

www.PEPnonprofit.org

Math and Field



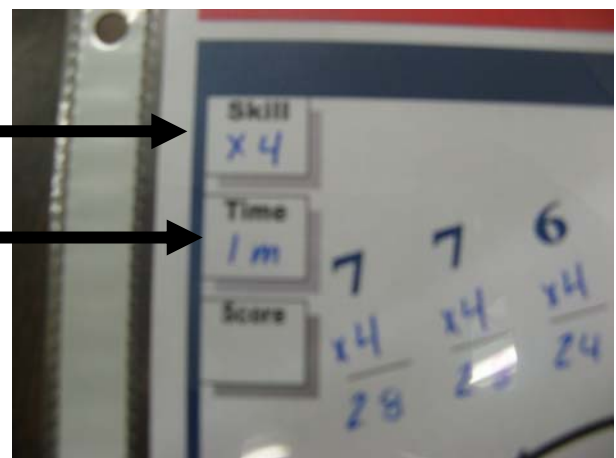
www.PEPnonprofit.org

Math and Field is a fun, quick activity designed to review basic math skills. The format of Math and Field makes this game effective for students all the way from Kinder through middle school. The teacher gets to choose the skill being reviewed and practiced, making this an interactive game that the teacher controls. Kids love playing it and it is very easy for teachers.

How to Play: Students are given the page(s) with the "events." There are small boxes for each event which are empty for **skill**, **time**, and **score**. The teacher will choose the skill for that event (the skills can change for each event if desired). For instance, if a third grade teacher is working on solidifying multiplying by 5, then the teacher would say "multiply by five" and the students would write "**X 5**" in the **skill** box. The teacher then determines how much time will be given for this one event. The teacher would say, "40 seconds" and the students would write "**:40**" in the **time** box. At this point the class will wait for the teacher to tell them to start and then time them for 40 seconds. When time is up, the students can cross check with each other or the teacher can call out the answers and they can correct their papers. Each correct response is worth one point.

Skill: For all of the events, except long jump and relay, pick any skill and digit in addition, subtraction, and multiplication.

Time: You select the time for your students.

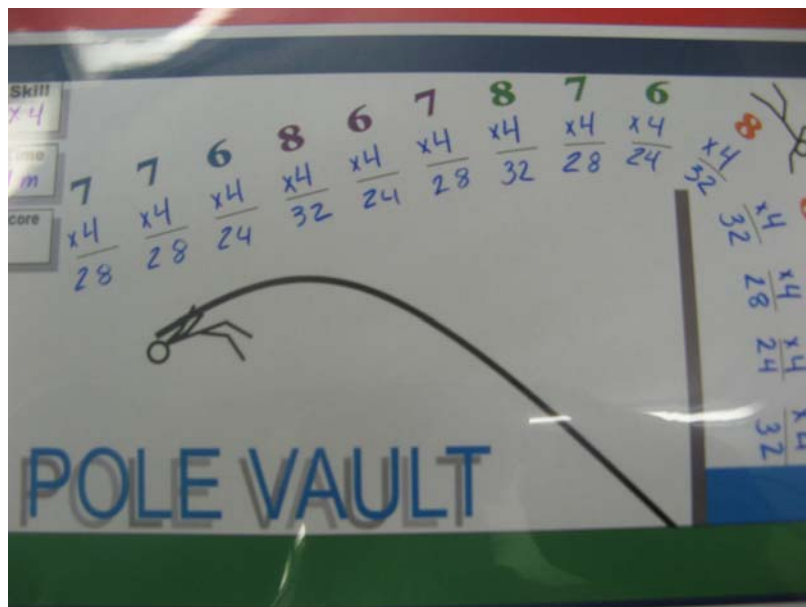


Levels/Colors: You'll notice that the numbers are colored. The reason for this is to help the students gauge how far they have gotten in an easy to remember format. They can also write it down on a tracking chart to monitor their progress. The colors progress from blue through red. The students goal is to complete all the problems correctly before time expires, thus reaching the red number. If a student answers a problem incorrectly, they simply count back one problem for their score when they are finished checking all the problems.

A hypothetical game would look like this:

1. Teacher gives the skill and amount of time to complete the event.
2. Teacher tells students to start and they all start at the same time and keep working until time is up.
3. Problems are corrected according to teachers desired method. If a student completed 10 problems with 2 mistakes, the student would count back (subtract) 2 from the 10 problems and have a score of 8. If 8 problems puts them on the second green number, then their score would be G2. The goal is to get one problem further the next time than they did this time. They would want to reach G3, or the next color, on this same event next time. Students set and break their own records.

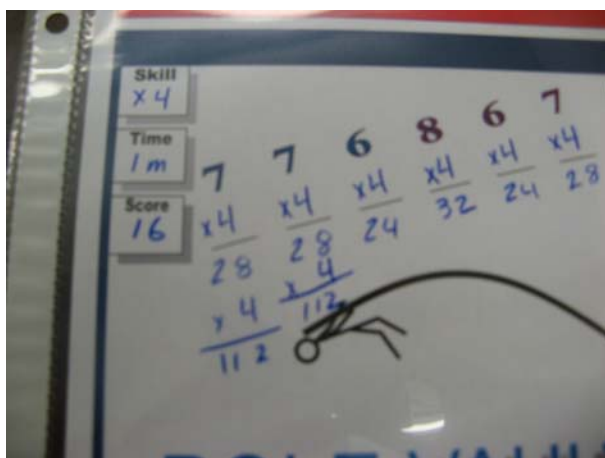
Note: If a teacher wants to just use the number of problems completed and not use the color system, that is fine too. As a matter of fact, it may be necessary to just write in the total number correct if you have black and white copies and the color system wouldn't apply to begin with.



This is an example game board of the Pole Vault event. Something as simple as turning the paper adds a level of interest most math games lack.

Two Commonly Asked Questions:

A commonly asked question is, "What about the early finishers? Do they just wait until the time is up?" The answer is no, they don't stop working. If a student finishes the "first row" of problems, they continue on to the "second row" of problems. It works like this. If the skill is **X 5** and a student gets all the products before time is up (which a few students may do) then they go back to the first problem and **multiply the product they got by 5 for the next level of answers**. The product they got the first time through becomes the top factor and they write **X 5** underneath the original product to create a new, more difficult problem to answer. The faster students get challenged more while the slower students don't feel like they're falling behind. **No one actually "finishes working" before time is up and the game levels itself according to each individual student's abilities.** This holds true when the skill is multiplying, adding, or subtracting.



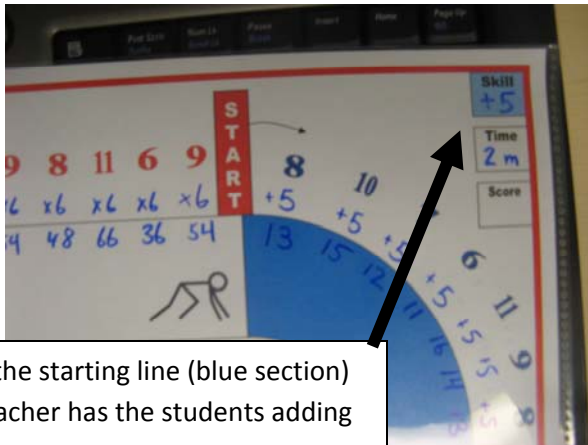
For students who finish before time has expired, they continue to the second row. This second row adds a new dimension to the skill and keeps students engaged, even if they are masters at the skill being played.

It has also been said that this would use up a lot of copies. This is a short activity and the number of events played at any one time can vary according to teacher preference. If a teacher had to run off a class set of copies 2-3 per week, then I think most teachers would agree that it is a lot of copies to run, especially since many districts have put limitations on copies and paper usage. A suggestion to help avoid this would be to run **one** class set, in color if possible, on either cardstock paper or photo paper, and put each of these into a page protector that students can write on with a dry erase marker and then simply erase when done. One good quality set (with a few extras just in case) should last the entire year, or longer. A teacher could also laminate the copies instead of putting them in the page protectors. However, the advantage of the page protectors is that if one does need replaced, it's a lot easier to print and slip one into a page protector rather than print, laminate, and cut off the excess laminate. Whatever works best for each individual teacher is the best option for them.

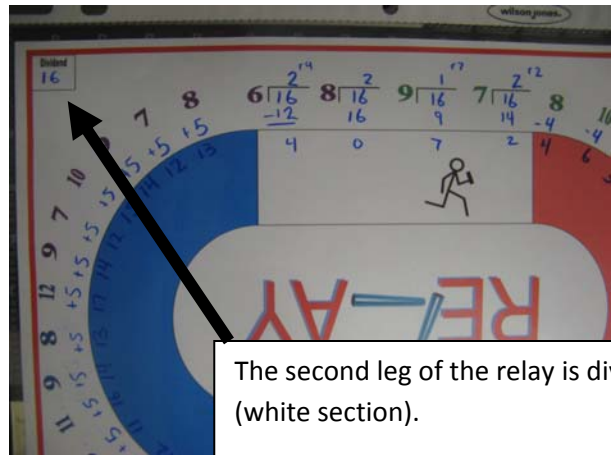
Math and Field-Relay

The relay event is very unique and is designed for use with upper-grade elementary and middle school students. With this one event/game, a teacher can address ALL FOUR OF THE BASIC MATHEMATICAL PRINCIPLES. Due to its uniqueness, it has earned the right to its own additional set of directions.

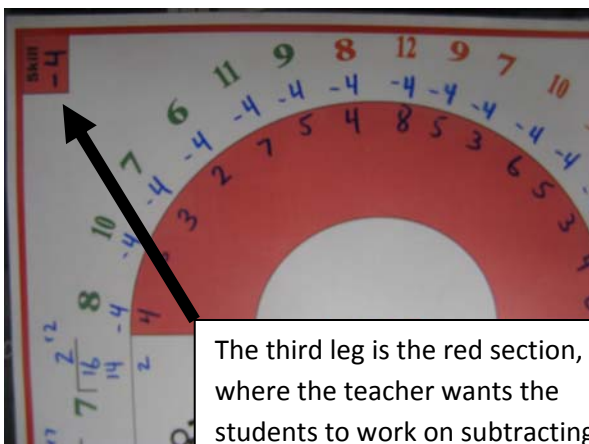
How to Play: Students are given the paper for the "relay" event. In much the same way as previously described, teachers will tell students the skills that are being addressed during this event. However, the design of this event allows the teacher to address addition, subtraction, division, and multiplication (if they desire to use all four). In each corner of the page there are skill boxes. The teacher will give the skill and number for **all four boxes** at the beginning of the game. The third event is automatically division due to the format, but the other three can be addition, subtraction, or multiplication, or all three if so desired. For instance, the top right skill box can be "+9." That first box **only applies to the first portion of the track**. As the track turns, the next skill box can then switch to "-7" and **only applies to the next designated portion of the track**. As the course continues, it changes to division and in the skill box would be the dividend used for each problem. Following the track around to the final stretch, the skill can switch again to "X 8." As you can see, it really is a relay event in the true sense of the word. Remember, **all skills and numbers are given before they begin working**. Only the very first box (top right hand corner) has a place to put the time because the time given applies to the entire event. **The students switch skills without stopping**. Early finishers continue the same way as the other events in that they reapply the skill to their previous answer. If a student reaches the division portion of the track a second time, they can skip that portion and continue. If this does happen, the teacher should consider shortening the time allowed for the event.



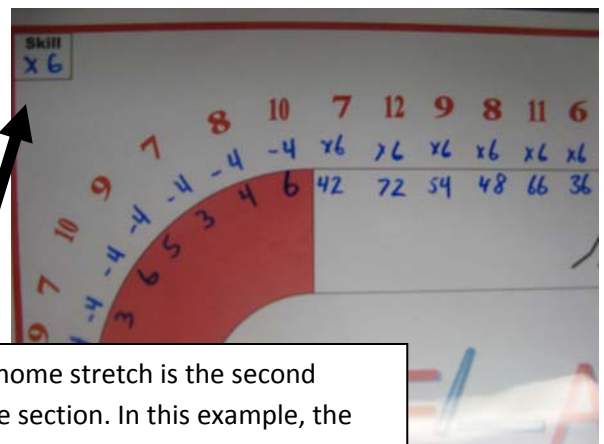
From the starting line (blue section) the teacher has the students adding by five.



The second leg of the relay is division (white section).



The third leg is the red section, where the teacher wants the students to work on subtracting by four.



The home stretch is the second white section. In this example, the students are multiplying by six.

Have Fun:

Math and Field is a great way to help overcome the fact that there is usually not enough time to actually practice the multitudes of skills children are asked to learn on a daily, weekly, monthly, and yearly basis. It also is very fun for the students and challenges the higher, faster students just as much as those who work a little slower. Student engagement is 100% in short bursts of practice and the students **want** to do it. You could even use this as a reward for working hard in any particular area during the day or to fill in that pesky 5-10 minute block of time you may have left over before lunch or recess or moving to the next class. Students respond to games, so give them the games **YOU** want them to play and **THEY** want to play as well.