**Subject area/course**: Mathematics

**Grade level/band**: 1 - 3

**Task source**: New Hampshire Task Bank; Authors: Gail Gwynne, Tracy Barnard, Amy MacDougall, and Jill Lizier

**Soccer Teams**

**TEACHER'S GUIDE**

1. **Task overview**:

Students respond to the prompt below.

1. Task context:

Today 48 boys and 50 girls signed up to play soccer. Each team needs **at least 10 players** but **no more than 20 players**.

1. Final product:
   1. Show how many teams you would make.
   2. Show how many players are on each team.
   3. Check it: Show how you know your answer fits what is being asked by using number sentences, words, pictures, and or graphs.
   4. Use the student rubric to check your work with an assigned partner or threesome*.*
2. **Aligned standards:**
3. **Primary Common Core State Standards**

[CCSS.MATH.CONTENT.1.NBT.C.4](http://www.corestandards.org/Math/Content/1/NBT/C/4/) Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10…(may apply, but more for grade 2)

[CCSS.MATH.CONTENT.2.NBT.B.7](http://www.corestandards.org/Math/Content/2/NBT/B/7/) Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method…

[CCSS.MATH.CONTENT.2.MD.D.10](http://www.corestandards.org/Math/Content/2/MD/D/10/) (if a graph is required) Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.

[CCSS.MATH.CONTENT.3.NBT.A.2](http://www.corestandards.org/Math/Content/3/NBT/A/2/) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

CCSS.Math.Practice.MP 2 Reason abstractly and quantitatively

CCSS.Math.Practice.MP 3 Construct viable arguments and critique the reasoning of others

CCSS.Math.Practice.MP 4 Model with mathematics

CCSS.Math.Practice.MP 5 Use appropriate tools strategically

1. **Critical abilities:**

*Interpersonal Interaction and Collaboration:* During the whole group activities this will occur. When students critique the work of others during the compare your answers portion.

*Analysis of Information:* students will need to apply the criteria to their solution to make sure all of the parameters are addressed.

*Modeling, Design, and Problem Solving:*  Students will need to use quantitative reasoning to solve the problem and may choose to use materials as counters or a tool to solve the problem.

1. **Other standards - New Hampshire Competencies**

*NH Math Competency 2.* Numbers and Quantity: Students will demonstrate the ability to reason quantitatively when analyzing, representing, and solving problems.

1. **Time/schedule requirements:**

This task takes approximately one math block or 75 minutes to complete.

1. **Materials/resources:**

* White boards
* Counters
* Paper
* Image of soccer game
* Unifix cubes

1. **Prior knowledge:**

Before the students perform this task, they will have acquired these understandings:

* Counting
* How to solve a word problem
* Understand team play; what a team is
* Add double digit numbers
* Counting off the decades

1. **Connection to curriculum:**

This task was designed to take place in the end of the first grade year. (Or at an appropriate time in second or third grade.)

1. **Teacher instructions:**

This is a one day assessment. The lesson will start out with the whole group and then the students will complete the task individually. They may come back together and compare solutions. Pair up students in groups of two or three with varying solutions so that they have something to discuss/defend.

The teacher will explain the prompt to the whole group. The teacher then asks students to think about how they can solve this problem and what they will need for tools. The teacher needs to explain that if students use tools to solve the problem that they either need to describe in words, pictures and numbers how these tools were used to arrive at the solution.

Next, the teacher will hand out the prompt and students will gather needed tools. The students will have 60 minutes to complete this task, or more/less depending on the teacher’s judgment.

Possible prompts to scaffold/guide students:

* Each team needs at least 10 players.
* Teams cannot have more than 20 players.
* How many boys and girls are there altogether?
* What math tool would help you solve this problem?
* Do you have a number sentence for your solutions?
* Act it out: how do you form teams in other activities?
* Try a smaller number first and then work up to the 98.
* How do you know if your answer is correct?
* Did you record your work and show how your answer is correct?
* Can you write some “thought bubbles” to show why you solved it the way you did?

1. **Student support:**

Possible accommodations include:

* Base 10 blocks
* Ten frames
* Counters
* Number lines
* Number grids
* Visuals
* Unifix cubes

Possible formative assessments that would prepare students to complete this task include:

* Various problem solving activities
* Word problem practice
* Provide activities that practice compose and decompose numbers
* Practice explaining mathematical thinking both orally and written
* Sorting practice
* Counting large groups of objects – collections

1. **Extensions or variations:**

An extension may be made by asking students to make their teams as even as possible with balanced numbers of boys and girlson each team as well as balanced numbers. Students could be asked to show the least number of teams that could be created and the most number of teams that could be created and still meet the criteria.

1. **Scoring:**

Student work can be scored using the Soccer Teams rubric. A student-facing version of the rubric is also included in the task materials.