



Continuing Education and Local Support for Schools (CELSS) Resource Manual

Math Classroom Activities

Jump Rope Math

(Adapted from Education World at www.education-world.com/a_tsl/archives/03-1/lesson037.shtml)

Grade Level: PreK-12

Brief Description: This fun-filled math game can be used to reinforce math skills across the grades.

Objectives: Students will practice math skills while they have fun

Equipment Needed:

- Long skipping ropes, one for each group of 2-4 students.
- Large supply of clothespins

Plan: This lesson will stimulate students' thinking, since there is a fun-filled reward for each correct answer! At the beginning of class, hand each student a small plastic sandwich bag containing 10 index cards with numbers or math facts on them.

Note: Write grade appropriate math problems on the cards. The real beauty of this game is that it can be used across the grades to reinforce a wide range of math skills. Think of *any* math skill you teach and chances are you will be able to use this game to reinforce that skill.

For examples:

- If you teach **first grade**: cards may have simple addition facts on them
- If you teach **third grade**: provide cards offering practice in multiplication facts or reinforcement of subtraction with borrowing (regrouping)
- If you teach **fifth grade**: you might provide a set of cards that include five decimals and five fractions
- If you teach **seventh grade**: you might provide a broad range of numbers

Directions:

Arrange students into groups of 2 to 4. Provide each group with a supply of clothespins and one long skipping rope. Tell students that when you give the signal to start the game, they are to open the packet of cards and use the clothespins to attach the cards to the jump rope in the correct order. Students have to figure out the value of each number/fact card in relation to the others.

After team members have correctly placed all their numbers/fact cards on the rope in the correct order, each team member takes one giant step toward the finish line. One team member goes first; putting down a clothespin where he or she lands; then the other two members take turns making a giant step toward the finish line. Mark with a clothespin the place where the students ended up. Then get another set of cards and continue the game. The first team to reach the finish line wins.

Another idea! Instead of taking giant steps, students might use the jump rope in a more physical activity. Have each student jump rope once toward the finish line, or let each team member jump until they trip. Tally the total number of jumps made by all team members; that number becomes their score for the round. At the end of the game, the team with the most accumulated jumps wins. (That takes some of the pressure off this game as an academic competition. The team that does the best at sequencing numbers might not end up winning the jump-rope tally contest.)

Assessment:

Students' understanding can be assessed by how well and how fast they arrange the number cards in the correct order. Because this activity is group work, it also might be beneficial to give a quiz on place value to assess individual students' grasp of the concepts.

Math Classroom Activities

Hula Hoop Math

(Adapted from <http://www.pittschools.org/aes/PE-LP94.HTML>)

Grade Level: K-3

Equipment needed:

Hula hoops (one for each student to start with) Various colors are helpful to add variations to game.

Large cards with simple math problems (no answers) on them. I use several 12"x 15" white board cards so I can change problems as we go along.

Concept: Locomotor skills, group cooperation, simple math skills appropriate to grade level.

Directions:

Have the hoops scattered around the area, or each student can take his own hoop and find an area and put the hoop there to start.

Students will move about the area doing the locomotor action the teacher directs them to do. Using music helps.

When the music stops I hold up a card with the problem for all to see. As soon as they come up with an answer they form into a group in a hoop with the number of students as the answer. Example: $2 \times 2 = (4)$. Only the answer is not on the card.

As a variation I use a color of hoop and a problem as the answers get larger. Example: $4 + 4 + 3 = (11)$ RED HOOP. Students must get the answer and fill in a red hoop.

Another variation is to call out what parts of the body must be in the hoop, like "One Foot; Elbow; One Foot-One hand, etc. I use this as a warm-up to further activities using hoops. This develops cooperation and attention skills as well as integrating other academic skills into your PE classes.

Math Classroom Activities

Inches, Feet and Yards, Oh My!

(Adapted from <http://fsnep.ucdavis.edu/index/training/2005t/Classroom-basedPhysicalActivities.pdf>)

Grade Level: 1-4

Formation: Around perimeter of room

Equipment needed: None

Directions:

1. Have students start with feet side by side and move one set of toes ahead of the other set of toes to represent inches or “small.”
2. Have students place one foot in front of the other to represent feet or “medium.”
3. Have students take one giant step forward or backward to represent yards or “large.”
4. Call out different measurements:
 - a. Example: Move forward 2 feet, back 5 inches, sideways 1 yard.
5. Have all students move in same direction

Math Classroom Activities

Fruits and Vegetables Problem Sheet

(The following activities are in conjunction with www.dole5aday.com)

Grade Level: 3-4

Introduction:

- Students may need to review addition, subtraction, multiplication, and division skills, especially when regrouping or renaming is involved.
- Students may also need to review basic problem solving skills such as identifying the needed operation, excluding extraneous information, and determining if the actual question has been answered.

Directions:

- Have students solve the word problems on the 'Problem Solving' sheets.
- If problem solving sheets are used in a group setting, students may be asked to solve all or a designated number of problems, asking for assistance from group members as needed. After the set number of problems has been solved, group members should compare answers and try to reach a consensus as to the correct answers. The teacher may intervene when a consensus cannot be reached.

Related Activities:

- Have students create their own fruit and vegetable word problems. Problems may be shared on the board or overhead, or the teacher can make a booklet of the class' problems.
- Students may use Cuisenaire rods to demonstrate portions or fractions of foods.

Fruits and Vegetables Problem Sheet

1. Tom ate a salad for lunch. His salad had 3 servings of his 5 A Day. Fill in the blanks to tell how much of each item he could have eaten to get 3 servings. [HINT: There is more than one correct answer.]

___ cup lettuce leaves
___ cup spinach leaves
___ cup carrots
___ cup tomatoes

Bonus activity: Make a salad in the 5 A Day Adventures Salad Factory that has 3 servings of your 5 A Day . What items are in your salad?

2. The salad Tom ate for lunch contained 3 servings of fruits and vegetables. If he had a small glass of 100% juice for breakfast with his cereal, how many servings of fruits and vegetables does he need to eat for supper to get his 5 A Day ?

Bonus: What is one way Tom can complete his 5 A Day at dinner?

3. Juanita loves Carrot & Raisin Sunshine salad. At lunch she ate salad that contained $\frac{1}{2}$ cup shredded carrots, $\frac{1}{4}$ cup raisins and 1 cup lettuce leaves. How many servings of fruits and vegetables did she get from the salad?

4. Jerry loves Fruit 'N' Juice Shakes for an afternoon snack. To make the shake, he used 1 banana, 6 oz. of 100% pineapple juice, 1/2 cup of low fat vanilla yogurt, and 1/2 cup strawberries. How many servings of fruit are in this recipe? If the recipe makes enough for 2 glasses, how many servings of fruits will Jerry have if he and his friend Chad each have a shake?

5. Jake helped with dinner by cooking both broccoli and carrots in the microwave. He ate 1/2 cup broccoli and 1/2 cup carrots. How many servings of vegetables did he get from his dinner that night?

Bonus: If Jake had 100% juice with his breakfast and an apple as a snack after school, how many servings of fruits and vegetables did he have during the day?

6. Annie loves to cook Chinese food. She cooked Chinese Vegetable Stir-Fry for supper and ate two cups of it herself. How many servings of vegetables did she have for supper?

Bonus: If Annie had an orange for breakfast, and a bunch of grapes with her lunch, how many servings of fruits and vegetables did she have today? Did she reach her 5 A Day goal?

7. Have you ever stopped to measure your salads? Well, Joyce decided it would help her figure up her 5 A Day, so she began to use a large measuring cup as she made salads for her family. She makes salads for four people like this: 2 cups of spinach, 2 cups of romaine lettuce, 2 cups of carrots, 2 cups of tomatoes, 1 cup of cauliflower florets, and 1 cup of broccoli florets. Add up the total number of servings for this salad, and figure out how many servings each person will get if all four people at the table get the same amount.

8. Jamie loves fruit salads, and decided to help make one for dinner. He is making a salad for six people. The salad contains 3 cups of watermelon chunks, 1 1/2 cups raisins, 3 cups pineapple chunks, and 3 cups of apples. He divides the salad into six bowls. How many servings of fruit salad will each person get?

9. Fernando and Omar made Musical Fruit Melodies for their school project. They made enough for four servings. How many servings of fruits can you get if you have a serving of their Musical Fruit Melodies. Here's the fruit they used in their recipe.

1 cup chunked fresh pineapple = 2 servings

1 banana = 1 serving

1 cup grapes = 1 serving

1 orange = 1 serving

1 apple = 1 serving

1 cup pitted prunes = 4 servings

1/2 cup pitted dates = 2 servings

___ total servings / 4 people

10. Antoinette and Robin took a picnic lunch to the park. They had a bag of carrot sticks, a bag of celery sticks, 2 small boxes of raisins, 2 apples, 2 turkey sandwiches, and 2 small 100% orange juice drinks. If they divided their lunch equally, how many servings of fruits and vegetables did each one have for lunch?
(HINT: The bags of celery and carrot sticks had about 12 sticks each.)

11. Look at the Food Guide Pyramid in the 5 A Day Stadium. It tells you to have 3 - 5 servings of vegetables and 2 - 4 servings of fruits each day. To eat 5 A Day , how much of each, should you have?

12. How much of each should you have to equal one serving? Visiting the 5 A Day Stadium in the Land of 5 A Day will help you answer these questions.

___ piece(s) of fruit = 1 serving

___ cup(s) of cooked vegetable = 1 serving

___ cup(s) of canned fruit = 1 serving

___ cup(s) of leafy greens like lettuce and spinach = 1 serving

___ ounce(s) 100% juice = 1 serving

___ small glass(es) of 100% juice = 1 serving

___ handful(s) of raisins = 1 serving

___ carrot(s) or celery stick(s) = 1 serving

What counts as 1 serving?

1 piece fruit, such as banana, orange, apple, peach, pear

1/2 cup cooked or canned vegetable such as beans, peas

1/2 cup canned fruit, such as canned pineapple

1 cup raw leafy greens, such as spinach or lettuce

1 small glass 100% juice

6 ounces 100% juice

1 small box raisins

1/4 cup dried fruit, such as raisins

1 handful raisins

Math Classroom Activities

Cost Comparison

(The following activities are in conjunction with www.dole5aday.com)

Grade Level: 3-4

Introduction:

After touring the produce department of an area supermarket, students will explore money, budgeting, and problem solving activities involving buying and selling fruits and vegetables. Afterwards, they will prepare and taste a variety of fruits and vegetables.

Equipment needed:

- money
- fresh, canned or dried fruits and vegetables (supplied by local market produce department, food service company, school cafeteria, or students can bring an item from home)
- scales for weighing fruits and vegetables

Introduction:

- Participate in a "5 a Day" Supermarket Tour with a local supermarket in your area.
- Explain to students that after your supermarket tour, they will turn the classroom into a produce department. Have each student bring in one canned, dried or fresh fruit or vegetable to contribute to the store. (Perhaps the market would agree to donate a fresh fruit or vegetable to each student at the end of the store tour, or ask your food service department to participate).
- Plan and have a tasting party with the fruits and vegetables to complete the activity.
- You may want to price the store items to make fractions and decimals easier to work with!

Directions:

Following are some ideas to use with small groups in the class store. Add some more ideas to the list...get ideas from students!

- Have group members calculate the cost of a snack for the group. For example:

$$\begin{array}{l} 5 \text{ apples} \\ + 5 \text{ cans pineapple juice} \\ + \underline{5 \text{ small boxes of raisins}} \\ = \$ \end{array}$$

- Have students compare prices of fresh, canned, and frozen fruits and vegetables. (Strawberries, Peaches, Peas, Green Beans, Asparagus, Corn, etc.)
- Have students choose the fruits and vegetables from a grocery list as if it is their responsibility to pick them up in the store. Have them calculate the money it will cost if they are shopping for a family of 2, 3, or 4. Compare prices of fresh, canned, frozen and dried fruits and vegetables.
- Have a group calculate the cost of a fruit salad to feed the whole class. Have them choose the fruits to go into the salad based on which fruits are in the class store.
- Have a group calculate the cost for a fruit and/or vegetable snack for the entire class.

- Have a group of buyers who practice giving correct amounts of money for the fruits and vegetables and who must stay within a given budget.
- Have a group of sellers who must provide the buyers with the correct amount of change.
- Have a group of students weigh various numbers of servings of dried fruits. How much more do 6 servings of raisins weigh than 2 servings?

Related Activities:

- Ask the school food service staff to sponsor a monthly tasting party for the students!
- Tour a grocery store in the community to see how they store fruits and vegetables to keep them as fresh as possible.
- Invite a school's food service staff member to the class to discuss his/her job.

Math Classroom Activities

Factor It In

(Adapted from <http://fsnep.ucdavis.edu/index/training/2005t/Classroom-basedPhysicalActivities.pdf>)

Grade Level: 4-5

Formation: Students divided in 4 groups and each group is sent to a corner of the room.

Equipment needed: 4 pieces of scrap paper labeled 2, 3, 4, and 5.

Directions:

1. Teacher labels each corner of the room with one of the pieces of scrap paper.
2. Teacher calls out a number that is a multiple of 2, 3, 4, and 5.
3. Students in a corner that is a factor of that number will move to another corner.
4. Movements include:
 - Jumping, Skipping, Walking, Hopping on one foot, Marching
5. Example- If teacher calls out 6, students in corners labeled 2 and 3 will move to another corner.

Variations:

1. Have students move to a corner labeled with a factor of the number called. If a prime number is called, have students move to center of the room.