learning Activities

1. Prepare ten cookie cards. Draw two frames, and an addition sentence on the whiteboard.
2. Place some cookies in the frames respectively.
3. Ask students to count and add the cookies in each frame.
4. Guide student to write the addition sentence.
5. Continue practicing with different numbers of cookies until students are familiar with the addition sentences.

Student Book Activities

Guide students to complete the practice using the crayons.

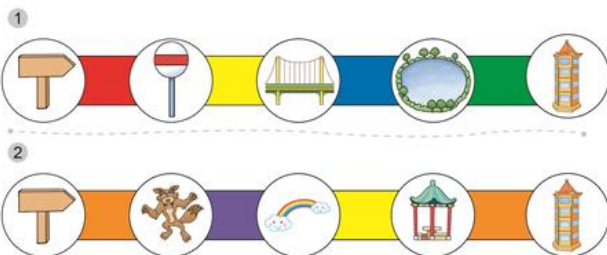
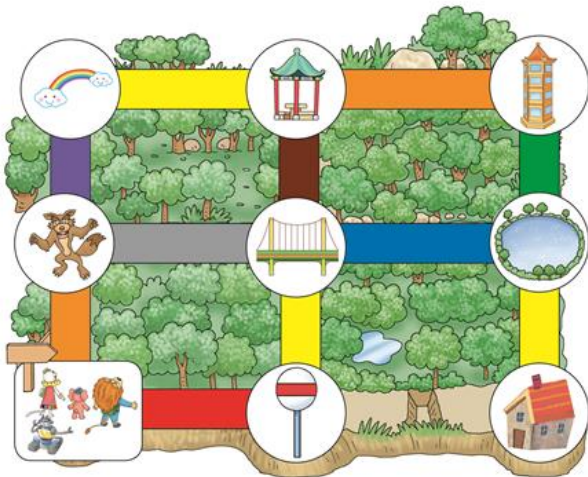
Extended Activities

Black or white:

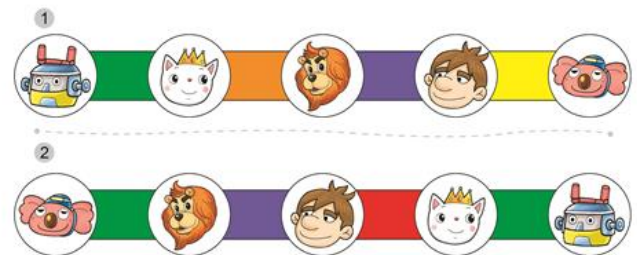
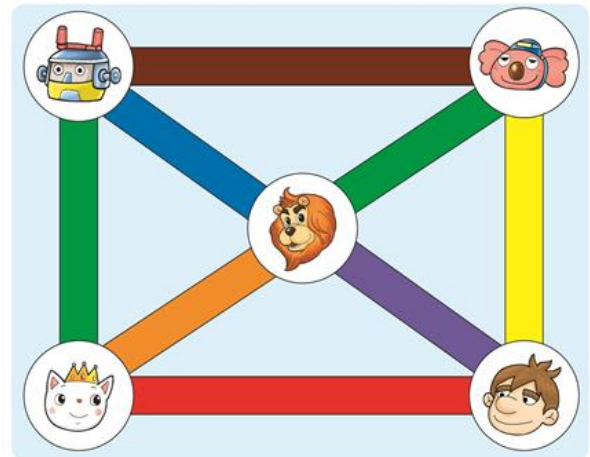
1. Put some Go stones (both black and white) into a mystery bag.
2. Ask two students to grab some stones with one hand. Sort the stones by color.
3. Have each student count his/her own stones, and write down the addition sentence of the black and white stones.



Please color the paths according to the hints in the top picture.



23

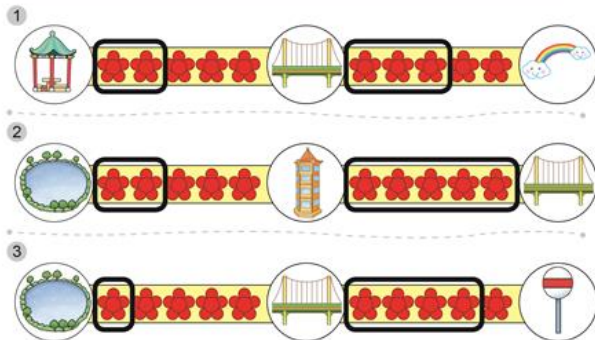
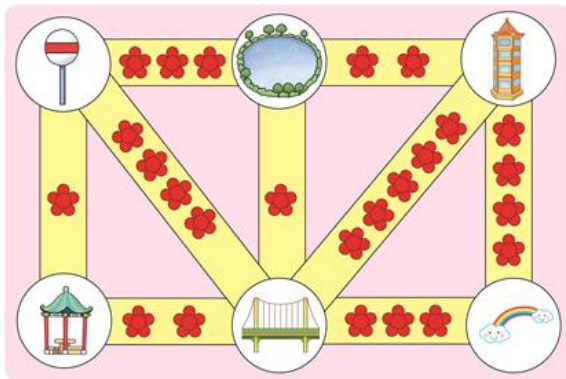


24

Class		Teacher	
Unit	E2-12	Topics	Paths
Manipulatives: None			
Learning Activities			
1. Prepare 8 cards of locations. Draw 9 circles in a 3 by 3 array (similar to Student Book page 23). Draw a character in the middle circle. Color each path with different colors.			
2. Ask students to follow an assigned route. For example, red→yellow→blue→green. Observe which place they will get to.			
3. Guide students to try other paths, and see what routes lead to the same circle.			
4. Have one student come up to the front, and give that student a location card. Assign a start and colors of paths. The student follows the instruction and puts the location card in the correct circle.			
5. Practice with the other location cards.			
Student Book Activities			
Guide students to complete the practice using the crayons.			
Extended Activities			
Map game:			
1. Draw a map of the school and the neighborhood. Mark the important places, and the name of the streets.			
2. Ask one student to start from school with a toy car following the instructed route.			
3. Add traffic lights on the map to remind students of road safety.			

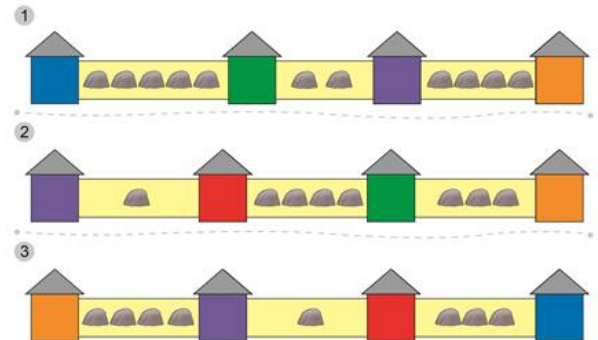
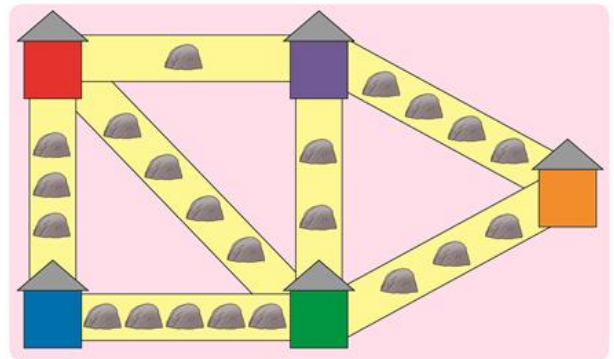


Please circle the correct number of flowers on the paths according to the top picture.



25

Please follow the paths to see the houses you will get to. Then color the houses according to the top picture.



26

Class		Teacher	
Unit	E2-13	Topics	Paths

Manipulatives: None

Learning Activities

1. Draw 9 circles in a 3 by 3 array. Draw a character in the middle circle. The other circles are locations. Color each path with different colors. Place different amount of cookie cards on each path.
2. Ask students to follow an assigned route, and count the cookies on the paths.
3. Guide students to try other routes, and count the cookies.
4. Practice with different routes until students are familiar with the counting of the cookies on the paths.

Student Book Activities

Guide students to complete the practice using the crayons.

Extended Activities

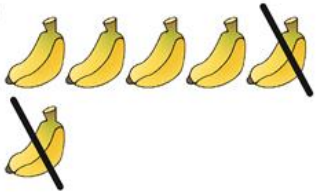
Our community:

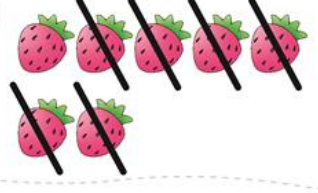
1. Take students to nearby stores. For example, the bakery, the stationery store.
2. After the visit, give each student a drawing paper. Guide students to draw the stores, places and the streets they walked through. Have students show and tell about their map.



A vender has sold some fruits. Please cross out the fruits that were sold. Take out the plastic squares and arrange them according to the questions. Then fill in the number of the remaining fruits in the .

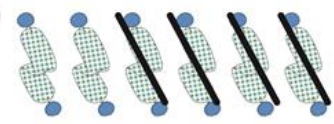
1  $5 - 3 = \boxed{2}$

2  $6 - 2 = \boxed{4}$

3  $7 - 6 = \boxed{1}$

4  $8 - 3 = \boxed{5}$

27

5  $6 - 4 = \boxed{2}$

6  $7 - 2 = \boxed{5}$

7  $8 - 5 = \boxed{3}$

8  $9 - 5 = \boxed{4}$

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Class		Teacher	
Unit	E2-14	Topics	Minus sign “—” ; Subtraction up to 10
Manipulatives: Plastic squares			
Learning Activities 1. Prepare 20 cookie cards. Draw two frames, and a subtraction sentence on the whiteboard. 2. Show students the sentence “12-6=6”. Ask students the difference between this subtraction sentence and the addition sentences they’ve learned before. 3. Tell students, “A man has 15 cookies. If he sells 6 cookies, how many are left?” 4. Ask a student to place 15 cookie cards on the whiteboard, and then take away 6 cookie cards. 5. Write down the sentence “15-6=9”. Explain to students, “15 is the amount of the cookies. 6 is the cookies that are sold.” 6. Continue practicing until students are familiar with subtraction sentences. Students can also practice doing subtraction with plastic squares.			
Student Book Activities Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities How many do I have? 1. Place some plastic squares (less than 10) on the table. Have students count the plastic squares. 2. Grab some plastic squares with one hand. Ask students to tell how many plastic squares are in the teacher’s hand by counting the remaining plastic squares on the table.			



Please write down the number of the objects that are crossed out. Then find out the answer using the plastic squares.

1 $14 - 2 = 12$

2 $15 - 4 = 11$

3 $13 - 3 = 10$

4 $15 - 2 = 13$

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5 $15 - 3 = 12$

6 $14 - 3 = 11$

7 $13 - 2 = 11$

8 $12 - 2 = 10$

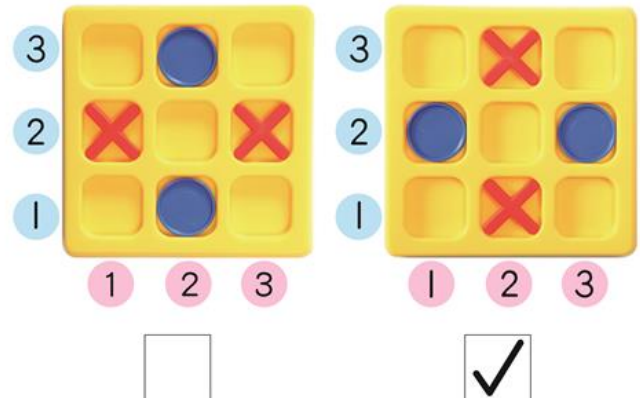
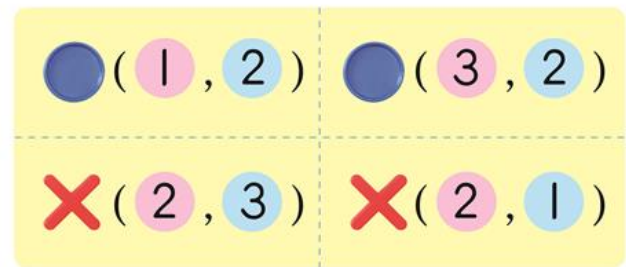
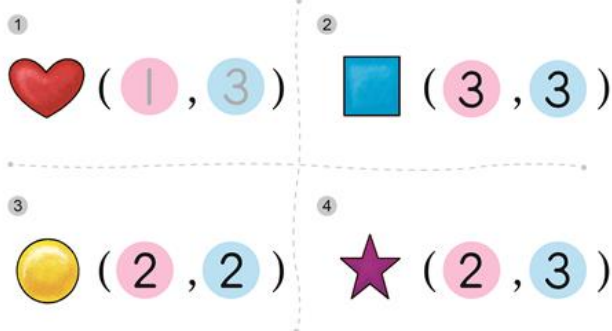
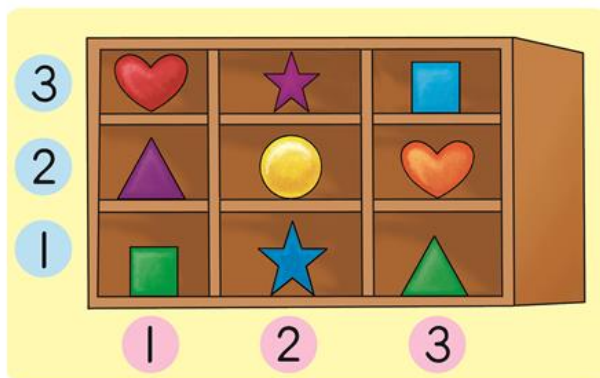
30

Class		Teacher	
Unit	E2-15	Topics	Subtraction Sentence Within 15
Manipulatives: Plastic squares			
Learning Activities			
1. Write down a subtraction sentence on the whiteboard. Ask students to take out their plastic squares.			
2. Use “5-3=□” as an example. Explain to students the meaning of each number in this sentence. For example, there are five coconuts in the tree. If three fall off the tree, then how many are left?			
3. Guide students to take out 5 plastic squares, and then remove 3. Count the remaining plastic squares, and write the answer in the □.			
4. Practice with different numbers. For example, there are 6 pieces of cake. If a girl eats 2, then how many are left?			
5. Continue practicing until students are familiar with subtraction sentences.			
Student Book Activities			
Guide students to complete the practice using the manipulatives and crayons.			
Extended Activities			
Playing bowling:			
1. Line up 15 plastic bottles on the floor. Ask students to count the bottles.			
2. Ask a student to shoot the bottles with a ball.			
3. Count the bottles that are knocked over, and the bottles that are left standing.			



Please write down the correct placement for each gem according to its location.

Please take out the tic-tac-toe set. Place ● and ✕ on the board according to the coordinates below. Then check the ☐ with the correct picture.



Class		Teacher	
Unit	E2-16	Topics	3X3 grid

Manipulatives: Tic-tac-toe set

Learning Activities

1. Draw a 3 by 3 grid on the whiteboard, and label the horizontal axis and the vertical axis. Prepare nine figure cards.
2. Introduce coordinates: Each location can be identified by an ordered pair of numbers (○, ○). The first number is the horizontal position of the point from the origin. The second number is the vertical position of the point from the origin.
3. Place the figure cards in different cells.
4. Assign one figure card, and ask a student to tell its coordinates.
5. After students are familiar with the coordinates, take down the figure cards. Ask students to place the cards in the boxes according to the assigned coordinates. For example, place a figure card at the location of (3,2).

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

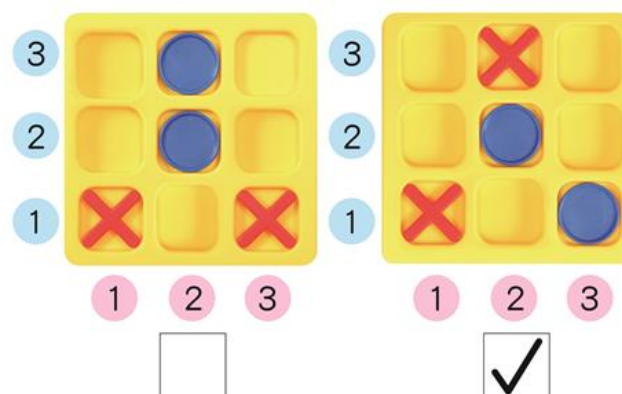
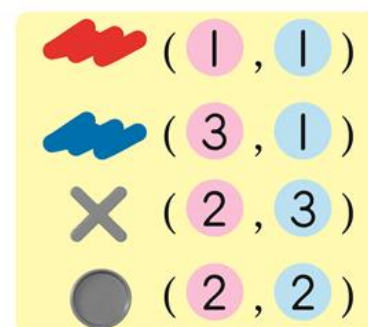
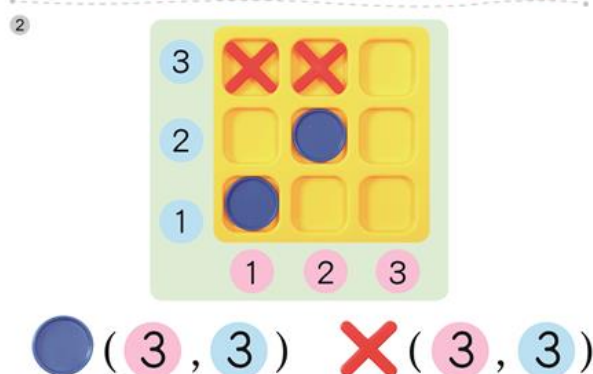
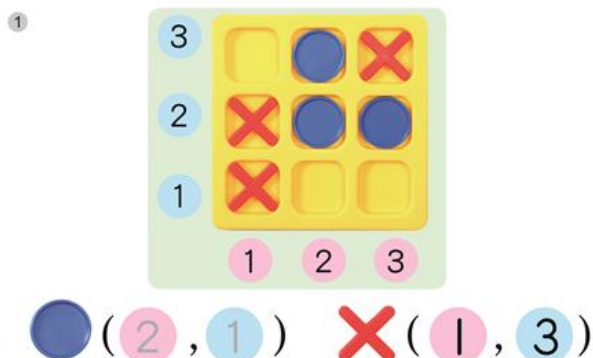
Little pitcher:

1. Put nine cartons together in a 3 by 3 array.
2. Students take turns to throw a ball into a carton according to the given coordinates.
3. The first student who throws the ball into the correct carton is the winner.



Let's play tic-tac-toe! How to make a row with ● and ✕? Please try it with the tic-tac-toe set, and then fill in the correct coordinates.

Please place ● and ✕ on the board according to the coordinates below. Then check the □ with the correct picture.



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Class		Teacher	
Unit	E2-17	Topics	3X3 grid

Manipulatives: tic-tac-toe set

Learning Activities

1. Draw a 3 by 3 grid on the whiteboard, and label the horizontal axis and the vertical axis. Prepare some blue cards with a ○, and some red cards with a X.
2. Students place the cards in the boxes according to the assigned coordinates. For example, place a red card at (2,1), a X card at (1,3), a blue card at (3,2), and a ○ card at (2,3).
3. Teach students how to play tic-tac-toe game. Practice playing the game several times.
4. Draw X in two boxes. Ask students where should the teacher draw the third X to make a row? (Encourage students to answer with coordinates.)
5. Continue practicing with the tic-tac-toe game to help students understand the concept of coordinates.

Student Book Activities

Guide students to complete the practice using the manipulatives and crayons.

Extended Activities

Memory game:

1. Prepare 9 plastic squares. 5 red and 4 blue. Arrange the plastic squares into a 3 by 3 array. Have students observe the plastic squares for one minute, and then cover the plastic squares.
2. Draw a 3 by 3 grid on the whiteboard. Students take turns to say the coordinates, and come up to color the boxes with red or blue. After all boxes are colored, compare the grid with the plastic squares, and check if all boxes are colored correctly.