

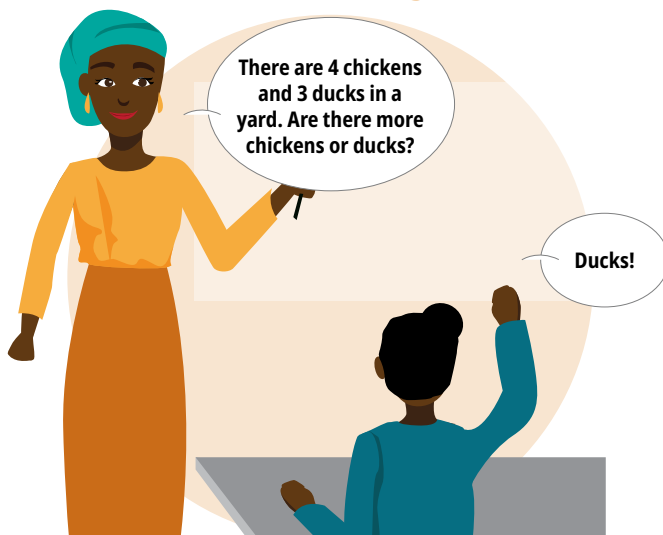
Compare Numbers

Objectives

This mini-module aims to help teachers:

- Identify some strategies to teach children how to compare numbers.
- Identify how materials are used to compare numbers.
- Practice a new teaching activity.

Illustration of Teaching



Recommended Materials

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



REFLECT:

- Why do you think the student made this mistake?
- What does this mistake tell you about the student’s understanding of numbers?
- What should the teacher do when they hear this incorrect response during the lesson?

Ideas to Consider

The child may not know that 4 is more than 3. They may be able to compare the quantities using counters but do not understand the spoken numbers. The child may also think that the last number the teacher said is more, or heard “ducks” last and just repeated it.

When children first learn to compare, it is best to use real objects or pictures to represent the two groups. When children see the numbers represented, they can identify that 4 is one more than 3. After children have developed their skills in comparing numbers with objects and pictures, the number line can be introduced as a tool to compare numbers. As children develop their number sense, they will be able to compare numbers that are written or said aloud. In this mini-module, you will learn how to help students compare numbers.



ACTIVITY: COMPARE TWO NUMBERS

This activity can be completed alone, in pairs, or with a group of teachers. If you have colleagues to work with, take turns representing the numbers with counters, pictures, and the number line. Discuss your responses to the questions.

Purpose: Identify some materials and strategies for comparing numbers.

Materials needed: Counters, writing materials (e.g., pen and paper, a board and chalk), number line from 0 to 10.

Instructions

- Read the story: **Fatu bought 4 yams and 7 bananas. Did she buy more yams or bananas?**
- Show the two groups with counters.
- Reflect and discuss: **How can you arrange the counters so that it's easy to compare the two groups?**
- Reflect and discuss: **How could you use a picture to show which is greater?**
- Draw a picture for the story.
- Reflect and discuss: **How can you use the number line to show which is greater?**
- Identify the numbers on a number line.

Counters



Pictures





Number line



What Do Children Learn about Comparing Numbers?

As children develop counting skills and identify how many objects there are, they begin to understand quantity. Given two groups of objects, they can identify which group has more objects and which group has less. They also learn that when counting forward, numbers that are counted earlier are less, and numbers counted later are greater. When counting backward, numbers that are counted earlier are greater than numbers counted later. This is easily represented by the number line.

Children should be able to . . .	What does this mean?	Example
Compare numbers	Identify the relative size of numbers (more than/less than).	 "2 is less than 5."
Identify one more and one less	Identify the number that is "one more" or "one less" than a given number.	 "4 is one more than 3." "3 is one less than 4."

Reflection

Write your responses down or discuss your ideas with your colleagues:

- Think of your own students. Which skills from the above table do you think they would find challenging? Why? How can you support them?
- What materials do you plan to use in your classroom to teach how to compare numbers?
- Why do you think it is helpful for children if you use different materials to teach the same topic?
- Which materials do you think are most useful for a grade 1 student? For a grade 3 student?

Teaching Practice

This practice activity may be completed by teachers with their own class or with a smaller group of students.





ACTIVITY: COMPARE QUANTITIES

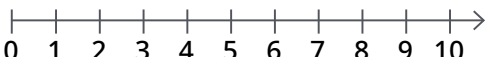
Purpose: Identify the greater and lesser of two numbers.

Materials needed: Objects (e.g., seeds) to count and a number line from 0 to 10.

Instructions

- Give 20 objects to all students.
- Ask: **Which number is greater, 5 or 6? How can we find out?**
- Say: **Take some seeds and compare the numbers. Make one line with 5. Underneath, make another line with 6.**
- Students should put the seeds in lines to see the difference between the two lines.
- Ask: **Which number is greater?**

	 <p><i>(Tip: Make sure students have their seeds arranged in neat rows so they can see that the row of 6 is more than the row of 5.)</i></p>
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- Ask: **Which number is smaller?**
 - Say: **6 is greater than 5, and 5 is smaller than 6.**
 - Ask: **How many more does 6 have than 5?** (1 seed)
 - Show students the number line.
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- Ask: **Where is 5? Where is 6?**
 - Invite students to point to 5 and 6.
 - Say: **5 is closer to 0 because it is smaller than 6. 6 is farther away from 0 because it is greater than 5. 6 is 1 more than 5 because it is the next number on the number line.**
 - Repeat with different pairs of numbers.



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AUTHORS: Brittany Meredith, Annie Savard, Yasmin Sitabkhan, Mercy Kazima, and Wendi Ralaingita