

Differentiating Math Instruction through a Centers/Guided Math Approach

NCTM Regional Conference, November 29, 2012, 10:30 a.m. to 12:00 p.m.

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AGENDA

I. **Getting Started**

- a. Guided math: Brainstorm some benefits and some challenges.
- b. Turn and talk: Discuss your responses with a partner or small group.

II. **Mini (or sometimes not-so-mini) Lesson**

- a. Benefits
- b. Challenges
- c. Possible Structures
- d. Tips

III. **Small-Group/Center Work: Number Sense**

- a. Frame and Introduce
- b. Stations/Centers
 - i. **Teacher-Facilitated**
 1. Counting on with calculators
 2. Walk-On Number Line
 3. Pin the Number on the Number Grid
 - ii. **Games/Manipulatives**
 1. Number Grid Puzzles
 2. Ten Frame Top-It
 3. Monster Squeeze
 - iii. **Paper-and-pencil**
 1. Number-Grid Mystery Puzzles
 2. Number Scrolls
 3. Name-Collection Boxes

IV. **Closure**

Sample Guided Math Planning Template

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Getting Started	Getting Started	Getting Started	Getting Started	Getting Started
Mini-Lesson	Mini-Lesson	Mini-Lesson	Mini-Lesson	Mini-Lesson
Center 1 (Teacher)	Center 1 (Teacher)	Center 1 (Teacher)	Center 1 (Teacher)	Center 1 (Teacher)
Center 2 (Game/Manipulatives)	Center 2 (Game/Manipulatives)	Center 2 (Game/Manipulatives)	Center 2 (Game/Manipulatives)	Center 2 (Game/Manipulatives)
Center 3 (Paper and Pencil)	Center 3 (Paper and Pencil)	Center 3 (Paper and Pencil)	Center 3 (Paper and Pencil)	Center 3 (Paper and Pencil)

Centers are “leveled” (“guided math” groups). Activities at each center are appropriately differentiated.

Be sure to plan appropriate, engaging “when you are finished” activities (projects, choiceboard menus, packets, etc.)

LESSON
1•8**Number Grid**

-9	-8	-7	-6	-5	-4	-3	-2	-1	0
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
101	102	103	104	105	106	107	108	109	110

Number Grid



Name _____

Date _____

Time _____

LESSON
1·7

Beginning Number-Scroll Sheet



0										

LESSON
1•7

Continuing Number-Scroll Sheet



← Paste/tape to here. →

Name-Collection Boxes



1.

A large rectangular box with a smaller rectangular tab at the top left corner, intended for writing a name.

2.

A large rectangular box with a smaller rectangular tab at the top left corner, intended for writing a name.

3.

A large rectangular box with a smaller rectangular tab at the top left corner, intended for writing a name.

4.

A large rectangular box with a smaller rectangular tab at the top left corner, intended for writing a name.

Ten-Frame Top-It

Directions

1. Each player takes a card from the top of the pile, turns it over, and says the number represented by the ten frame on the card.
2. The player who has the larger number takes both cards.
3. If the two cards show the same number, each player takes another card from the top of the pile. The player with the larger number takes all of the cards facing up.
4. The game is over when all of the cards have been taken. The player with more cards wins.

Variation: Players call the number represented by the blank spaces on the ten-frames. The player with the smaller number takes both cards.

Ten-Frame Cards 0–5



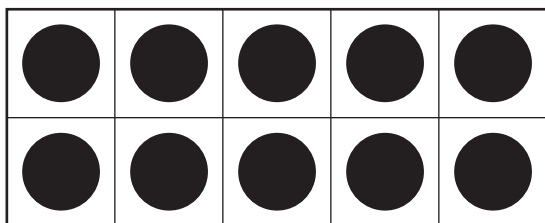
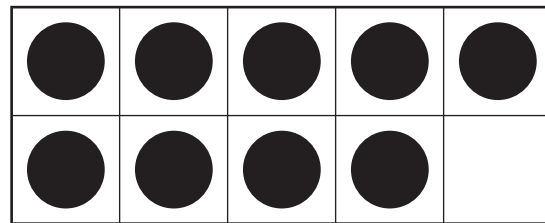
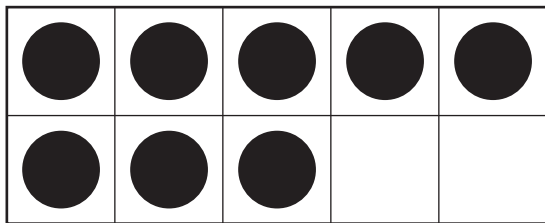
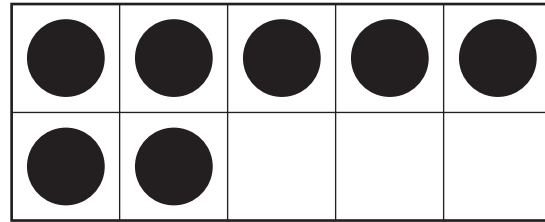
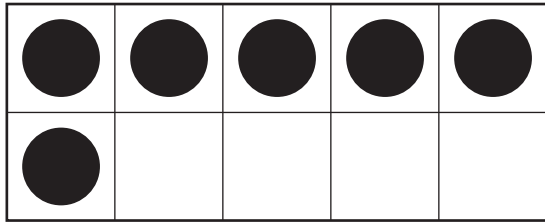
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Ten-Frame Cards 6–10 and Blank

Monster Squeeze

**Family Note**

Games are a wonderful way for children to practice mathematics skills. *Monster Squeeze* is a game that reinforces number recognition and the concepts of greater and less. Directions are provided below, but let your child take the lead in teaching you the game.

Materials Two monsters and a 1–10 number line.

Players 2

Skill Compare numbers

Object of the Game To guess the mystery number

Directions

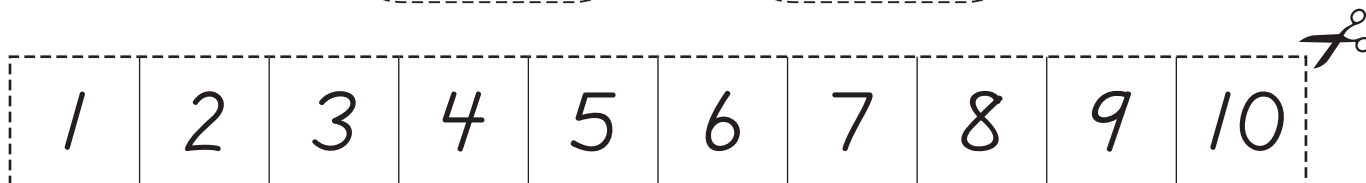
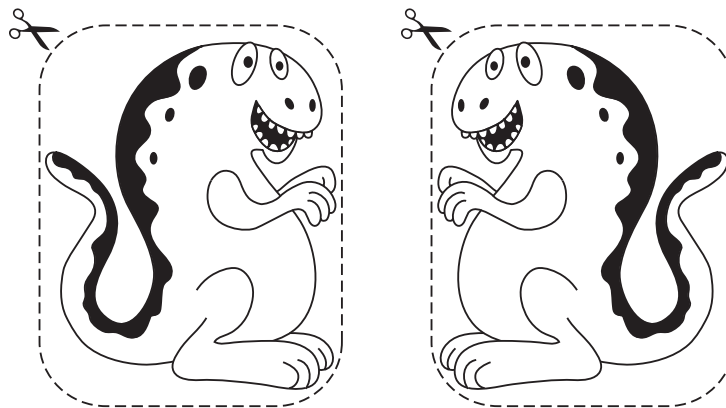
1. Player 1 places one monster at each end of the number line, facing each other. The same player chooses a mystery number between 1 and 10 and writes it on a piece of paper.
2. Player 2 guesses a number.
3. Player 1 says whether the number guessed is too low or too high and covers the number with a monster. (The left monster covers the number if the guess was too low. The right monster covers the number if the guess was too high.)

Example: If the mystery number is 6 and the guess is 3, the left-hand monster moves up the number line to cover the 3. If the guess is 8, the right-hand monster moves down the number line to cover the 8.

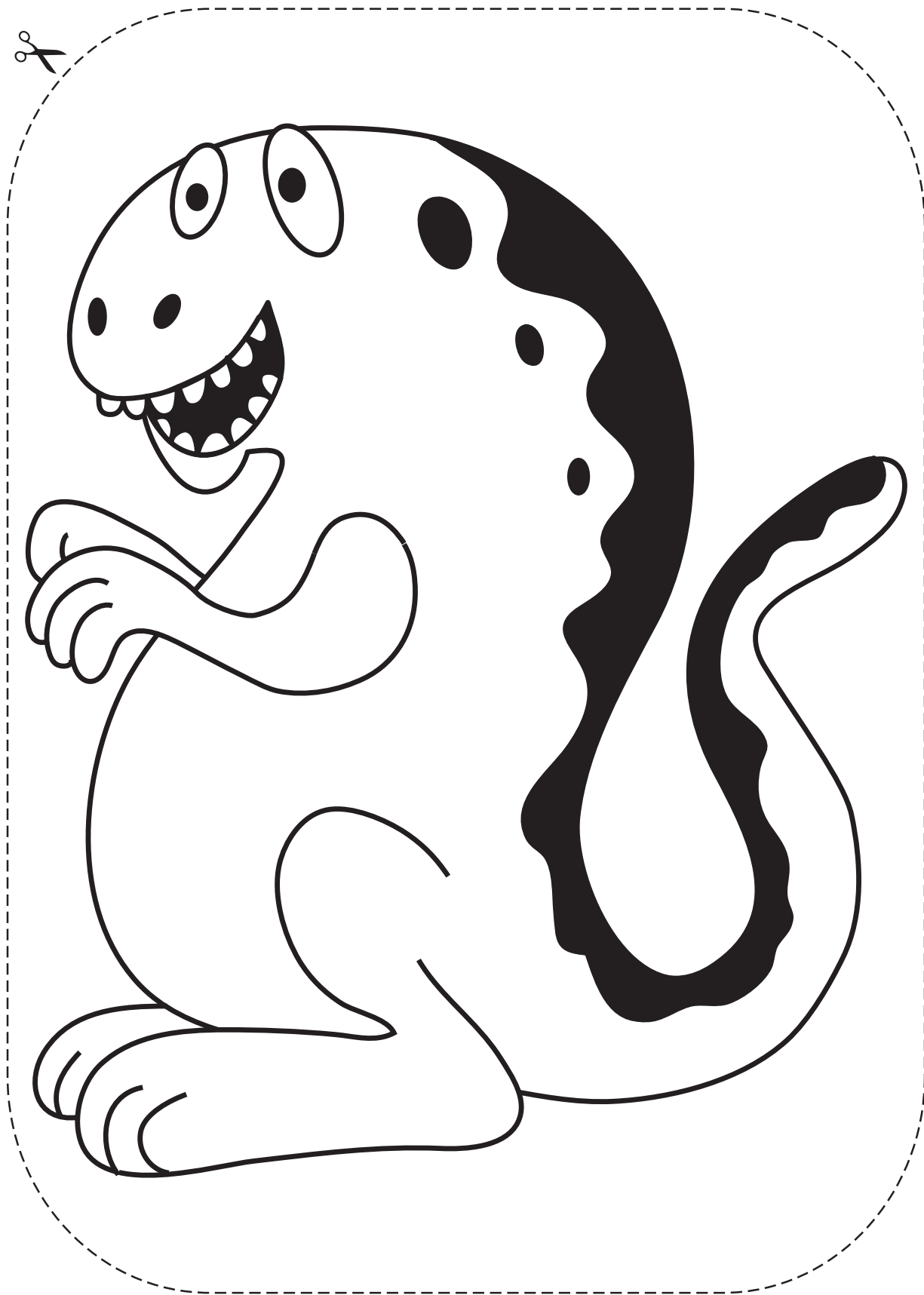
4. Players keep guessing and moving the monsters until the mystery number is guessed, or “squeezed,” between the monsters!

Cut out the monsters and the number line.

Use them to teach someone in your family to play *Monster Squeeze*.



Monster Squeeze Monster (right side)



Monster Squeeze Monster (left side)

