

Gloria Kreutzberg  
Levittown Schools  
Kindergarten  
Math addition & subtraction concepts



CCLS Math: Operations & Algebraic Thinking

**Grow Your Garden HD** by Learning Yard, \$1.99

<https://itunes.apple.com/us/app/grow-your-garden-hd/id456097855?mt=8>

Grow Your Garden is a unique addition and subtraction app incorporating logic and problem solving skills to move through twelve levels of the gardening game. Players make flowers grow by giving each flower the exact amount of water needed. The first few levels have brief tutorials then levels get increasingly harder to solve. Users must use a combination of different sized watering cans to get the correct amount of water needed for each flower. If you over-water your flower an angry rain cloud appears with lightning bolts. The flower then wilts and you can replay the level. If the player realizes they can't solve the problem the way they were intending, the level can be replayed immediately. Some levels have several sized watering cans that you fill from the water supply. To get the correct amount of water for your plant you may need to pour some water out into another smaller can. This gets tricky because some cans are chained to the ground and can't be moved! As you pour water back and forth, the math equation is displayed on the screen briefly and it changes as you transfer the water from one container to another. This math app forces children to think and problem solve, fact memorization is not enough to beat each level.

I first tested this app on my fourth grader giving him no directions to see how well the tutorial worked for him. As expected, he figured out the rules by using trial and error and process of elimination strategies, fairly quickly. As the problems got harder to solve, he needed to replay some levels several times to find a solution and grow the flower. Younger students may need an adult to give a little support in the beginning.

One aspect I particularly liked is that if you are watching a child play this math game you can see how they are trying to problem solve. You can follow their thinking process by watching their moves. You can see if a student is too impulsive and begins without thinking or if he is trying the same method over and over without success.

The music on this app was very repetitive and can be turned off if desired. There is also positive verbal feedback when you solve a level but, it is limited to "wow" so it's not particularly important to leave the sound on for this app. I would love the creators to add another set or two of levels as the next garden growing activity. With only one set of levels students may tire of this app after a few uses.