Continuum-Based Math Phases 1 and 2 Task: Quantity

PURPOSE: Quantity Columns 1 to 7

MATERIALS: General purpose counters i.e., two-coloured counters, pattern blocks, etc.

INSTRUCTIONS: This is a one-on-one teacher/student interview. It should be completed in some privacy, away from other students. It is important that the script be followed in a precise manner, with little or no teacher help. Teachers may provide some clarification, but should not deviate from the overall goal of each task. Students should demonstrate a **'mastery'** of each task. *Partially* correct answers should not be marked **as correct**.

Teacher Instructions & General Question for Student	Teacher 'Look Fors' Students should demonstrate <u>complete</u> understanding	Column
1. Have each of the Quantity Diagnostic Sheets A, B and C on the table in front of you but *face down*. Tell the student that they have to tell you how many things are on the sheet when you turn them over *but* warn them that they have to be quick! Make sure that when you do turn the sheet over it is only for a second before you turn it over again.	Does the student subitise accurately? Or does the student attempt to count but runs out of time? If you can tell a student is quickly counting then he/she doesn't get a check.	If correct check column 1
2. Using Quantity Diagnostic Sheets D, E and F, ask the student to point to *all* the boxes that have '*this*' many stars. **Do not say "5" or "8" or "4".** It is OK for students to count the objects as opposed to subitise them.	Does the student point to all the correct boxes? Or does the student point to only one correct box or make no attempt to count or just guesses?	If correct check column 2
3. Use pattern blocks. Have a line of 6 green triangles and below that, another group of 6 yellow hexagons (i.e. 6 small things and 6 big things). Make sure the hexagons form a 'longer' line than the triangles. Ask the student "Do these groups have the same amount?" and then after they have replied, "How do you know?"	Does the student say that they are both the same size and give a good reason (e.g. I counted 6 in each group, I paired each shape up)? Or does the student say the hexagons because they are bigger than the triangles or because the line is longer?	If correct check column 3
4. Use pattern blocks again. Have a group of 7 shapes and another group of 9 shapes. Ask the student "Do these groups have the same amount?" and then after they have replied, "Which is bigger and tell me how you know?"	Does the student initially reply "No" and then give a good reason why one group is bigger (e.g. one group is 7 and the other is 9, I paired the shapes up and one group had 2 more)?	If correct check column 4

| Teacher Instructions & General Question for Student	Teacher 'Look Fors' Students should demonstrate <u>complete</u> understanding	Diagnostic Task – Chart #
5. Put 11 counters in front of the student and ask "How many counters are here?" If they give the correct answer, put 4 more counters with the group and ask "How many are here now?"	Does the student count on i.e. say 12, 13, 14, 15? Or does the student recount the whole group again i.e. he/she doesn't trust the count? Only give a check if the student counts on.	If correct check column 5
6. Arrange 13 counters in 2 rows: oooooo ooooooo Ask the student to count the counters by **1s** and then **2s.** Then ask "Does counting by 2s give you the same answer as counting by 1s?"	Does the student count by 2s correctly (i.e. "2, 4, 6, 8, 10, 12, *13*)? and also understand that skip counting gives the same quantity as counting by ones? Or does the student skip count incorrectly (i.e. 2, 4, 6, 8, 10, 12, *14* or 2, 4, 6, 8, …, 22, 24, 26)? Note the difference between counting by 2s and counting by 2s to find a quantity.	If correct check column 6
7. Use 12 counters. Ask the student to find as many different ways as they can of finding two (or more!) numbers that add to give 12.	Does the student think, say, write, or show at least five different ways (e.g. 10+2, 6+6, 11+1, 9+3, 8+4, 7+5 etc.)? Or do they just give one or two ways (usually 10+2 and 6+6)? Note that this column is about seeing that a number can be *concretely* split.	If 5 or more correct examples check column 7

Teacher Notes:
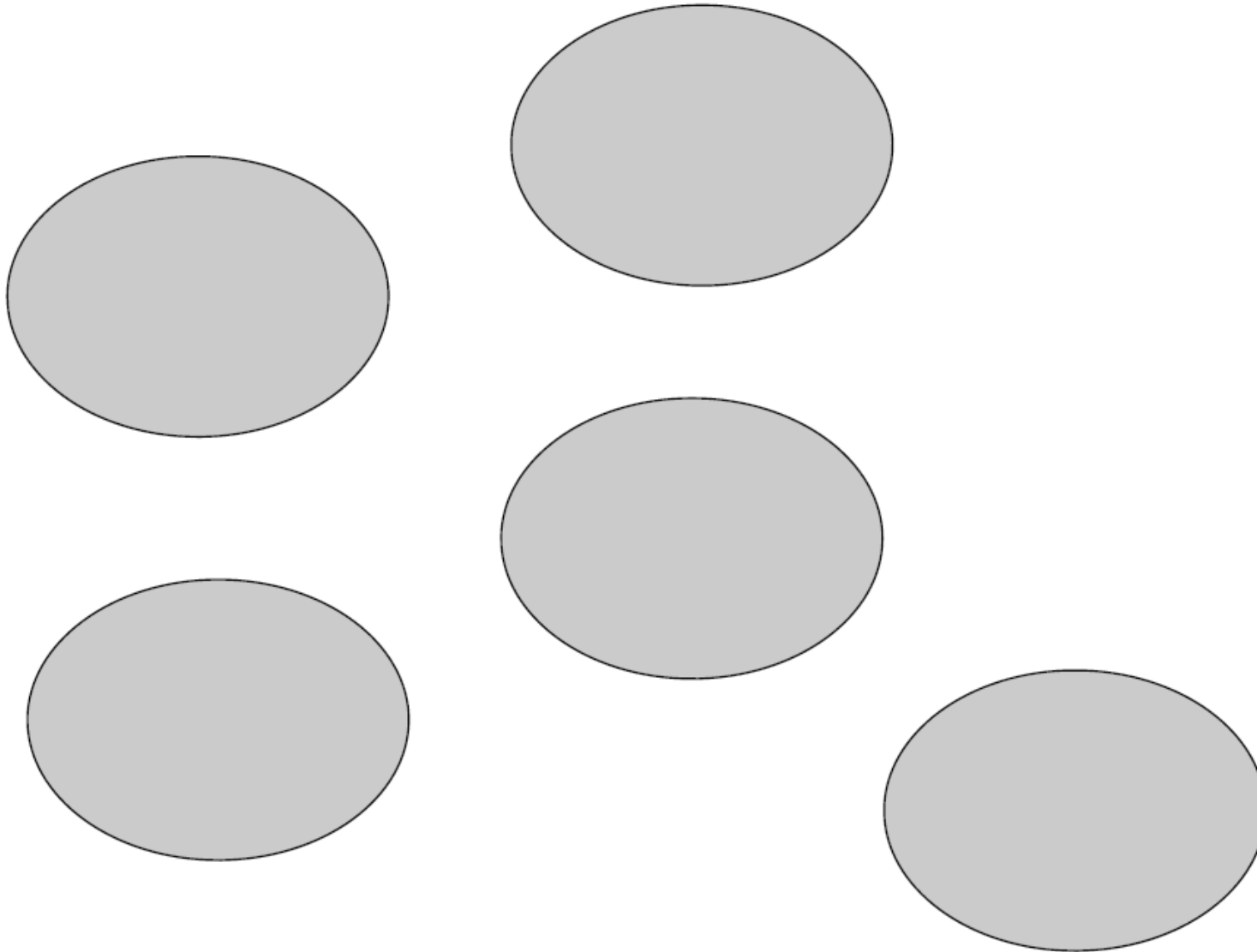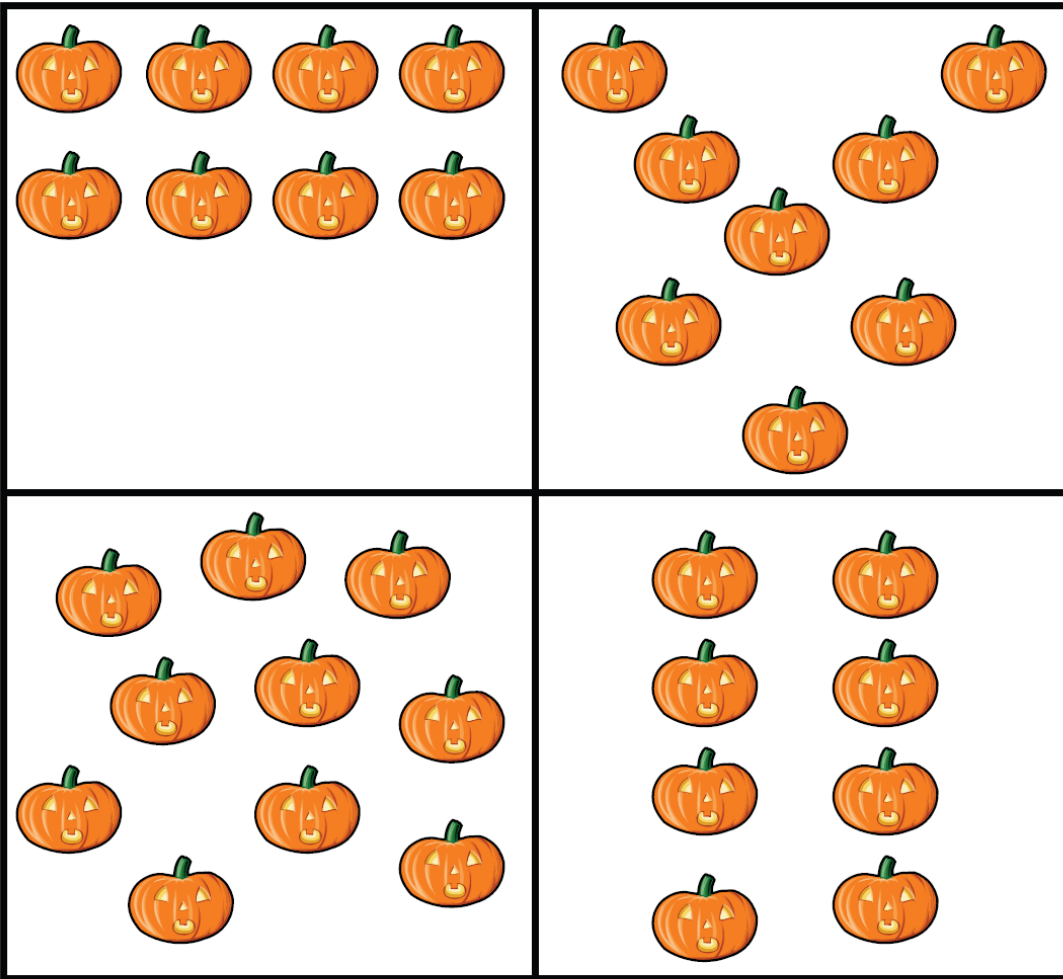
Quantity Diagnostic Sheet A

Quantity Diagnostic Sheet B
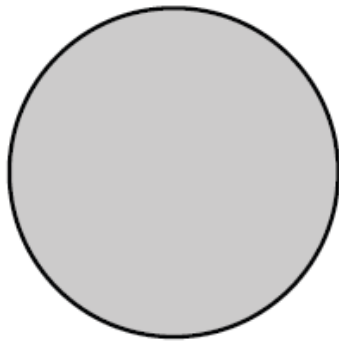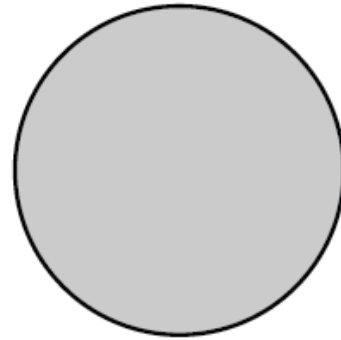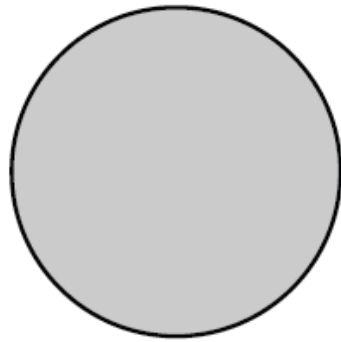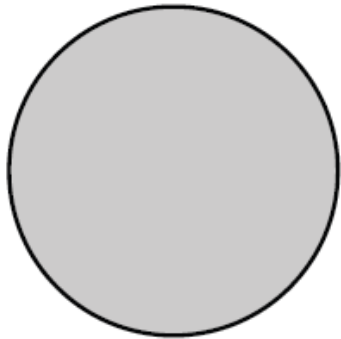
Quantity Diagnostic Sheet C
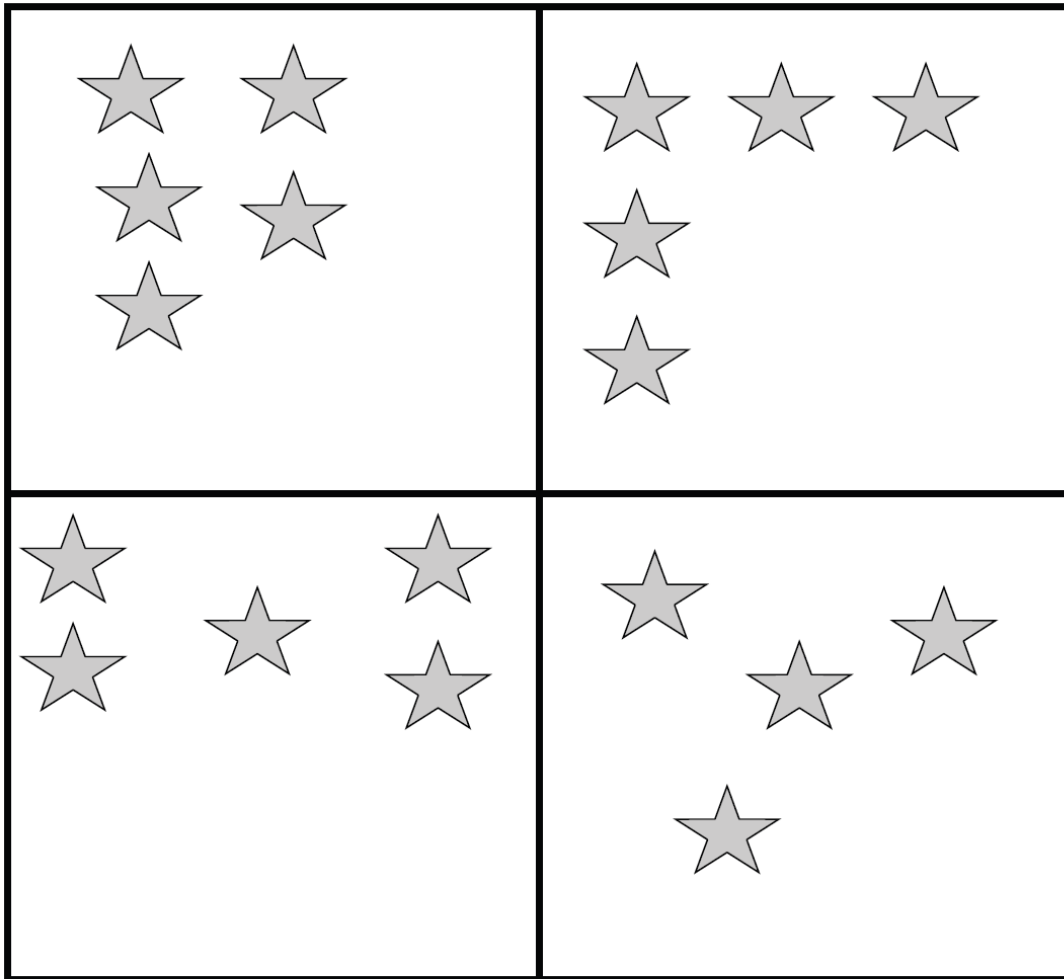
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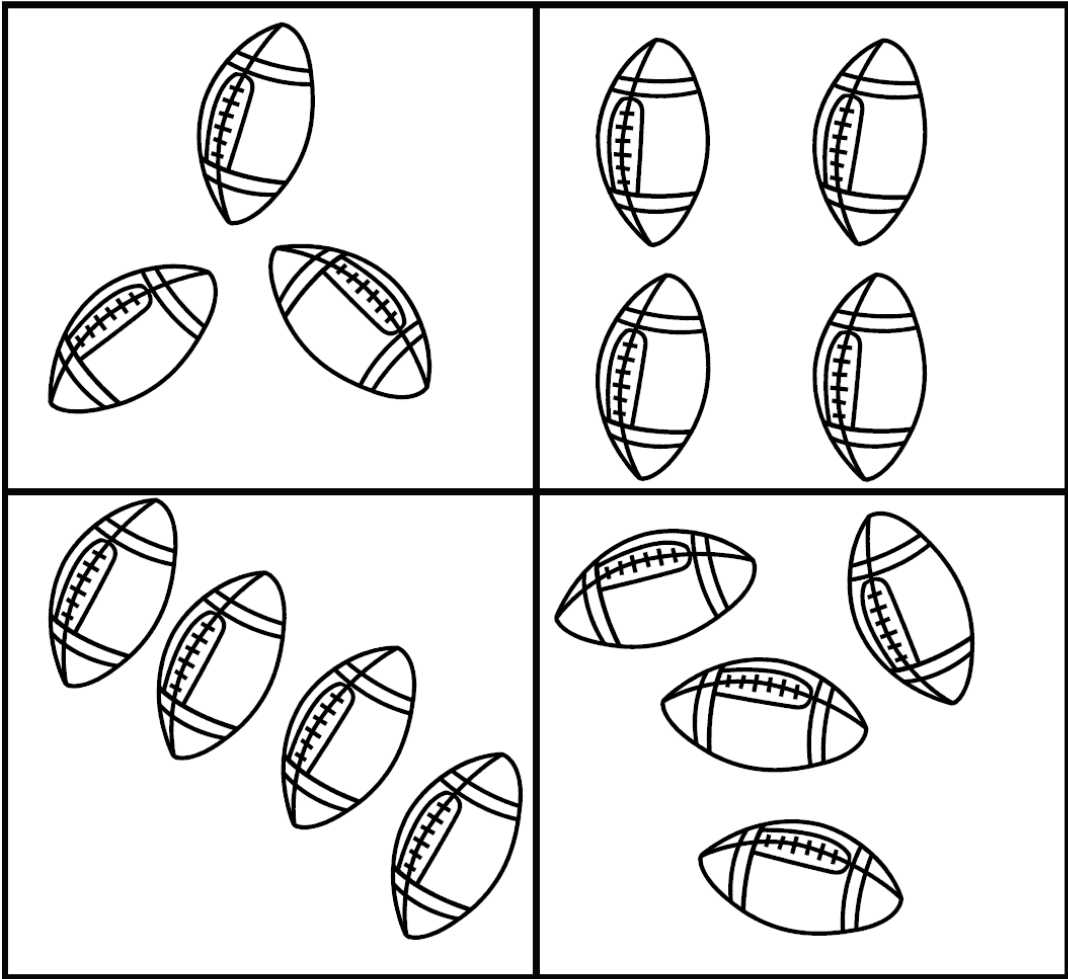Point to all the boxes that have this many stars

8

Point to all the boxes that have this many pumpkins

Quantity Diagnostic Sheet E

4

Point to all the boxes that have this many footballs