NUMBER WORLDS™

Accelerate Math Success

Activity Cards

McGraw Hill Education

Level E

Counting Clubs - 1

Objective

Students can use pictures of equal groups to create models for multiplication.

Materials

Program Materials
No materials needed.

Alternative Groupings

Pair: Use pictures or drawings of people. Ask students to choose two people to form a Club of 4 (arms or legs). Repeat with different numbers and different club numbers.

Introduce the Activity

- Tell students they are going to represent different numbers by rearranging themselves into different "Clubs."
- Have students stand so they can move into their groups.

Begin the Activity

- Begin play by choosing one student to come stand with you. Announce to students that you and the other student represent a "Club" of 2 groups of 10 for a total of 20.
- Ask students if they can determine what each of you has 10 of that would total 20 of the same thing. Possible answer: fingers
- Model this once more by choosing another two students to stand with you and announcing that you now are a Club of 3 groups of 2 for a total of 6. Possible answer: arms or legs
- Continue play by telling the students the following:
    1. Stand with one other person to form a Club with a total of 4. Possible answer: ears or eyes
    2. Stand with one other person to form a Club with a total of 2. Possible answer: noses or necks
    3. Stand with two other people to form a Club with a total of 3. Possible answer: mouths or heads
    4. Stand with two other people to form a Club with a total of 6. Possible answer: arms or legs
    5. Stand with three other people to form a Club with a total of 8. Possible answer: hands or knees
    6. Stand with three other people to form a Club with a total of 4. Possible answer: mouths or noses

Conclude the Activity

When students complete the six regroupings for the specified totals, ask them to stand together and determine the club total they would represent if just big toes were counted.

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Questions to Ask

► **If there are three people in your group, how many of something do you each need to make a total of 6?**

► **Did you skip count when you were totaling your Club amounts?**

► **What is the multiplication sentence for a Club of 5 people who each wearing 3 adhesive bandages?**

Counting Clubs - 2

Objective

Students can use repeated addition to create models for multiplication.

Materials

Program Materials
- Picture Cards

Additional Materials
- index cards
- paper clips

Alternative Groupings

Pair: Lay out Picture Cards for students; 4 for each number. Ask students to use two Picture Cards with the same number to form a Club with 4. Then ask them to use three cards with the same number to form a Club with 15. Repeat with different numbers of cards and different Clubs.

Prepare Ahead

Make multiple copies of Picture Cards. Cut apart the cards so that each student has at least one card.

Introduce the Activity

Tell students that they are each going to represent a different amount and that, as before, they will rearrange themselves into Clubs totaling different numbers.

Begin the Activity

- Allow each student to select a Picture Card without looking at the picture. This will be the initial amount that he or she represents (2, 3, 5, or 6).
- Begin play by choosing one card and standing next to one student who has the identical amount on his or her card.
- Ask students if they can determine what total your two-person club represents.
- Choose a different card, and stand with two students whose cards are identical to your new one.
- Ask students if they can state the repeated addition sentence for the total your three-person club represents.
- Continue playing the game. Students may not be part of some rounds, depending on the cards they hold. Tell students they must be prepared to say their clubs' repeated addition sentences:
  1. Stand with one other person to form a Club with a total of 4.
  2. Stand with two other people to form a Club with a total of 18.
  3. Stand with three other people to form a Club with a total of 12.
- Have two, three, or four students with the same number form more clubs with different totals.

Conclude the Activity

Ask students to choose any group size they have not been a part of. Students will state and defend their Club totals by stating the repeated addition sentences that they represent.

Questions to Ask

► **If there are four people in your group, how many of something do you need to make a total of 20?**

► **Was it helpful to skip count?**

► **What do you notice about ones places for Club totals using the Picture Cards with 5 stars?**

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Multiplication Groups

Objective

Students can use the × symbol to write multiplication problems.

Materials

Program Materials

- ▤ Multiplication Groups Recording Chart
- Number Cards (2–7)

Alternative Groupings

Pair: Lay out a set of Number Cards (2-7) face down. Have each student pick one Number Card. Have both students record the correct sentence on their Multiplication Groups Recording Charts. If students pick a pair of cards that has already been picked, have them pick again.

Prepare Ahead

- Make a copy of the Multiplication Groups Recording Chart for display.
- Make a copy of the Multiplication Groups Recording Chart for each student.

Introduce the Activity

- Explain to students that they are each going to represent a different fixed amount for the entire activity and that they will change pairings many times.

- Explain that they must be able to regroup with other student partners, to collaborate, and then to record information on individual charts.

Begin the Activity

- Shuffle the Number Cards (2 - 7) and place the pile face down. Allow student to take the top card in turn. Give each student a Multiplication Groups Recording Chart.

- Model their task by using a 2 Number Card and a 3 Number Card. Show student the cards and say the one or more multiplication sentences. "Two multiplied by three equals six." or "Two groups of three equals six."

- Then model writing this information in the corresponding column on the chart .

- Ask students to begin their charts. Explain that they may choose any student partner in any order but that each solution must be different.

- Be certain students understand that they may collaborate with their partners to arrive at the solutions but that each must fill in his or her own chart.

- If students have difficulty finding the answer to the multiplication, encourage then to use a drawing or repeated addition to find the answer.

- Continue changing partners until all possible pairs have been made.

Conclude the Activity

When students complete their last solutions, ask them to choose which pairings were the most difficult to solve. Discuss why they chose these problems by exploring the strategies they used or might have used. Guide other students to suggest methods they used to solve the problems.

Questions to Ask

▶ **Did you partner with someone for all the numbers and fill each of the six lines on the chart?**

▶ **What was your highest solution amount?**

▶ **What was the multiplication problem with the highest solution?**

▶ **Which strategies did you use to find the various solutions?**

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4D

Multiplication Mixer

Objective

Students can describe groups that come in sets to build multiplication facts.

Materials

Program Materials

- Multiplication Groups Recording Chart
- Number Cards (2–7)

Alternative Groupings

Pair: Lay out a set of Number Cards face down. Have each student pick one Number Card. Have both record the correct sentence on their Recording Chart. If students pick a pair of cards that has already been picked, have them pick again.

Prepare Ahead

- Combine Number Cards (2–7) to create a deck containing two of each number (12 cards).
- Make a copy of the Multiplication Groups Recording Chart for each pair of students.
- Make a copy of the Multiplication Groups Recording Chart for display.

Introduce the Activity

- Tell students they are each going to represent several different amounts for the activity and that they each will have one partner.

- Students must be able to sit with their student partners, to collaborate, and then to record information on a shared chart.

Begin the Activity

- Begin play by shuffling the Number Cards (2–7) and placing the pile face down. Give each student a copy of the Multiplication Recording Chart.

- Model the task by selecting the top card and choosing a student to select the next card. Together, record the information on a Multiplication Groups Recording Chart. Solve the multiplication problem by saying any one of the following multiplication sentences aloud. For example, if you have drawn a 3 and the student drew a 5; you could say "Five multiplied by three equals fifteen." Or "Five groups of three equals fifteen." Or "Three groups of five equals fifteen." Or "Five times three equals fifteen."

- Continue modeling. Replace the cards in the pile and reshuffle. Then both you and the student select the top card in turn. Record the information on the chart. Say a multiplication sentence aloud, collaborating on the solution.

- Replace the cards and reshuffle.

- Allow students to take the top card from the pile in turn. Have students form into pairs and complete the task as demonstrated. After all pairs have completed their charts, have them return the cards to the pile. Reshuffle the cards and have students repeat the task with new cards.

Conclude the Activity

Have each pair choose the problem that was the most difficult for them. Discuss methods they used to solve the problem, and prompt other students to suggest other methods.

Questions to Ask

► **Did you and your partner have problems in which the solutions were the same as one or more of your other problems? How can this happen?**

► **What was your highest solution amount?**

► **Which strategies did you use to find your solutions?**

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