Tynker Quick Start Guide for Parents

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Welcome to Tynker!

At Tynker, we're committed to empowering the next generation of makers with a foundation in coding and computational thinking. We know that these skills will be incredibly valuable to them in a wide range of 21st century careers and as a way to support critical thinking and problem-solving in everything they do.

For most of a child's education, how they learn is just as important as what they learn. That's why Tynker is focused on crafting a fun, game-based curriculum that teaches kids to code at their own pace with interactive lessons and creative projects.

Scenario & Story-Based Learning

Tynker presents coding as a way to solve scenario-driven challenges, like programming a dragon through a series of obstacles to collect treasure, rather than mere concepts that kids must learn.

Our interactive approach introduces programming concepts as kids build mini-games, solve puzzles, create coding projects, complete daily missions, earn exciting badges, and unlock new characters.

This is why kids love learning with Tynker – even though they're mastering important programming concepts, they feel like they're just playing a game.
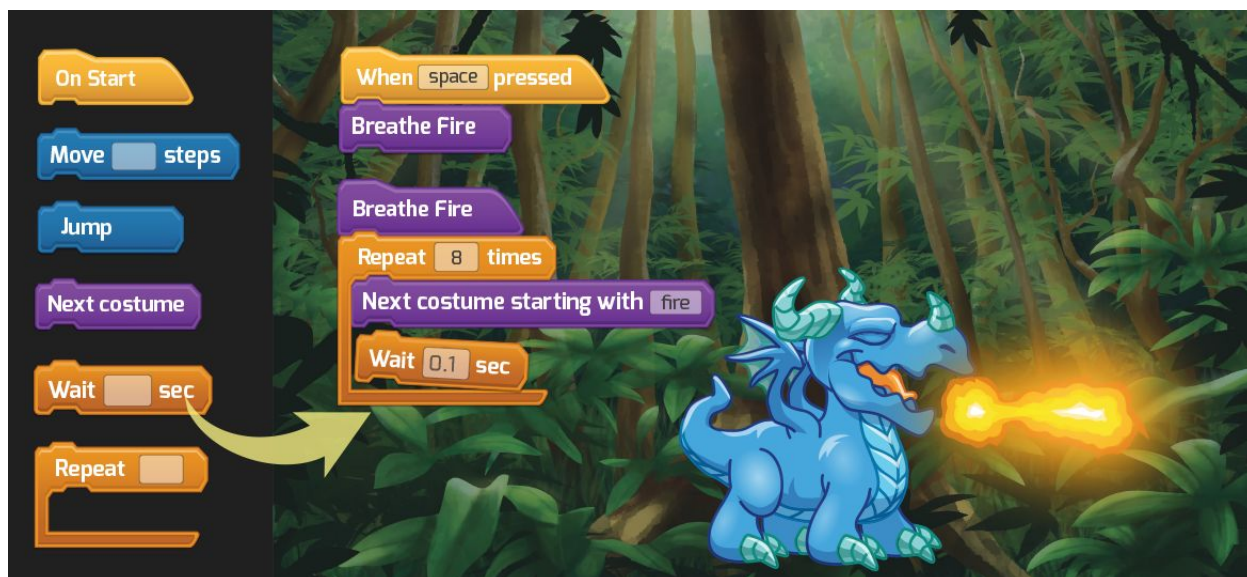
We start kids with block coding, which allows them to learn the fundamentals of programming and make incredible creative projects without the difficulty of syntax.

When they're ready, kids can start experimenting with text syntax in their block-based activities by switching between visual code blocks and JavaScript/Python code blocks.

Finally, once kids have a solid understanding of programming concepts and are becoming familiar with syntax, they can switch to full text programming, where they'll begin typing out their programs in JavaScript and Python.

As kids get engaged with Tynker's activities, you'll watch them create animations, make Minecraft mods, and even design their own games. We hope that they'll enjoy learning to create with code and embark on a lifelong journey of curiosity and innovation.

Getting Started

To get started with Tynker, just set up an account for each child on **tynker.com** and give them their login information.

Tynker is browser-based, so you don't need to download anything on a desktop computer or laptop (an Intel i7, 4GB RAM, and a 2MBps internet connection work fine).

If you have an iPad, please download our apps from the App Store.
- **Tynker** - Build games, control robots, program micro:bit and more
- **Tynker Junior** - Icon coding for pre-readers
- **Mod Creator** - Mod Minecraft and deploy your mods into Minecraft on iPad

If you created your Tynker parent and child accounts on the web, sign in to apps with the same accounts. If you purchased a web plan, you'll be able to access all the courses on the apps.

If you purchased a plan through the app, please make sure that you follow through and create an account on the tablet where you made the purchase, so that your in-app purchase is linked to an account on Tynker.

Your parent dashboard allows you to track your child's progress as they complete activities and provides answer keys, FAQs, and subscription management options. If you have any additional questions, just contact us at support@tynker.com.

Each parent account can be linked with several child accounts. However, we don't currently support multiple parents having access to all the child accounts.

If your child already has an account on Tynker, you can link that account to your parent account. If your child has a gmail account, we'll have to link it for you.

How Kids Learn with Tynker

Kids begin experimenting with visual coding blocks to understand the basics – such as sequencing, logic, and functions – as they design games, build apps, and make incredible projects. Then, when ready, they can progress to learning programming languages like JavaScript, Swift, and Python.

Step 1: Understanding the basics
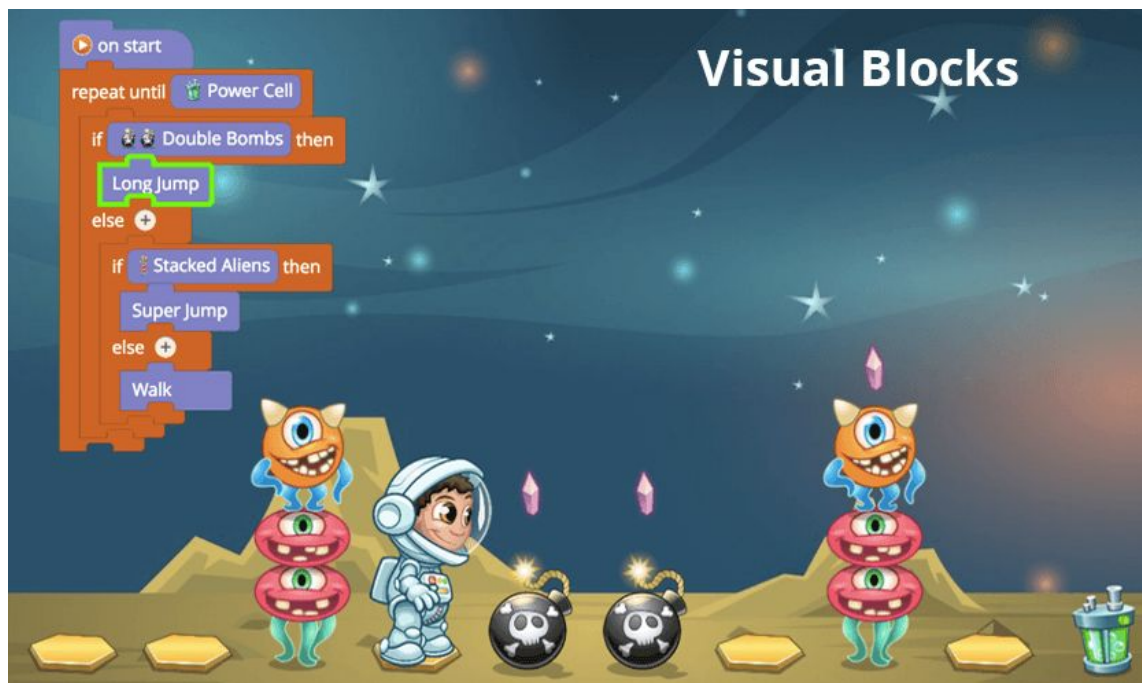
In our block coding courses, kids learn programming fundamentals, including sequencing, decomposition, pattern recognition, conditional logic, functions, and variables.

The power of Tynker is that kids don't even realize they're learning these concepts. They're just having fun solving challenges, like programming Gus the astronaut to gather all his belongings and navigate his spaceship home. Meanwhile, these types of puzzles are actually teaching them important computational thinking concepts and programming constructs.

Although languages like JavaScript and Python are essential for a career in computer programming, it can be frustrating to understand computational logic while mastering syntax. Any mistake in punctuation or spelling will result in an error, and it's difficult for beginners to spot these errors. That's why we start kids with block-based coding, so they can get hooked on the creativity and logical fun of programming before encountering syntax.

Step 2: Getting creative with code

Kids can choose a learning path with Tynker based on their own interests, which will allow them to express their creativity through coding.

We provide courses and tutorials to guide kids through the fundamentals they'll need to complete amazing projects.

With block coding, kids can:
- Build animation and storytelling projects
- Discover coding through music and art
- Create mobile apps and games
- Program drone flight paths and deliveries

- Explore robotics with Lego WeDo, and other connected toys
- Develop hardware projects with micro:bit
- Design 3D games and mods for Minecraft
- Create advanced projectile games using Tynker's physics engine
- Get a deeper understanding of math and science concepts with code
- Connect with internet web services to create dynamic, useful programs
- And much more!

Step 3: Get Familiar with Text Syntax

As kids complete puzzles with draggable text code, they'll see how their block code looks in a real programming language like Swift, JavaScript, and Python while still avoiding syntax errors.

Here's the same coding challenge, but switched to the Python block mode:

All Tynker courses allow kids to see their code in JavaScript and Python blocks as they complete puzzles, so they can start the transition whenever they're ready.

The fundamental programming concepts are very similar in most programming languages. By the time kids start typing out their own code in JavaScript and Python,

they'll already understand how the visual Tynker blocks they've been using correspond to real syntax.

Step 4: Dive into JavaScript and Python

By this point, kids are confident enough in their coding abilities to understand complex programming constructs. Plus, they're familiar with JavaScript and Python syntax.

Now, they can complete the transition with Tynker's JavaScript and Python activities and courses. In these courses, kids can ease into the challenges of text coding, like learning a new syntax and using the HTML canvas, while still enjoying our fun, gamified activities.

Our advanced courses are tailored for students who have completed introductory visual programming courses on Tynker and want to advance to text programming.

In Python 2, they will start with simple input-output statements and conditional logic, then progress to using more complex data structures to build algorithms.

With hands-on coding practice, kids learn to design, build, and debug programs – skills that any programmer needs to solve real-world problems. Those who successfully complete this lesson plan will demonstrate a strong mastery of Python syntax and

functionality, as well as the ability to independently solve more advanced coding problems.

With Tynker, kids get a head-start in computer programming in a way that's fun and intuitive, while preparing them to join the next generation of professional coders.

Age-based Learning Path

Your child can select the appropriate course based on interest and level of difficulty from their dashboard. We usually recommend starting with one of the introductory courses listed below before exploring other courses.

Age Group	Platform	Recommended Learning Path
Ages 5-7 Pre-readers and early readers	Tynker Junior App Tynker App tynker.com	**Complete 5 icon-coding adventures** 200+ coding challenges in Ocean's Odyssey, Robots!, Wild Rumble, Puffball panic, and Super Squad. **Create coding projects in 5 Maker Studios** 18+ creative coding tutorials in Art, Music, Animation, Greeting, and Game Studios. **Block Coding in the Tynker app or Tynker.com** Explore Space Cadet, Candy Quest, Lazer Racer, and other courses, which offer voice instructions
Ages 8-13 Elementary and middle school	Tynker Mod Creator tynker.com	**Ages 8-9:** Start with Ada's Adventure or Glitch Manor. Then complete Star Runner. **Ages 10-11** Start with Turing's Tower, then complete Cannon Crasher. **Ages 12-13** Start with Goblin Quest, then complete Gravity Sling and Ninja Runner. **Advanced Users** Complete JavaScript 1, Web Dev, and Python 1.

Ages 14+ High School	tynker.com	**Python Path** Python 1, Python 2 **JavaScript Path** JavaScript 1, Processing (coming in fall 2020), and Web Dev with HTML & CSS.

Interest-Based Learning Paths

Your child can select a programming level and course track from the Settings (Gear icon) area of their dashboard. This configures the dashboard to match all their activities to their programming level and interests. Students can change these options at any time. Currently, kids can choose from 6 amazing tracks:

Track 1: Art and Music
Perfect for art and music lovers, this track is a way to pursue interests in storytelling, animation, and music while reinforcing problem-solving, critical thinking, and STEM skills.

Track 2: Minecraft Modding - Windows 10 & iPad
Designed for Minecraft lovers, this track introduces an easy visual approach that turns your child's enthusiasm for Minecraft into a lifelong interest in learning and making.

Track 3: Game Design
Kids learn what it takes to make their own video game worlds as they play immersive adventures and layout 2D game worlds, while designing players, opponents, and game controls.
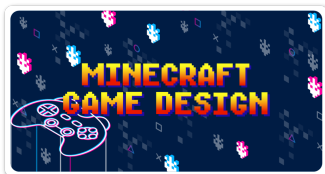
Track 4: Minecraft Game Design - Java
Modding! It's kind of a big deal. Kids can quickly create and deploy Minecraft mods on their own private Minecraft Java Edition server and play with friends.
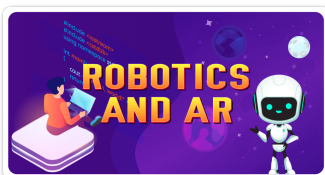
Track 5: Robotics & AR
Real-world programming engages and challenges kids in new ways as they use micro:bit, LEGO WeDo, sensors, and drones to engineer their creations to life.

Track 6: Advanced Coding
Kids learn to create their first programs using Python, JavaScript and HTML as they solve game-based puzzles, and complete hundreds of online exercises.

In addition, Tynker offers seasonal projects, community challenges, coding competitions, hundreds of puzzle levels, and great do-it-yourself projects!

Minecraft, Robotics, and More!

Minecraft Modding

For kids who are especially interested in building mods and creating add-ons for Minecraft, we have two Minecraft modding tracks in which kids will learn code, gain computational thinking skills, and write programs.

The Minecraft modding path is a bit more difficult and delves into multiplayer games, constructing structures in a three dimensional coordinate space, and more. However, kids can ease into it by deploying a few simple mods before trying the more complex aspects.

Tynker supports different kinds of modding based on the Minecraft client platform with separate instructions for each version.

1. If you're using **Minecraft for PC/Mac** (also referred to as the "Java version"), then Tynker lets you create your mods in Tynker Workshop and deploy them in a Private Minecraft Server. You can connect to this server at mc.tynker.com from your Minecraft client.

2. If you're using **Minecraft for Windows 10** (also referred to as the "bedrock version"), then there are two types of creations that you can do:
    a. Add On: If you create a Mob Add-on with new behaviors using Tynker Resource Editor, you can install a Resource and Behavior Pack into your Minecraft client.
    b. Mod: If you create a code mod using Tynker Workshop, you can use "/connect" on your Minecraft client to connect to the mod and run it.

3. If you're using the Tynker app, #2 is supported, and you can deploy the mods or add-ons into the **Minecraft App on your iPad**.

For more detailed information, please review our Modding Guide.

Controlling Drones

Stunt Pilot is a course that offers a straightforward approach to get kids flying drones in minutes, with no prior experience necessary.

With 10 scaffolded chapters, this course introduces kids to safe and fun drone-flying while also teaching programming concepts.

Sample missions include programming a drone's flight path, executing flips and turns, coding games such as Flappy Drone, and taking an aerial photo to share with friends.

To get started, you'll just need a Parrot Minidrone and the Tynker app.

Programming LEGO WeDo

The WeDo Coding course allows kids to explore all sorts of interesting activities with LEGO WeDo! They can integrate it with web services, pair it to interact with other devices, use the WeDo as a controller for virtual games, and much more.

The Lego WeDo course has 11 engaging chapters with 64 coding activities; introducing coding through interactive lessons, concept explanations, videos, puzzles, quizzes, and DIY projects.

Kids will write block-based programs that integrate the WeDo SmartHub with the environment so that as they code, kids will learn important STEM concepts and create awesome projects!

To get started, you'll just need a LEGO WeDo Educational kit and the Tynker app.

Programming micro:bit

Learn to code the micro:bit, a tiny programmable computer with built-in sensors, LED array, and Bluetooth. Hands-on learning engages kids as they see their abstract programs come to life on a tangible physical device.

Students will use code to program physical buttons, display messages on the micro:bit, animate the LEDs, simulate dice and coin flips, and detect gestures and shakes.
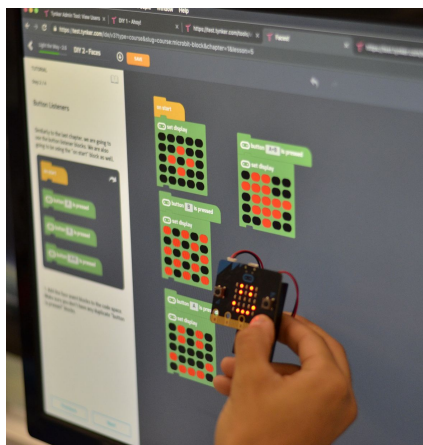

The lesson plans in this course build and reinforce engineering, math, and science skills, while applying programming concepts such as repetition, events, conditional logic, variables, and functions with a physical computing device.

More advanced students who are familiar with Python can enroll in MicroPython 101 where they'll use MicroPython, a Python-like text-based programming language to program micro:bit.

To get started, you'll need a micro:bit device, which you can purchase from a variety of resellers. Micro:bit programming is supported online as well as on an iPad through the Tynker app.

Parent Dashboard

From your Parent Dashboard, you can follow your child's progress, manage your subscription, and view and share your child's creations. The Family Portal allows you to manage all the accounts in your family.
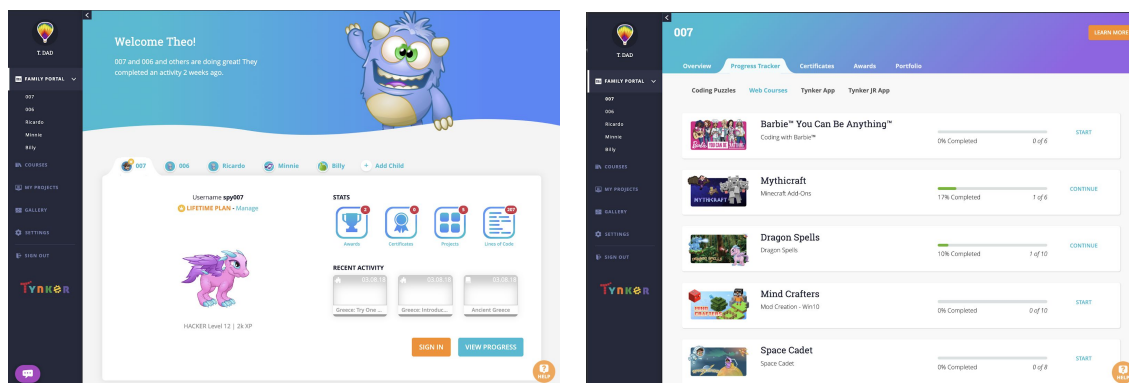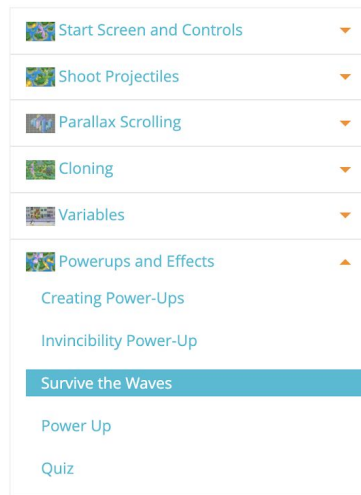

Answer Keys

The parent dashboard has answer keys, including puzzle solutions and sample projects for all the course activities. Just select Courses in the left navigation bar and select the Answer Keys tab, then click on the course and chapter to see the solution.

Accounts and passwords

Add or delete child accounts from the Settings area. Since Tynker doesn't need emails from minors, you can manage the passwords for your child accounts, unless your child account is linked to Google or Microsoft.

Managing your subscription

You can cancel your subscription by selecting the **Manage** link next to your child's plan. You'll continue to have access through the duration of your plan, but your subscription won't renew.

You can upgrade your subscription to get a modal popup that describes your exact upgrade options, so that you only pay the difference by using the residual amount from your current plan.

Child account setup

Your child's Tynker account will have several identifiers; their name, username, and a public nickname. They'll sign in to Tynker with their username. However, we won't display your child's name or username on any public project that they publish. Instead, the public nickname will be used, so please set up an anonymous nickname for your child.

Tips on security and online safety

Tynker is compliant with several security standards including the Children's Online Privacy Protection Act (COPPA), General Data Protection Regulation (EU GDPR),

California Consumer Privacy Act (CCPA) and is committed to adhere to upcoming privacy laws.

When you sign up and start using Tynker, we create a personal account for you and your child. Your child's progress and project activity are private and only visible to you and your child. Here are some tips on the security of your account.

Choosing a secure password

Keep your password a secret from everyone, except your parent or guardian. Not even your best friend should know your password!

A secure password is one that other people can't guess. Choose a password that's at least 8 characters long. Use a combination of numbers (1234), letters (abcde), CAPITAL letters, and symbols (!@#$). Don't use your birthday, name, address, or school name.

Progress Reports

Tynker sends you a progress report via email when your child achieves a milestone or shares one of their projects with you. If you don't want to receive these emails, use the option under Settings to disable progress reports.

Community Access

Tynker has a thriving community, where kids publish projects in a safe forum, moderated by Tynker. Not only does the Tynker community motivate and inspire kids to code, but it also helps them learn! When we ask kids how they learned to use Tynker, they almost always cite the Tynker community.

However, if you would like to disable community viewing and publishing for your child, you can choose the option under Settings, turning off their access on the web and Tynker app.

Sharing Tynker Projects in your Gallery

When you sign up and start using Tynker, we create a personal account for you. Your progress and your projects are private and not visible to anyone. Parents can choose to share a Tynker project with friends and family via email and social networks such as Facebook, Twitter and Google Plus.

You can also publish a collection of these projects into a Gallery. When projects are shared, they become public and people who have access to the project link will be able to view the project. You can manage the privacy settings of a Gallery.

Keeping your Personal Information Safe

Personal information includes your real last name, email address, login user name, home address, and phone number. Never give your real name, address, or telephone number to anyone. To be safe, you should never use personal information when you are choosing your username or password.

Privacy Panel

The Privacy panel under Settings allows you to view all your information on Tynker. You can download or delete this information at any time. We strive to create the safest environment for our users. Please read our Privacy Policy to know how this information is used at Tynker.

Tips to Keep Kids Motivated

Tynker programming courses are self-guided and self-paced, but there are always things you can do to make your child's coding experience more successful and fun.
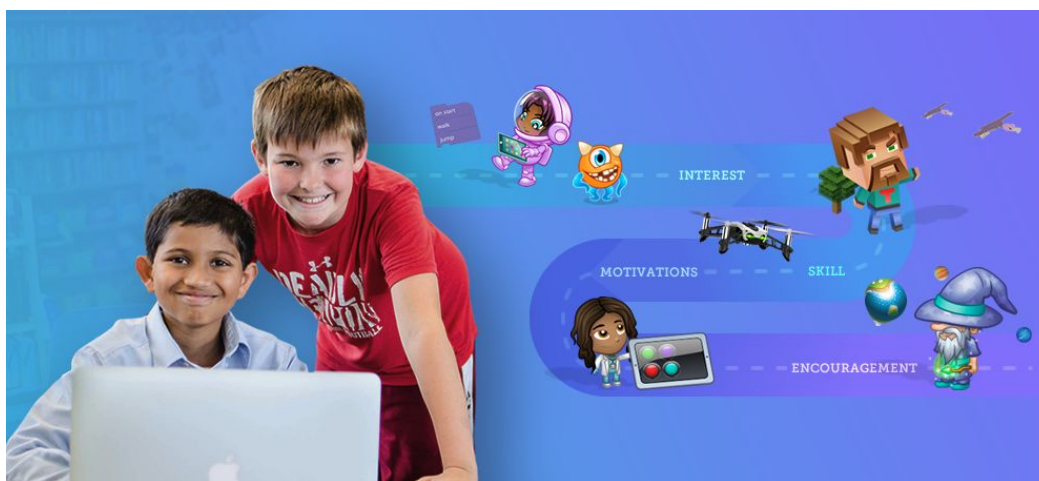
We talked to a few parents whose kids have completed multiple Tynker courses to get an idea of how they helped to keep their children engaged and learning. Here's what they recommend:

1. Choose a track

We've seen a lot of success when young coders start with a track that matches their interest. If they like art, music, computer games, or Minecraft, we have separate tracks for those. For example, if your child has a passion for Minecraft, our two modding tracks are a great place for them to get a taste for Minecraft modding.

2. Celebrate milestones

To finish a Tynker course or publish a big project, your child had to persevere through challenging bugs and complicated concepts. Make sure you celebrate this moment! Recognizing your child's effort and hard work can motivate them to continue coding and creating.

3. Learn from others

Tynker is even more fun with a friend. Collaborating on projects with friends can be a great way to problem solve or generate new ideas through brainstorming. You can also sign in on the free Tynker app for iPads and Android tablets and go to the "Community" section to browse what other kids are making. Your child can do far more than just play these projects; they can also open up the code and see how the projects work. New projects are published every few minutes, so check back often to see what's new!

4. It's Tynker time!

Whether you choose to work with your kids or let them learn on their own, try to develop a routine. If programming becomes a habit, that's what will stick. Starting with 20 minutes of Tynker a day can help keep concepts fresh in your child's mind and get them in the rhythm of programming. Some parents like to designate one or two days a week to spend time on Tynker. You could have Tynker Tuesday!

5. Let them teach you

Why should kids have all the fun? Once your child is comfortable with Tynker, let them step into the role of teacher and school you on programming. They could walk you through the code of a project they've made, go through a lesson with you and explain how it works, or help you make your own project.

6. Use Tynker's incentives to motivate your child

Encourage your child to earn new badges and certificates and level up on Tynker. Whenever they complete a chapter or share a creation with you, you'll get an email to celebrate their success. Congratulate them on these achievements and motivate them to create more!

- **Collect Badges -** Your child will collect cool badges as they progress through the lessons, motivating them to complete more!
- **Earn XP and Level up -** Kids level up by earning XP points as they complete lessons, solve puzzles, and build their own projects.
- **Earn Certificates -** Your child can earn printable certificates for their achievements in Tynker.

Getting Help

If you have any issues or questions, just send us an email at support@tynker.com.

Tips for contacting support:
1. Let us know what browser, operating system, and device you're using.
2. If your question is about a specific lesson, specify which course and lesson.
3. If your question is about a specific account or project, let us know the username and project name.
4. If applicable, provide us with a screenshot of what's going wrong.
5. If you're receiving an error message, tell us which one.

Thanks for using Tynker!