

**Example of Instructional Planning**

Ima Teacher                      October 19-23                      Math/Grade 1                      Time 9:30-10:15

**General Goal:** This unit introduces the concept of place value which prepares the first grade students to meet Indiana Math Standard 1.1.2 *The student will be able to count and group objects in ones and tens* and Math Standard 1.1.3 *The student will identify the number of tens and ones in numbers less than 100*. Students will start with smaller bases (4 and 5) to have more opportunities to practice regrouping, before applying the same concepts to base 10.

**Specific Learning Goals and Demonstration of Student Learning**

<u>Knowledge to be gained</u>	<u>Demonstrated by:</u>
Students will see that place value relates to grouping singles together into a specified number and moving one group at a time to the shaded region of the place value board.	Students will follow the directions for each day’s situation and group a specified number of items together.

When subtracting one item at a time, students will realize that it is sometimes necessary to split apart a formed group in order to accomplish the subtraction.	Students will subtract one item at a time and see that regrouping is necessary.
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<u>Skills to be learned/further developed</u>	<u>Demonstrated by:</u>
Upon hearing directions, students will add singles to a place value board.	Students will add items one at a time to the units column.

When a certain number has been added, Students will realize they need to group the items and move them to the next place over.	Students will group the items together in a container and move them to the shaded side of the place value mat.
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<u>Dispositions/Attitudes/Values to be emphasized</u>	<u>Demonstrated by:</u>
Students will develop patience.	Students will not work ahead, but stay together with the rest of the class, at least during these Introductory lessons.

**Formative and Summative Evaluation**

Formative – At the end of each lesson, the teacher will review with a discussion to assess understanding. Observations will be noted regarding which students are understanding and which need extra help in performing the various problems with the different bases. Summative – At the end of the unit, students will be assessed on manipulatives at a math station supervised by the teacher.

**Adaptations/modifications:**

1. Check for peanut allergies before doing Cookie Factory.
2. Ask an aide or parent volunteer to sit close to kids with special needs and prompt them to stay with the rest of the class and check for understanding of the grouping concepts.
3. Provide extra help for those who do not seem to be grasping the concept during morning work time.
4. For those who finish Race for a Flat early, allow them to quietly play with the base 10 blocks, read a library book, or spend time in one of the learning stations around the room.

**Procedure**

**Monday The Cookie Factory**

**Materials:**

For each child: CLEAN HANDS, cookie dough (recipe below) on paper plate, paper towel for sticky fingers, the “kitchen” (place value mats), Piece of wax paper attached to the right side of the kitchen (the ones place), 3 cookie sheets (3” square of tagboard, covered with foil).

Teacher: Cookie factory rules to post, same materials as above to demonstrate to class. The following recipe can be prepared and refrigerated the day before or made in class the hour before this math lesson.

**NO BAKE PEANUT BUTTER COOKIES (Individual Recipe)**

2 T. peanut butter

2 T. dry powdered milk

1 T. light Karo syrup

Mix peanut butter, dry powdered milk, and syrup in a bowl until well blended.

1 T. powdered sugar

Pour a spoonful of powdered sugar on a paper plate. Spoon cookie dough onto the powdered sugar and knead until it's no longer sticky. Leave it on your paper plate.

Wash your hands.

**COOKIE FACTORY RULES**

1. No more than four cookies may be on your wax paper at one time.
2. As soon as four cookies are prepared, they must be moved to a cookie sheet and placed in the oven.

**Procedure:**

Introduction: How many of you have grandmothers that are great cookie makers? One of the things I remember most about my grandmother is that she always kept her cookie jar full when she knew my brothers and I were coming to visit. Today we're going to talk about another grandmother who was an excellent cook. In fact, she was such a good cook, she had a Cookie Factory.

Set up the story about Grandma working so hard and being a little tired of making cookies year after year for her Cookie Factory. Have the students pretend to be elves and mix up individual batches of the dough themselves, time permitting. (It would be a valuable lesson in measuring.)

Pretend to post a lookout elf to alert us when Grandma is waking up. (Actually, this is to give us a reason to announce how many cookies we have and practice our place value notation orally.)

Have students divide their dough into four relatively equal portions on their paper plate. Tell them that each of the four pieces will be used to make 4 cookies (for a total of 16 cookies, although we'll only use 15 for this activity.)

Add one small cookie at a time to the wax paper to keep Grandma's kitchen neat. Announce totals to the lookout elf. Teacher should record the totals on the board.

Keep adding until four cookies are on the counter top. Hopefully, students will remind you this is against the rules, so put all four on cookie sheet and put in oven. Be sure to announce to Lookout Elf you now have 1 Cookie Sheet and Zero cookies on the wax paper.

Keep adding single cookies until you work your way up to 3 cookie sheets and 3 cookies. Then Grandma wakes up and the elves scurry away.

Children now pretend they are Grandma and eat one cookie at a time, so first there are 3 cookie sheets and 2 cookies, etc. Eventually, she will have to take some out of the oven, but she can't just reach in and take one off the hot cookie sheet. She has to remove the whole cookie sheet from the oven and put the four cookies on the waxed paper cabinet, and then she can eat one.

Keep eating them one at a time. Then grandchildren arrive and want one apiece. Then another, until cookies are all gone.

Closure: Before we wash our hands, let's review the cookie factory rules. Why do you think these rules were necessary?

Transition: Let's stop on the way to the computer lab to wash our hands, and be as quiet as the elves were when they were working so they wouldn't wake Grandma. We don't want to disturb any of the other classes along this hallway.

Reflections on today's lesson:

### **Tuesday Cookie Factory Revisited**

**Materials:** Unifix cubes, place value mats, pencils and paper

#### **Procedure:**

Introduction: Remember yesterday when we played the Cookie Factory Game? Today, we're going to play the same game, but instead of using cookies, we are going to use unifix cubes to reenact our story so our hands don't get quite as messy.

Review Monday's lesson using Unifix cubes instead of cookie dough and recreate some of the combinations. Record the numbers that represent 0 cookie sheets and 3 cookies. Add 1 more to get 1 cookie sheet 0 cookies. With unifix cubes, when 4 are on the counter, connect them together to make a "long" to move to the "oven." Continue adding

one at a time to get up to 3 cookie sheets 3 cookies and then start subtracting one at a time. Recording provides the bridge between the concrete manipulatives to the abstract symbols.

**Closure:** Let's review – What is the magic number in Grandma's Cookie Factory? What happened when we reach that number? Can you record using paper and pencil what number 1 cookie sheet and 1 cookie would look like?

**Transition:** As we line up for gym, who can tell me something that comes in groups of 4? (legs on a cat, legs on a chair, etc.)

Reflection on today's lesson:

### **Wednesday Mission Control (Base 5)**

**Materials:** Beans, cups, butter tubs, place value mats.

#### **Procedure:**

**Introduction:** For the past two days, our magic number in the cookie factory has been 4. Today we're going to pretend we are in charge of astronauts at mission control and the number to watch out for is five.

#### **Mission Control Rules**

1. Anytime there are 5 or more astronauts (beans) in the waiting room (white, right side of place value mat), 5 must immediately board a flying saucer (flat cup) and go to the launch pad (left side of the place value mat).
2. Anytime there are 5 flying saucers on the launch pad (left side of place value mat), they must blast off and fly immediately to the space station (margarine tub placed to the left of the left column on the place value mat.)
3. No more than 5 flying saucers can be at a space station at one time.

Add one astronaut at a time. Have students record amounts demonstrated on the mats. Today, we will go out 3 places using place value. Observe carefully to see who understands the concept.

**Closure:** How was the game played today like the Cookie Factory? How was it different?

**Transition:** It's time to blast off for the library. Let's countdown quietly and see if everyone can be ready to go by the time we get to 0.

Reflection on today's lesson:

**Thursday Race for a Flat (Base 10)**

Materials: Base 10 Blocks, place value mats, 2 die for each pair of students

Procedure:

Introduction: How many of you like races? Today we're going to play a game called "Race for a Flat."

Explain the game format. (Each person takes a turn rolling the two die and putting that number out on the board.) They are not allowed to have 10 or more in a column and need to regroup if they have more than 10. The first person to reach a flat (100) is the winner.

Closure: Discussion about regrouping and renaming.

Transition: Even though we have been "racing for a flat" there will be no racing in the hall. Let's walk quietly to art class.

Reflections on today's lesson:

**Friday Math Stations** (Math stations are a typical Friday activity.)

Five math stations are located around the room. Students are assigned to different stations and then rotate at the teacher's signal until they have experienced each one. The teacher will facilitate the station where students will be assessed on their ability to correctly add or subtract using manipulatives on a place value mat.

**Reflection on the Unit as a Whole**

1. Do students understand place value and regrouping? Is reteaching necessary? For which students?
2. What worked well? What did not work?
3. If I teach this unit again, what should I do differently?