Scratch is a free programming language made especially for kids and anyone else who wants to learn to boss computers around. Scratch builds programs out of command blocks that fit together like Lego pieces. Each of these pieces tells you what it does, and the shapes show you how they fit together. You can use Scratch to make games, cartoons, dancing birthday cards, virtual paper dolls, music videos, moving art, mazes, photo galleries, and all kinds of other fun projects.
Meet the Inventor!
Scratch was invented by Mitch Resnick and his friends at the MIT Media Lab. We sent Ace Reporter Marvin to ask him some questions.

Where did you get the idea for Scratch?
A group of us from MIT worked with teens at an after-school community center called the Computer Clubhouse. They wanted to create their own games and animations, but they couldn’t find any good software to do it. So we decided to create Scratch to help them.

How do we make them move?
• Snap together
• Make your fish move

Can’t we just write in the rules — big fish eat little fish?
A program for every fish... weird.

Computers don’t work like that. In a computer game every piece that moves has its own instructions.

Let’s start with the big fish. This will make it move.

And go where I point the mouse?

If we add this it will keep following the mouse, not just do it once.

I bet this makes it start when you click the green flag.

art © 2013 by Amanda Shepherd

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Who's the Boss? You!
Many Scratchers start by exploring projects other kids have made. If you spot one that looks interesting, open it up to see the program blocks that make the game work. Unlike other computer games, in Scratch if you don't like the rules or have an idea to make the game better, you can change it. Double the scoring! Make the fish different colors! Speed it up! Add a zebra, or a party horn sound, or a picture of yourself! Go wild!

THAT WORKS! THE BIG FISH FOLLOWS THE MOUSE!

NOW FOR THE SMALL FISH. LET'S MAKE IT SHOW UP AND POINT RIGHT.

AND THEN CHANGE DIRECTION EVERY TWO STEPS.

SNAP THOSE TOGETHER AND ADD A FLAG BLOCK TO MAKE IT START!

WAIT!! AAAGH! IT'S SWIMMING OFF THE SCREEN!!!

I ALWAYS DO EXACTLY WHAT I'M TOLD.

YOU NEVER TOLD ME TO STOP!

TRY ADDING THIS. THAT SHOULD FIX IT.

WAIT!! AAAGH! IT'S SWIMMING OFF THE SCREEN!!!
Isn’t it cheating to copy other people’s games?

It’s OK to copy other people’s projects as long as you add something new and give credit for the parts that you copied. Often, the most creative projects are collaborations, when one person adds to the work of someone else.

What would you like kids to do with Scratch?

I want kids to let their imagination run wild. I’m always excited when kids create Scratch projects that I never imagined.
ADD ANIMATION

Wouldn't it be cool if the big fish closed his mouth when he ate the little fish?

How do we do that?

I get it—we tell it to switch costumes when the blue teeth touch the orange fish! And then switch back! Chomp!

I wonder what this button does? Hey, look! It makes more copies of the little fish. Cool!

So it's eaten three fish and now they're all gone. That's a short game! Hmm . . . Let's add this to make the small fish show up again at a random place after it's been eaten, so it looks like a new fish. Now we have endless fish!

Share and Share Alike

Sharing is a big part of Scratch. That means sharing the games you've made—and also your ideas for how to put the blocks together. No one owns the way to do something. Everyone benefits if good ideas are shared around—everyone's programs get better, and so does Scratch.

And if you get stuck, there's lots of other Scratchers to ask! So what are you waiting for? Jump right in!
What were you like as a kid?

As a kid, I loved playing sports—and creating new games. I built my own miniature golf course in my backyard. But when I was growing up, there were no computers in homes or schools. The first time I used a computer was in high school.

What would you like to say to the future Scratch community?

Keep on Scratch! I can't wait to see what you create with Scratch!

You can find Scratch and play Bit and Byte's game at scratch.mit.edu. Scratch is a project of the Lifelong Kindergarten at the MIT Media Lab.