Ten3Maths

Introduction

The TEN3Maths app is meant to provide mathematics practice problems to students in Kindergarten through Grade 5 on many different Android devices and browsers.
Learn more about TEN3 and the educational work they do at ten3.org.

Installation Instructions

Internet

If you have a stable internet connection, play in the browser by visiting:
https://tjdsouza.github.io/ten3maths/index.html
To start a new session (reset the game), simply open the link again.

Offline Browser

To use from a PC Offline, download the zip file of the most recent version.
Unpack the `.zip` file on ten3.org and open "index.html" in your browser. To reset the session data, simply reopen index.html.

Android

From a computer or over the internet, move the APK to the downloads file, then open it to install and launch the mobile application.
Here is how to move the TEN3Maths.apk file onto your Android device.

1. If you have the .apk file on a thumb drive, you will need to transfer it to a computer first.
2. Once the .apk file is on your computer, you can connect your Android device to the computer using a charging cord.
3. You may need to enable File Transferring on your device. Here's how:
    - Drag down from the top of the screen, to where you would see any notifications you have.
    - There should be a notification at the bottom that says something like "Charging this device via USB." Tap on this twice, so it takes you to More Options.
    - Under the "Use USB for" section, select "File transfer / Android Auto". This will allow you to access the files on your Android device from your connected computer.
4. You should be able to open a window on your computer to access the device's files. On the computer, find your connected Android device's name in your file browser and open it. Open the folder called Downloads (you may need to open a folder called DCIM first).
5. Drag the .apk file from your computer into the Downloads folder of the device.
6. Once the .apk file is transferred, you can disconnect your device from the computer.
7. Open your device's Files program and go to the Downloads folder.
8. The TEN3Maths.apk file should be at the top. You can tap on it to begin installing the app.
9. Your device will probably ask you if you want to install the app. Tap "Install".
10. Your device may stop you with a message that says something like "For your security, your phone currently isn't allowed to install unknown apps from this source. You can

change this in Settings." This is good! You should never install an app from someone you don't trust. To install our Maths app, you can tap "Settings". This will take you to a page which asks if you want to "Allow from this source." Tap on the toggle switch on the right, and it will allow you to install TEN3's Maths app. (If it does not prompt you to install the app immediately, you can go back to your Downloads folder and tap TEN3Maths.apk, and it should restart the installation.)

11. After a few moments, the TEN3Maths app should be installed on your device!
12. If your device prompts you to open the app, you can tap "Open" to open the app. If it doesn't offer to open the app, you can find it among your other apps by swiping up from the bottom of your home screen and searching for it.

Grade-Level Notes

On the starting page, the app prompts the user to select a grade level, then redirects them to choose an operation (+, -, ×, or ÷) before starting the game. At any point during the game, the user can change grades by returning to the home screen using the top left corner, or change operations by clicking the operations menu in the top right corner

Keep in mind that for each grade level, some problems will be easy enough for a student to calculate mentally, but others might be difficult enough that a student would want to write, draw, or use physical objects to reason through the problem. We recommend having students work until they have answered 7-8 of the last 10 problems correctly.

Kindergarten

Kindergarteners focus on learning how to "make" and "break" the number 10 through addition and subtraction problems. The answer should never be more than 11, which helps them understand how 10, and every number under it, combine to form other numbers.

Grade 1

In Grade 1, students add and subtract numbers up to 40. This allows them to work with multiple place values without exceeding their readiness.

Grade 2

In Grade 2, students can add and subtract sums up to 1001, introducing them to three-digit numbers. They do *not* yet work with negative numbers, and they are still restricted to addition and subtraction.

Grade 3

In Grade 3, students use the same addition and subtraction settings as Grade 2, but are also introduced to multiplication and division. Multiplication and division equations will not have any numbers greater than 196 (the square of 14).

Grade 4

Grade 4 is functionally the same as Grade 3, but multiplication and division goes up to 1024 (the square of 32).

Grade 5

In Grade 5, students can interact with negative sums, so they have access to addition and subtraction from -1001 to 1001. Additionally, they can multiply and divide positive numbers up to 1024.