

Pigs in a Pen

Summary

This activity gives students opportunities to explore numbers and counting.

Main Core Tie

Mathematics Kindergarten

[Strand: COUNTING AND CARDINALITY \(K.CC\) Standard K.CC.4.](#)

Additional Core Ties

Mathematics Kindergarten

[Strand: COUNTING AND CARDINALITY \(K.CC\) Standard K.CC.1.](#)

Mathematics Kindergarten

[Strand: COUNTING AND CARDINALITY \(K.CC\) Standard K.CC.3.](#)

Mathematics Kindergarten

[Strand: COUNTING AND CARDINALITY \(K.CC\) Standard K.CC.5.](#)

Materials

Tray

Plastic Pigs

Additional Resources

- Book: *The Gummy Candy Counting Book*
, by Amy and Richard Hutchings; ISBN 0-590-34127-8

Background for Teachers

Connections Numbers (3, 6, 7, etc.) are *adjectives*. They are and should be used to describe something, to tell how many objects or things there are. When we do not use them in their complete sense, with their complete label, we are not using them correctly. Teachers, and most importantly kindergarten teachers, must insist students speak in complete sentences so students hear and say the number with the label that the number represents.

Kindergarten teachers are the first math teacher students ever have and therefore the most important math teacher! Kindergarten teachers set the foundation that *all* math concepts are then built upon.

We cannot afford or allow sloppy, incomplete, or hurried foundations to be built!

Kindergarten students need to be taught and allowed to explore "numbers." They need to see that the quantity (the number) gets larger and smaller depending on how many items are being counted because that is what numbers do. Just because a student can count to ten does not mean they fully understand numbers.

Rote counting does not mean a child has the understanding and skill to count objects. It is so important for teachers to give children opportunities to practice one-to-one-correspondence.

"Pigs in the Pen" allows students to become conscious of the importance of the *label*. It also enables them to realize how many objects they are counting and what the numbers actually represent.

Intended Learning Outcomes

5. Understand and use basic concepts and skills.

Instructional Procedures

Invitation to Learn

Listen carefully! What animal makes this sound? "Oink" Yes, a pig! Look at the pig I've brought with me today. What if it was real? What would it do? Yes, it would run all over the room. What would I need so it wouldn't make a mess of our room? Yes, I'd need a pen.

Instructional Procedures

Here is my pig pen (show tray).

Place the pig in the pen and ask, "How many pigs are in the pen?"

Call on a student. If they say, "One pig." Say, "Yes, exactly!" If they just say, "One." Ask, "One what? One cookie? One bike?" (The student should then self-correct by saying the complete answer, "There is 1 pig in the pen." If they do not, then tell them, "There is 1 pig in the pen.")

Add 3 more pigs to the pen. Ask, "How many pigs are in the pen now?" (Continue with the same questioning, leading students to respond correctly, "There are 4 pigs in the pen.")

Once you have worked up to 6 pigs, ask, "Is there 1 pig in the pen?" Students will probably say, "No, there are 6 pigs in the pen." Continue to ask if there is 1 pig in the pen. Point to 1 pig and say, "There is 1 pig in the pen."

Now ask, "Are there 2 pigs in the pen?" Again, students will probably say no. Continue to ask. Finally point, or have a student point, and say, "There are 2 pigs in the pen." Do not skip this part!

This may seem ridiculous, but... it is teaching number concept. When you have 6 pigs, you also have 1 pig, 2 pigs, 3 pigs, 4 pigs, and 5 pigs. A lack of this knowledge creates a faulty math foundation. This is why we find fourth graders still thinking that $24 - 16 = 2$ in the one's column. They do not understand that if you have 4 you do not have 6, therefore you cannot subtract 6 from 4.

On other days... continue this same activity using a variety of items: fish in a fish bowl (use goldfish crackers), cheerios in a bowl (use real cheerios), Unifix® cubes on a mat, shoes on the rug (use their shoes), students on the rug, books on the table, etc. The more you do this, the more students will become familiar and sure of this number concept that if you have 9 you also have 8, 7, 6, 5, 4, 3, 2, and 1.

Extensions

Materials

- [In Our Classroom Booklet](#) (pdf)
- [In My House Notebook](#) (pdf)
- [I Would Like Booklet](#) (pdf)
- [Self-Correcting Cards](#) (pdf)
- [Self-Correcting Outline](#) (pdf)

Curriculum Extensions

Have students create their own pens (use four strips of brown paper glued on the perimeter of a white paper) and color and cut out their own pigs (use pink circles). Have them repeat this activity in small groups.

Have students put different items in their pens and count each others' items.

Make an [In Our Classroom Booklet](#). As a class, draw pictures of items in your classroom for each number. Be explicit that they are counting the *total* amount of items. Copy this book for all students to take home and read.

Make an [In My House Notebook](#) for students to make at home with their parents.

After you have made a classroom book and the take-home book, have students make their own [I Would Like Booklet](#).

Practice counting items with [Self-Correcting Cards](#). Add objects to the cards using stickers, stamps, or drawings. Write four different numbers at the bottom of the card. Punch holes below each number. Decide if you want your students to count the total amount of objects or just identify

numbers that would be in that set. Remember, if there are 4 pigs, there are also 3 pigs, 2 pigs, and 1 pig. On the back of the card, use a magic marker and circle the hole that matches the total amount or any number that would apply.

Family Connections

Send a pig pen home with the students. Have them test their family. Have them repeat the "Pigs in a Pen" activity at home. Have them put 5 paper cut-out pigs in their pen. Have them ask their families, "How many pigs are in my pen?" Then ask if there is 1 pig in their pen.

Send home the [In Our Classroom Booklet](#) for students to read to their family.

Make a family [In My House Notebook](#). Students work with their families by drawing pictures for, "In my house we have..." Students work with a family member to complete their book and return it to school where other students can check it out to take home and read.

Assessment Plan

Assessment is an integral part of instruction. Ongoing assessment is the best foundation for instruction. Teachers must plan ahead and know what questions they are going to ask.

As you are doing the activity, keep track of students who respond incorrectly. Write on a clipboard immediately so you do not forget which students struggle with the concept.

After the activity, call on individual students to come and participate in the activity with just you.

Listen to the words they use. Record and provide feedback if they use the words correctly.

Bibliography

Research Basis

National Council of Teachers of Mathematics (NCTM), Commission on Standards for School Mathematics. (1989). Curriculum and evaluation standards for school mathematics, Reston, VA

<http://www.ncrel.org/sdrs/areas/issues/content/contareas/math/ma0nctmg.htm>

The NCTM is finding that students are failing to see the relationship between mathematics learned in school and real-life situations. They stress the importance of using realistic contexts and applications, as well as concrete pictorial models when teaching math concepts.

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