

SKILLED FUTURES IN TECHNOLOGY


CREATE YOUR OWN ANIMATION

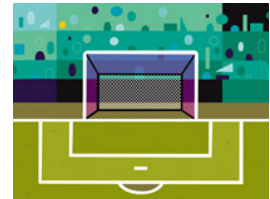
Time to test your skills and create your very own animation!


Tools and supplies you need: Computer, Wifi, and your imagination

Directions:

Step 1 - Visit www.scratch.mit.edu and click "Create" at the top of the screen.

Step 2 - Select a backdrop by clicking on this icon  on the bottom right corner of the screen. Pick the backdrop you like best. Chris selected "Soccer."



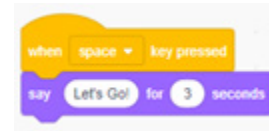
Step 3 - Next it is time to select your character (called a Sprite in Scratch) by clicking on this icon  that is right beside the backdrop icon. Chris selected "Ben" and "Soccer Ball."



Step 4 - Select your Sprite and then delete Scratch the Cat if you don't want him in your scene.

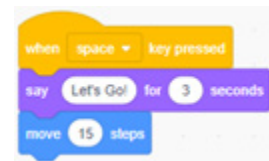
Step 5 - It's time to code your Sprite. Let's make your Sprite say something. To start your code building block tower, select an "Event" building block (yellow circle on the left side of your screen). Drag your code building block to the working screen. Chris selected "when space key pressed"

Step 6 - Next select a "Looks" building block (purple circle on the left side of your screen) Chris selected "say Let's Go! for 3 seconds." Drag the block to your coding working screen and connect to your first building block.



Step 7 - Now it is time to animate your Sprite. To see the different programmed movements for your Sprite, click on the "Costumes" tab at the top of the page.

Step 8 - Next select a "Motion" building block (blue circle on left side of your screen). Chris selected "move 15 steps."



What would you like your Sprite to do next?

Step 9 - Select another "looks" building block. You could make your sprite grow to be a giant by changing it's size the sky is the limit. Chris wanted Ben to shoot a penalty shot so he selected "switch costume to ben-b" to make his sprite kick the ball.



Did you pick more than one sprite like Chris did? If so, lets animate your other sprite. Click on the next sprite you want to animate in your storage box. Chris wanted the soccer ball to move towards the net when Ben kicked it so he counted how many seconds it took for Ben to kick the ball. It takes Ben 18 seconds to kick the ball.

Step 11 - Chris started the code for his soccer ball the same way he started the code for Ben, by selecting "when space key pressed"



Step 12 - To make his ball wait Chris selected "Control" and found the building block that makes the ball wait and changed the number of seconds from 1 to 18.



Step 13 - Next step is to give the soccer ball a motion to move in. Chris selected for Ben's ball to move ahead 30 steps.

GOAL!!!

Do you want to share your animation for a chance to win a prize?

Take pictures or video of your creation and share them with us on Facebook and/or Instagram by including #SkilledFutures in your post and tagging @SkillsNS.

Happy coding!

Career Connections

This activity can be connected to the following careers:

Cloud Programming Engineer
Computer Programmer
Computer Systems Analyst
Computer Systems Engineer
Data Engineers
Database Developer
Game Programmer

Mobile Developer
Network System Administrator
Robotics Engineer
Software Application Developer
Software Engineer
Web Developer

SKILLED FUTURES VIRTUAL EXPERIENCE IN TECHNOLOGY

CURRICULUM OUTCOME CONNECTIONS

The Skilled Futures Virtual Experience has been confirmed with representatives from the Department of Education & Early Childhood Development to connect with the following curriculum outcomes:

Fundamentals of Technology 7-9 Threading Outcomes

GCO 1: Students will be expected to design, develop, evaluate, and articulate technological solutions.

GCO 3: Students will be expected to demonstrate an understanding of the history and evolution of technology, and of its social and cultural implications.

Grades 7 -9: Students will be expected to ...

5.1 work independently, co-operatively, and collaboratively to solve technological problems

5.2 demonstrate an awareness of ethics and environmental responsibility in technological decision making and work habits

5.3 demonstrate preparedness for technological problem solving

5.4 demonstrate safe and healthy practices with regard to materials, processes, and equipment

5.5 document the design process

5.6 independently demonstrate appropriate application of skills learned

5.7 demonstrate measuring skills with accuracy and precision

5.8 communicate ideas using 2-D and 3-D technical drawings and sketches

5.9 use appropriate language and terminology as applied to technology education

5.10 investigate connections among technology education, STEM (Science, Technology, Engineering, and Math), and careers

Communications Technology

GCO 4: Students will be expected to demonstrate an understanding of the consequences of their technological choices.

Grade 7: Students will be expected to ...

1.1 interpret a plan to solve communications technology problems

1.2 create solutions to communications technology problems using given media

Grade 7 continued...

- 1.3 evaluate their design solutions, redesigning as necessary
- 1.4 modify a variety of given communications technology media to solve a design problem
- 1.5 identify target audiences
- 1.6 identify principles of design

Grade 8: Students will be expected to ...

- 1.1 modify a plan to solve communications technology problems
- 1.2 create solutions to communications technology problems using a variety of media
- 1.3 evaluate their design solutions, redesigning as necessary
- 1.4 demonstrate effective use of a variety of communications technology media
- 1.5 characterize target audiences and determine effective medium
- 1.6 apply principles of design

Grade 9: Students will be expected to ...

- 1.1 develop a plan to solve authentic communications technology problems
- 1.2 create solutions to authentic communications technology problems
- 1.3 evaluate their solutions to authentic communications technology problems
- 1.4 create and manipulate a variety of communications technology media to solve a design problem
- 1.5 determine criteria for specific target audiences
- 1.6 apply principles of design
- 1.7 present a solution and rationale to a target audience using a given medium

Innovations and Inventions

GCO 2: Students will be expected to operate and manage technological systems.

Grade 7: Students will be expected to ...

- 3.1 interpret a plan to develop a system
- 3.2 create a model or prototype of an existing invention
- 3.3 differentiate the components of simple technological systems
- 3.4 examine and communicate the importance and impact of invention and innovation
- 3.5 develop improvements to an existing product
- 3.6 investigate the manufacturing process of a product
- 3.7 engineer a prototype to solve a design challenge

Grade 8: Students will be expected to ...

- 3.1 modify a plan to develop a system
- 3.2 create a model or prototype of an existing invention
- 3.3 explain a complex system in terms of its subsystems
- 3.4 examine and communicate the importance and impact of invention and innovation
- 3.5 develop improvements to an existing product

Grade 8 continued...

- 3.6 document the life cycle of a manufactured product
- 3.7 employ control systems to regulate processes
- 3.8 diagnose and repair malfunctioning systems

Grade 9: Students will be expected to ...

- 3.1 design and construct a system incorporating simple machines that will initiate a series of events
- 3.2 design an adaptation for an existing product that solves a new need
- 3.3 explain a complex system in terms of its subsystems
- 3.4 evaluate the impact of invention and innovation
- 3.5 develop improvements to an existing product
- 3.6 hypothesize and investigate how products are manufactured
- 3.7 employ control systems to regulate processes
- 3.8 reverse-engineer a product to explain its inner workings

Production Technology

GCO 5: Students will be expected to demonstrate an understanding of current and evolving careers and of the influence of technology on the nature of work.

Grade 7: Students will be expected to ...

- 4.1 demonstrate an understanding of all safety features of production technology machines and equipment used to solve design problems
- 4.2 demonstrate safe and effective use of a variety of production technology tools and processes
- 4.3 demonstrate an understanding of safe management of wood dust
- 4.4 interpret a plan to solve production technology problems
- 4.5 construct solutions to production technology problems
- 4.6 evaluate solutions to production technology problems
- 4.7 safely use basic hand tools, power tools, and equipment to create a product that solves a design problem
- 4.9 use fasteners to combine materials
- 4.10 use environmentally friendly finishing techniques to enhance the esthetics or functionality of a product

Grade 8: Students will be expected to ...

- 4.1 demonstrate an understanding of all safety features of production technology machines and equipment used to solve design problems
- 4.2 demonstrate safe and effective use of a variety of production technology tools and processes
- 4.3 demonstrate an understanding of safe management of wood dust
- 4.4 modify a plan to solve production technology problems
- 4.5 construct solutions to production technology problems
- 4.6 evaluate solutions to production technology problems

Grade 8 continued...

- 4.7 safely use a variety of hand tools, power tools, and equipment to prepare stock
- 4.8 construct an aesthetically pleasing finished product that solves a design problem
- 4.9 use a variety of fasteners to combine materials or assemble a product
- 4.10 use environmentally friendly finishing techniques to enhance the esthetics or functionality of a product

Grade 9: Students will be expected to ...

- 4.1 demonstrate an understanding of all safety features of production technology machines and equipment used to solve design problems
- 4.2 demonstrate safe and effective use of a variety of production technology tools and processes
- 4.3 demonstrate an understanding of safe management of wood dust
- 4.4 develop a plan to solve authentic production technology problems
- 4.5 construct solutions to authentic production technology problems
- 4.6 evaluate solutions to authentic production technology problems
- 4.7 safely use production equipment and machines to process materials
- 4.8 work with real-life clients or situations to solve production related problems within school or community environments
- 4.9 use a variety of fasteners to combine materials or assemble a product
- 4.10 use environmentally friendly finishing techniques to enhance the esthetics or functionality of a product