

SCRATCH

FAMILY BONDING FLASHCARD



ONLINE HUB
EDUCATIONAL
SERVICES

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ABOUT THIS GUIDE

This guide was developed by Online Hub Educational Services, a cohort-2 (2022-2024) member organization of the Scratch Education Collaborative (SEC).

The Family Bonding Flashcard (FBF) game using Scratch is a conversation starter resource to help spark up in-depth parent-child conversations. The Family Bonding Flashcard (FBF) is created with parents and kids/learners including their teachers in mind.

This guide shows them how to make a project in SCRATCH that encourages family bonding activities. Each flashcard contains discussion points / critical thinking questions to help build a child's oral communication and language abilities. The FBF is available online [<https://onlinehubng.com/scratch>] and offline (printed booklet) for learners and kids who do not have access to internet facilities to engage in project building remotely.



ABOUT THIS GUIDE (CONT'D)

This Family Bonding Flashcard also contains instructions to create a Scratch project, but the project ideas focus mainly on engaging the whole family in family bonding activities. And it details discussion prompts for kids and their families to discuss at home or when the kids are in school with their teachers.

The FBF resource is also aimed at fostering emotional intelligence, intrinsic motivation, and human social development beginning with attachment in infancy through creative coding using Scratch. Overall, using Scratch to create a family bonding flashcard game is a fun and educational activity that would help strengthen bonds within the family structure.





ABOUT SCRATCH

Scratch is a free coding language and online community where you can create your own interactive stories, games, and animations – and share your creations with others around the world. As young people create and share Scratch projects, they learn to think creatively, reason systematically, and work collaboratively.



Scratch is used in hundreds of thousands of schools around the world and across many different subject areas. Scratch is a project of the Scratch Foundation, in collaboration with the Lifelong Kindergarten Group at the MIT Media Lab. It is available for free at:

<https://scratch.mit.edu>

ABOUT SCRATCH EDUCATION COLLABORATIVE

The Scratch Education Collaborative (SEC) is an initiative that supports and engages participating organizations from around the world in a two-year, collaborative cohort experience to strengthen their organization's commitment to, and implementation of, equitable creative computing.



SEC participants engage in a series of collaborative learning experiences that are co-developed and co-facilitated by Scratch and SEC partner organizations as they work to create a self-sustaining community of practice and establish models for equity-centered creative computing resources. Read more here:

<https://sip.scratch.mit.edu/sec/>

ABOUT ONLINE HUB EDUCATIONAL SERVICES



Online Hub Educational Services [aka @OnlineHubNG] a digital education provider, is Nigeria's foremost Digital Content Platform. We empower learners and educators by providing them with courses, and workshops to educate and encourage professionals in the tech-based industry.

As a social enterprise, we are passionate about identifying talented minds and guiding them through innovative training, tech-talent deployment, and sustainable solutions development in Ogun State, Nigeria.

Part of our mission is to help organizations, as well as small and medium-sized enterprises (SMEs), thrive online because we believe that every business in Nigeria should have an online hub.



ABOUT ONLINE HUB EDUCATIONAL SERVICES (CONT'D)

If you create an online hub for your business, an online space where you manage the look and substance of that space, you can maintain it and manage it to respond to any changes to computed analytics, algorithms, or human fads.

We work with small, medium, and large organizations or autonomous product groups within larger organizations. Our projects include: Strategy Development and Execution, Digital Content Development, Digital Skills Consultation, Training, and Mentoring.

At Online Hub Education Services, we look forward to helping you thrive online. If you'd like to get updates on our programs, visit: <https://onlinehubng.com/> and follow us **@OnlineHubNG** across social media platforms.



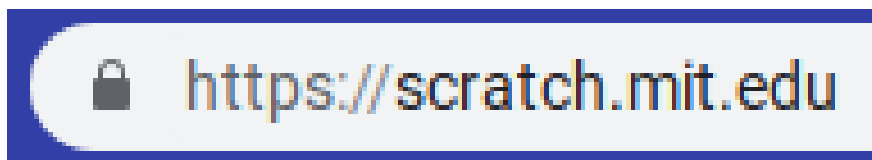
LESSON 1

INTRODUCTION TO SCRATCH

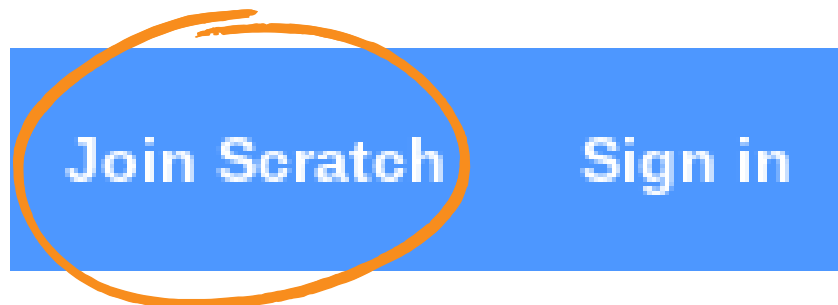
Module 1: Setting up a Scratch account

To start with Scratch, you must create a Scratch account. Here's how to do it:

Go to the Scratch website (<https://scratch.mit.edu/>)



Click on the "Join Scratch" button in the top right corner of the page.



LESSON 1

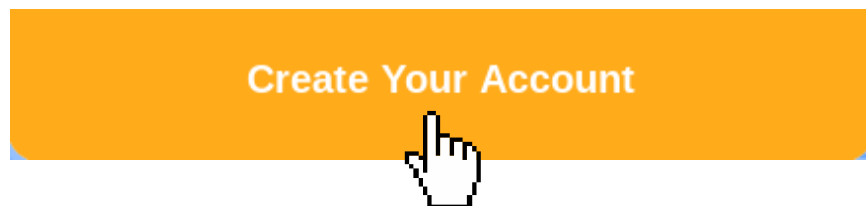
INTRODUCTION TO SCRATCH

Module 1: (Cont'd)

Fill out the registration form with your username, password, and other required information. Make sure to use a username that you want to be known by in the Scratch community, as this will be visible to other users.

Read and agree to the terms of service and privacy policy.

Click the "**Create Your Account**" button to complete the registration process.



LESSON 1

INTRODUCTION TO SCRATCH

Module 1: (Cont'd)

You can also download Scratch on your personal device for offline usage.

To do that, go to:

<https://scratch.mit.edu/download>

Select your device type

Choose your OS:



Follow the steps shown and install on your device.

LESSON 1

INTRODUCTION TO SCRATCH

Module 2: Understanding the Scratch interface interface

Once you have created a Scratch account and logged in, you will see the Scratch interface.

Here's what each part does:

The Toolbar: This is located at the top of the page and contains buttons for common actions such as saving, testing, and sharing your project.

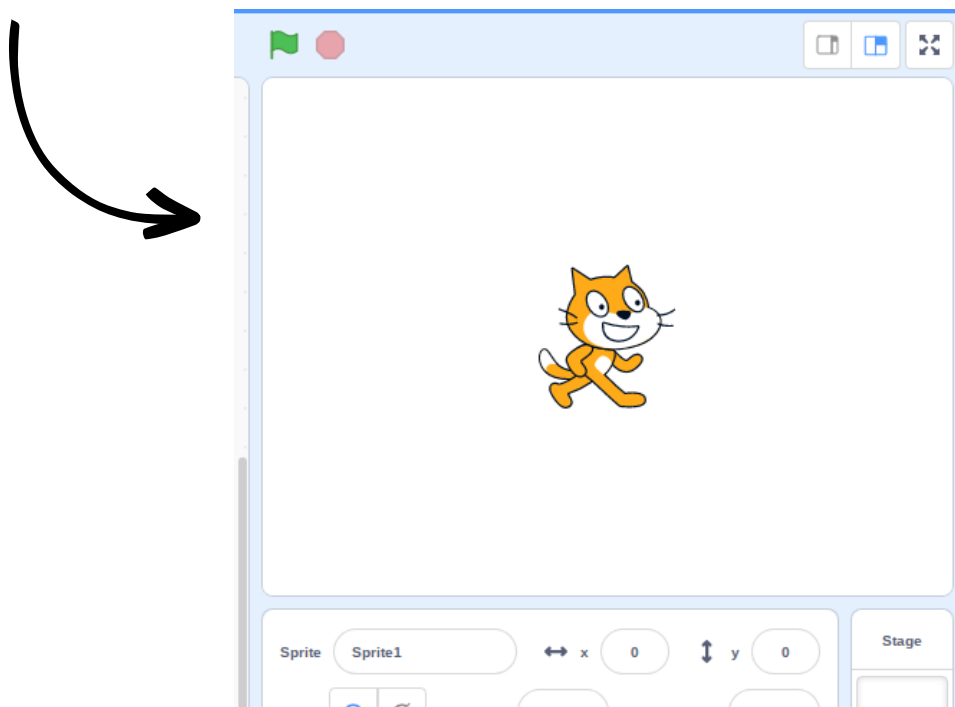


LESSON 1

INTRODUCTION TO SCRATCH

Module 2: (Cont'd)

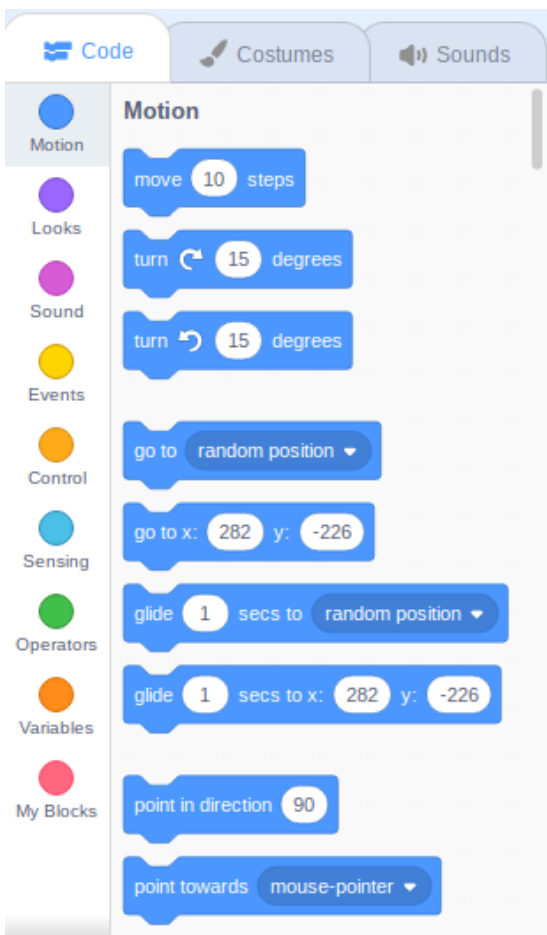
The Stage: This is where you will see your program come to life as you build it. You can control the background, add characters (called "sprites"), and create animations and interactions.



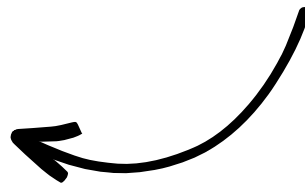
LESSON 1

INTRODUCTION TO SCRATCH

Module 2: (Cont'd)



The Blocks Palette: This is located on the right side of the page and contains a variety of blocks that you can use to create your program. The blocks are organized into categories, such as Motion, Looks, Sound, and Control.



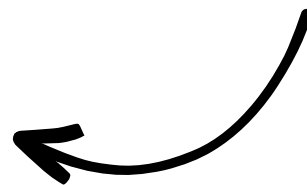
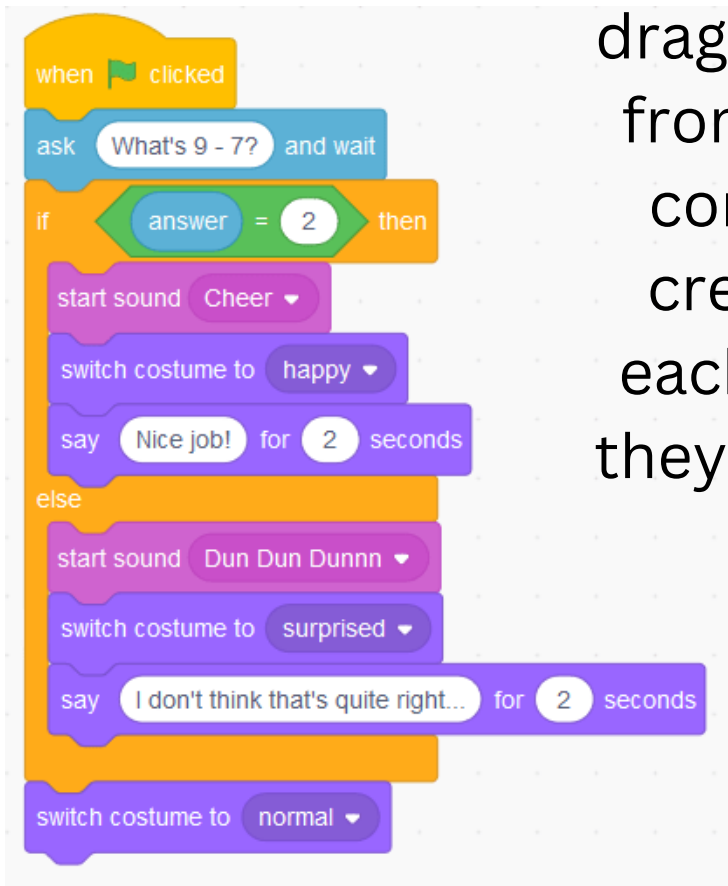
LESSON 1

INTRODUCTION TO SCRATCH

Module 2: (Cont'd)



The Scripts Area: This is where you will build your program by dragging and dropping blocks from the Blocks Palette and connecting them. You can create multiple scripts for each sprite and control how they interact with each other.



LESSON 1

INTRODUCTION TO SCRATCH

Module 3: Creating a basic program with Scratch blocks

Now that you understand the Scratch interface, let's create a simple program! Follow these steps:

1. Click on the "**Create**" button in the top left corner of the page to start a new project.

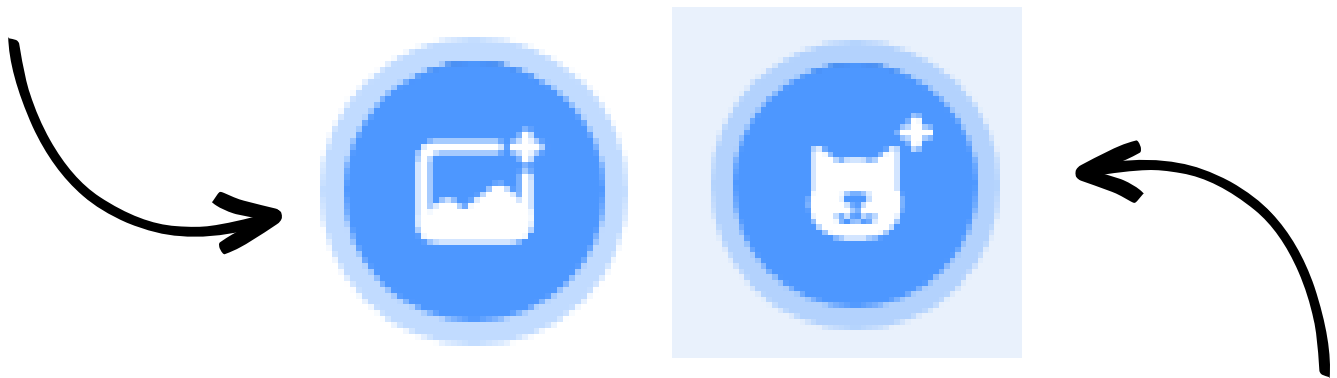


LESSON 1

INTRODUCTION TO SCRATCH

Module 3: (Cont'd)

2. Select a background for your program by clicking on the "Choose a backdrop" button in the bottom right corner of the Stage. You can choose a pre-made backdrop or upload your own image.



3. Add a sprite to your program by clicking on the "Choose a sprite" button in the bottom right corner of the Stage. You can choose a pre-made sprite or upload your image.

LESSON 1

INTRODUCTION TO SCRATCH



Module 3: (Cont'd)



4. Drag and drop blocks from the Motion category in the Blocks Palette into the Scripts Area to create a script for your sprite. For example, you can use the "**move 10 steps**" block to make your sprite move across the Stage.

Test your program by clicking on the "Green Flag" button in the Toolbar. This will run your program and you should see your sprite move across the Stage.

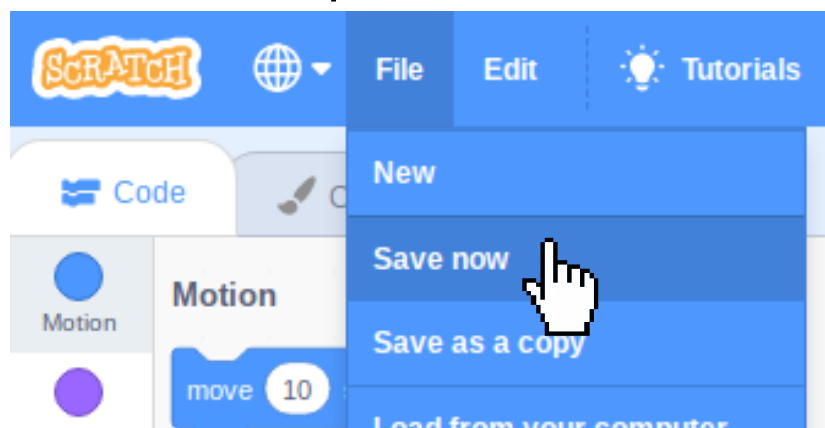


LESSON 1

INTRODUCTION TO SCRATCH

Module 3: (Cont'd)

Continue building your program by adding more blocks and scripts. You can use blocks from other categories to make your sprite change its appearance, play sounds, and interact with other sprites.



Save your program by clicking on the "Save" button in the Toolbar. You can come back to your program later and continue working on it.

LESSON 2

CREATE A FAMILY BONDING GAME

Module 1: Planning out the game idea

This part of the lesson incorporates the ideation process between members of the family which encourages family bonding; Here are a few steps to help in planning out the game idea: (***This is to be done using pen and paper.***)

1. **Determine the theme and goal of the game:**

The first step in creating a family bonding game on Scratch is determining the theme and goal of the game. This will serve as a guide for the overall design and gameplay. For example, you could choose a scavenger hunt theme and have players collect a certain number of items scattered around the game board.

LESSON 2

CREATE A FAMILY BONDING GAME

Module 1: (Cont'd)

- 2. Gather ideas and inspiration:** Look for pictures for features and game mechanics in other games, both digital and physical. This will help you understand what works and what doesn't in a game.
- 3. Make a design document for your game:** Make a list of the game's details, including the objective, game mechanics, and any special features. This will assist you in keeping track of all the various elements of the game and ensuring that everything is in sync.

LESSON 2

CREATE A FAMILY BONDING GAME

Module 1: (Cont'd)

4. **Plan the game board or playing field:** Draw a rough sketch of the game board and decide on the layout and placement of obstacles and other elements. This will assist you in visualizing how the game will appear and play.

5. **Plan the game's mechanics and controls:** Determine how the players' sprites will move and interact with the game board. This will determine the type of controls that are required.

LESSON 2

CREATE A FAMILY BONDING GAME



Module 1: (Cont'd)



6. Create a scoring system as well as any special effects or animations: Create special effects or animations to enhance the gameplay experience and decide how players will score points.

7. Put the game to the test with your family: Once you've completed the basic game, play it with your family to get feedback. This will assist you in identifying any problems and making necessary adjustments.

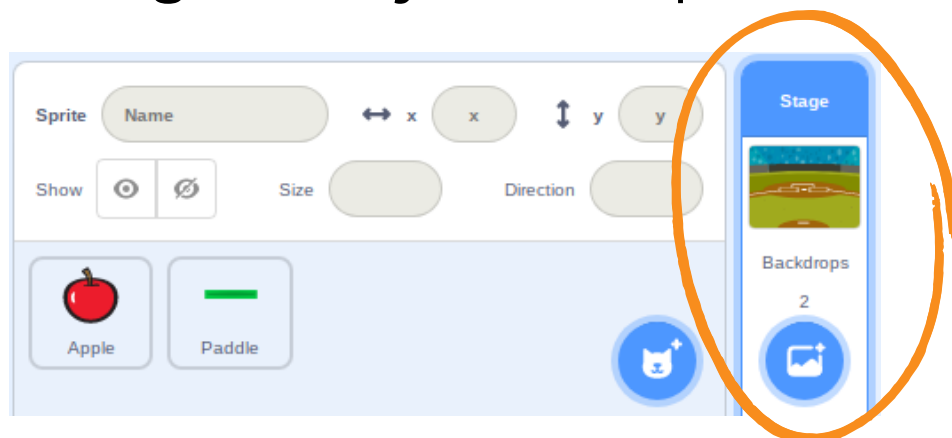
LESSON 2

CREATE A FAMILY BONDING GAME

Module 2: Adding characters and backgrounds

Here are the steps to adding character and background to the family bonding game:

To add a background, go to the bottom-right corner of the screen to the "Stage" tab. Select the "Backdrops" button, then the "upload" button. This will allow you to import a background image from your computer.



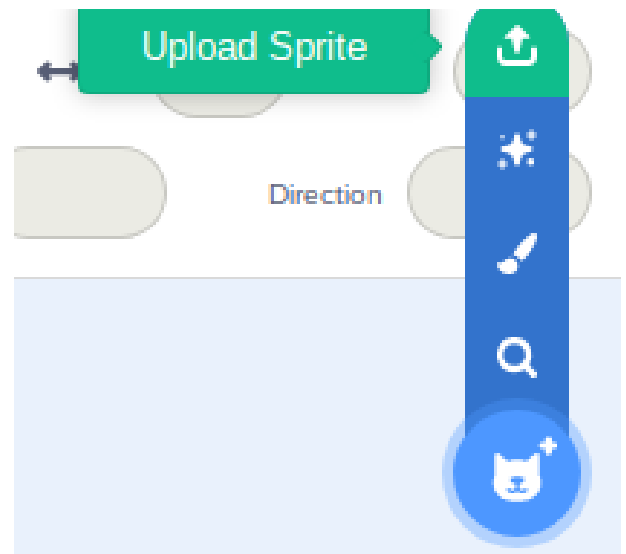
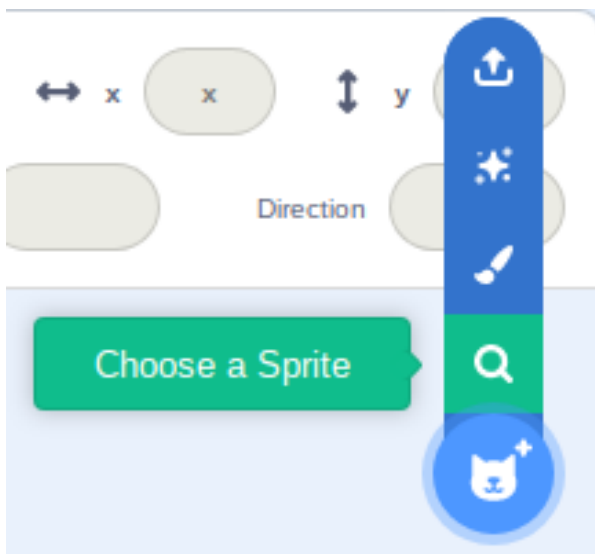
LESSON 2

CREATE A FAMILY BONDING GAME

Module 2: (Cont'd)

Click on the "Sprite" tab in the bottom-right corner of the screen to add a character or sprite.

Click the "Chose a sprite" button, or the "Upload Sprite" button. This allows you to use an image from your computer as the sprite.



LESSON 2

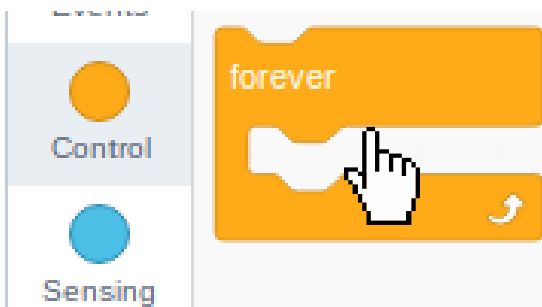
CREATE A FAMILY BONDING GAME

Module 3: Creating a game loop

Steps to creating a simple game loop:

Begin by making a new Scratch project and adding a background and sprite to it.

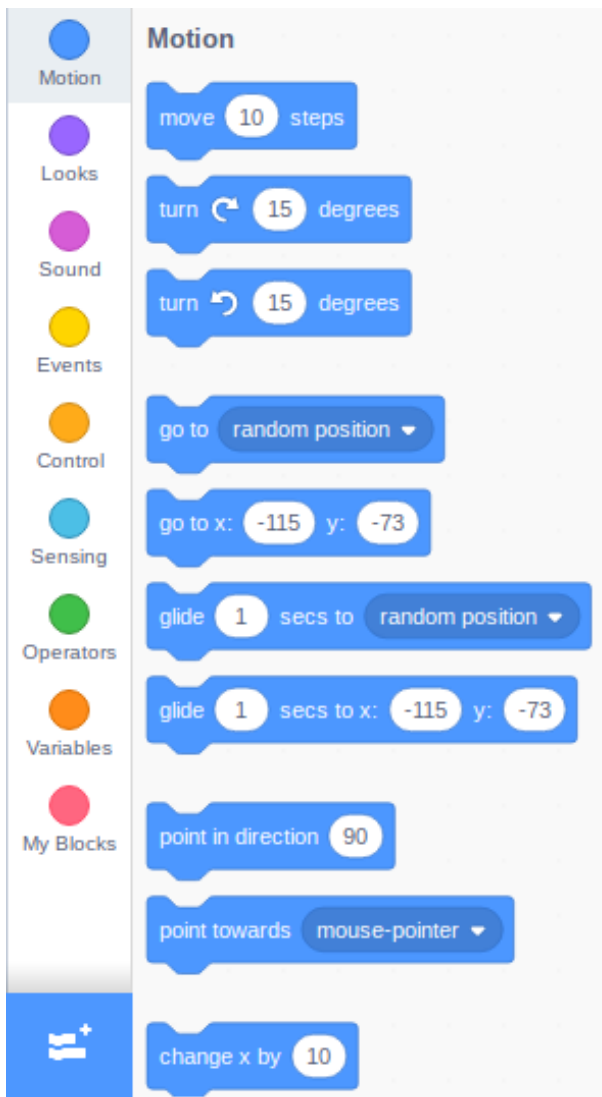
Create a simple game loop with the "**Control**" blocks. This can be accomplished by using the "forever" block, which will continuously repeat the script inside it.



LESSON 2

CREATE A FAMILY BONDING GAME

Module 3: (Cont'd)



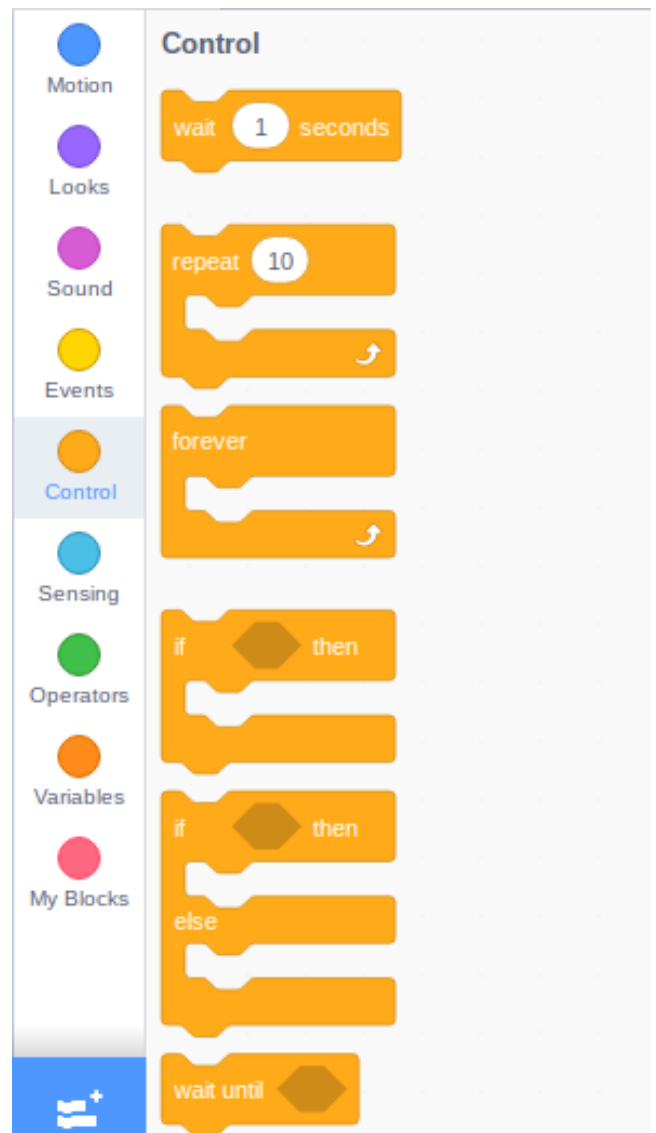
Use the "**Motion**" blocks within the game loop to control the sprite's movement(s). You can use the "go to x: y:" block, for example, to move the sprite to a specific location on the game board.

LESSON 2

CREATE A FAMILY BONDING GAME

Module 3: (Cont'd)

Create conditions that determine whether the game is won or lost using the "**Control**" blocks. You can, for example, use the "if on edge, bounce" block to make the sprite bounce off the game board's edges.



LESSON 2

CREATE A FAMILY BONDING GAME

Module 3: (Cont'd)



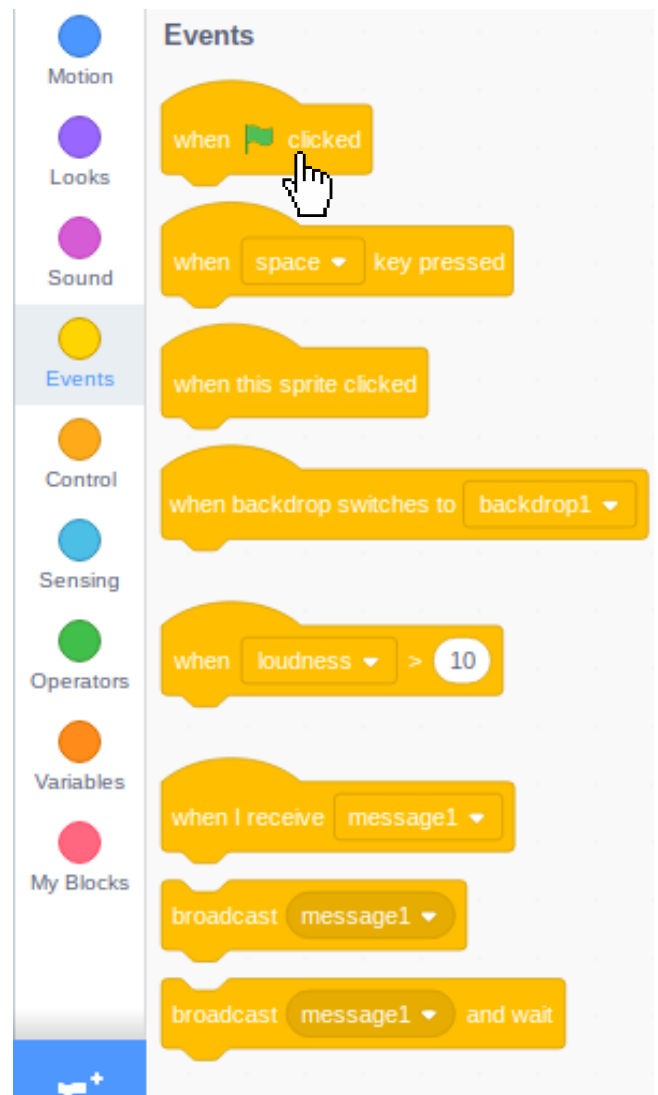
When the sprite(s) collide with other objects or obstacles on the game board, use the "**Sensing**" blocks to detect it. You can use the "**touching colour?**" block, for example, to detect when the sprite touches a specific colour on the game board.

LESSON 2

CREATE A FAMILY BONDING GAME

Module 3: (Cont'd)

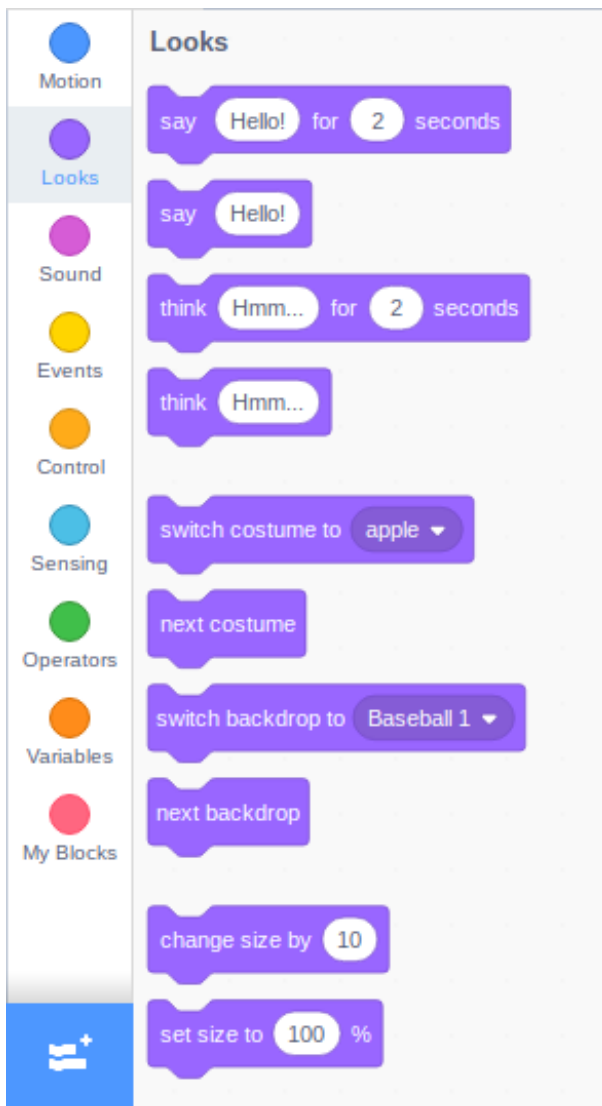
Create interactive elements in the game by using the "**Events**" blocks. For example, you can start the game with the "**when flag clicked**" block or respond to user input with the "when sprite clicked" block.



LESSON 2

CREATE A FAMILY BONDING GAME

Module 3: (Cont'd)



Create animations and special effects with the "**Looks**" blocks. To change the appearance of the sprite, for example, use the "**switch costume to [costume]**" block.

LESSON 3

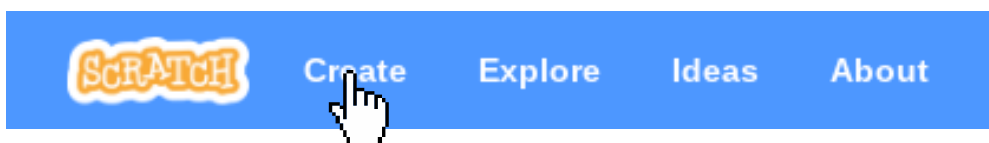
INCORPORATING FAMILY PICTURES

Module 1: Adding family photos as sprites

Using family photos in Scratch to add a personal touch to your family bonding game is simple.

The following are the steps for incorporating family photos into Scratch:

- Gather the family photos you'd like to use in the game. They should be saved in a digital format like JPG or PNG.
- Open Scratch and Click Create in the top left corner.



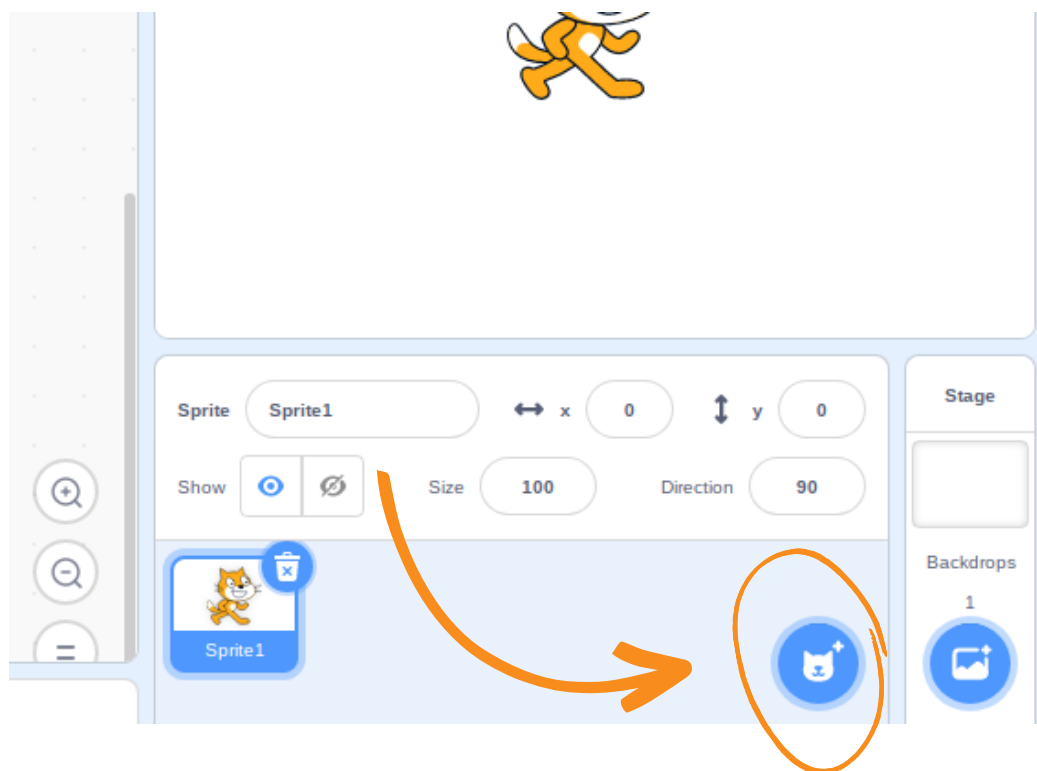
LESSON 3

INCORPORATING FAMILY PICTURES



Module 1: (Cont'd)

- In the bottom-right corner of the screen, select the "Sprite" tab.



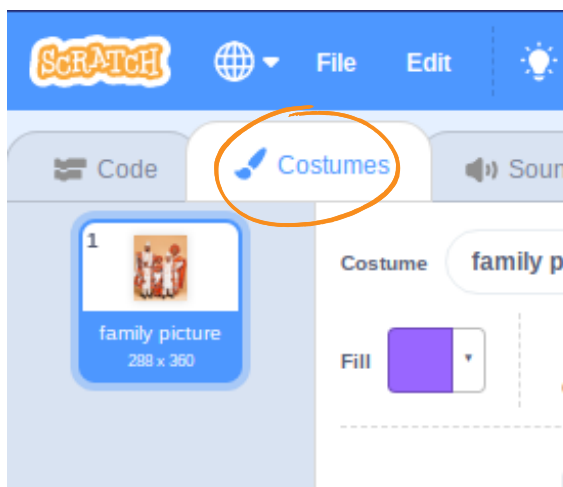
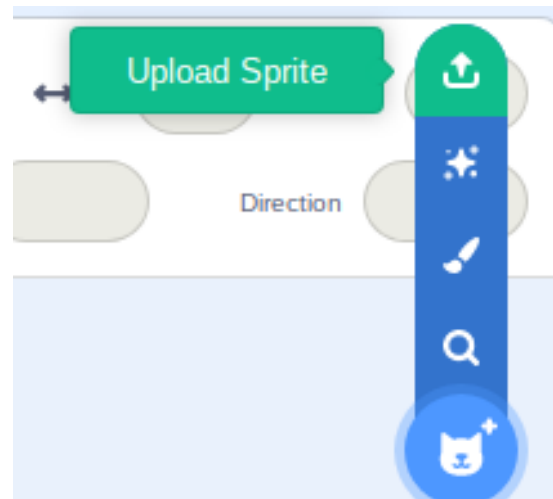
LESSON 3

INCORPORATING FAMILY PICTURES

Module 1: (Cont'd)



- Click the "Upload Sprite" button. This allows you to use a photo from your computer as the sprite.



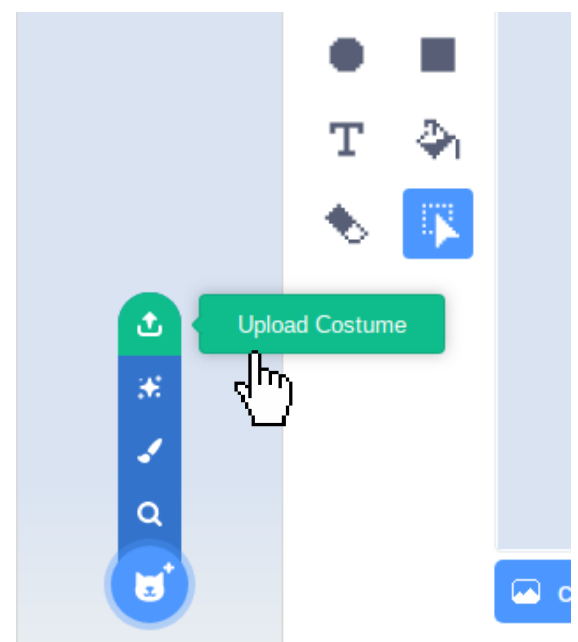
Once the photo has been uploaded, you can use it as a sprite costume. You can also use the "**Costumes**" tab to change the sprite's appearance by adding new photos or editing existing ones.

LESSON 3

INCORPORATING FAMILY PICTURES

Module 2: Creating a slideshow with Scratch blocks

- Gather the family photos you'd like to use in the game. They should be saved in a digital format like JPG or PNG.
- Simply upload your photos with the methods talked about earlier.
- After uploading the photos, you can create a new sprite and use the photos as costumes for the sprite.

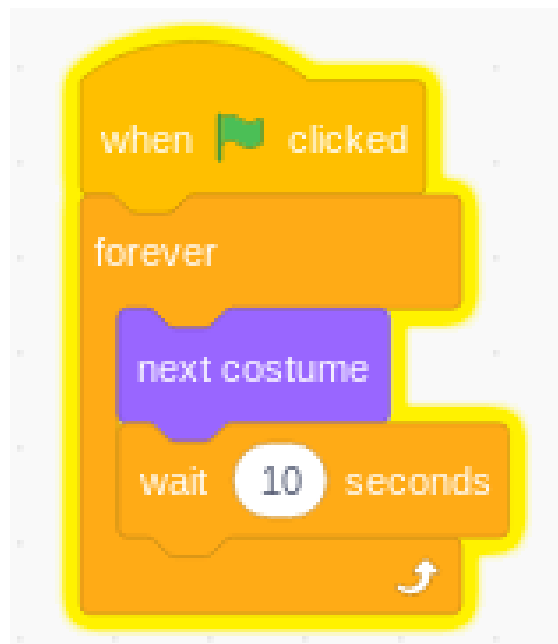


LESSON 3

INCORPORATING FAMILY PICTURES

Module 2: (Cont'd)

- To make the slideshow, use the "**Control**" tab and drag a "**forever**" block into the script area.
- Go to the "**Looks**" tab and get the "**Next costume**" block to change the costume.
- Also drag the "**Wait [1] second**" block from the **Control** tab.
- Change the figure in the last block to 10.
- Add the "**When [Flag] clicked**" block on top.



LESSON 3

INCORPORATING FAMILY PICTURES

Module 3: Adding interactivity to the slideshow

To add interactivity to a Scratch slideshow, use the **"when this sprite clicked"** block to perform specific actions when the user clicks on the sprite. When the user clicks on the sprite, for example, you can use the "next costume" block to move to the next slide.

The following are steps to adding interactivity to your slide show, following the addition of images and backgrounds:

LESSON 3

INCORPORATING FAMILY PICTURES



Module 3: (Cont'd)

1. Make a new script for the sprite that will serve as the slideshow controller (e.g. a button);

To start the script and start the slideshow, use the "**this sprite clicked**" block.

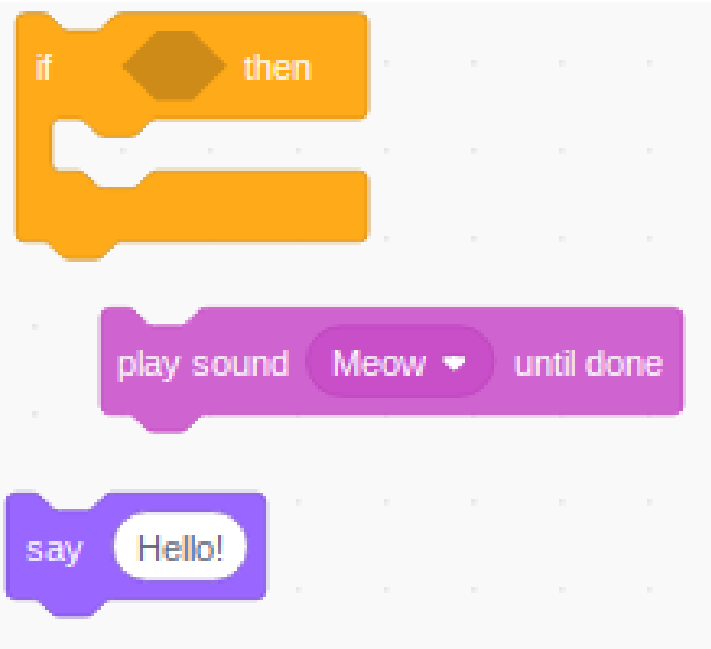


When the user clicks on the sprite, use the "**next costume**" block to move to the next slide. You can also return to the previous slide by using the "previous costume" block.

LESSON 3

INCORPORATING FAMILY PICTURES

Module 3: (Cont'd)



Create different actions based on the current slide by using the "**if-then**" block. You can use the "**say**" block, for example, to display different text or the "**play sound**" block to play a different sound.

Click on the controller sprite to test your slideshow and make sure the slides change correctly.

LESSON 4

FAMILY BONDING QUIZ

Module 1: Creating a Quiz Layout

Using Scratch to create a family bonding quiz is a fun and interactive way for families to learn more about each other and spend time together.

Scratch's block-based programming interface can be used to create a series of multiple-choice questions and corresponding answers for the quiz.

To make the quiz more engaging, you can also include images, sound effects, and animation.

LESSON 4

FAMILY BONDING QUIZ

Module 1: (Cont'd)

Once the quiz has been created, your family can take turns answering the questions and earning points for correct answers.

A leaderboard can also be included to keep track of who has the highest score. Overall, it can be a fun and engaging way for families to bond and get to know each other better.

The following are the steps you should take to create your quiz on scratch:

LESSON 4

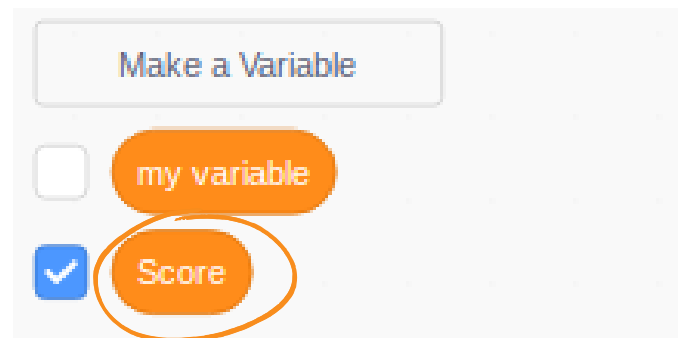
FAMILY BONDING QUIZ

Module 1: (Cont'd)



Begin by making a new Scratch project and changing the stage background to a color or image representative of your quiz.

- Go to the variables Tab and make a variable called "**score**" to record the player's points.

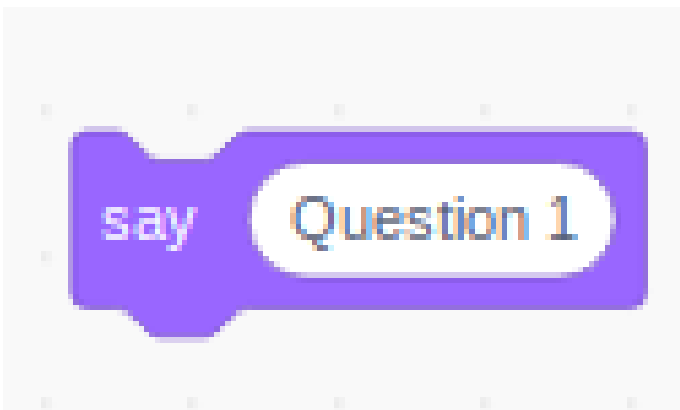


- To keep track of the current question, add a variable called "**question number**" to your code.

LESSON 4

FAMILY BONDING QUIZ

Module 2: Adding Questions and Multiple choice answers



Create a sprite for the question and add a script to display it in the center of the screen. To display the question, use the "say" block

Make multiple sprites for the possible answers, one for each option. When the sprite is clicked, add a script that displays the answer.



LESSON 4

FAMILY BONDING QUIZ

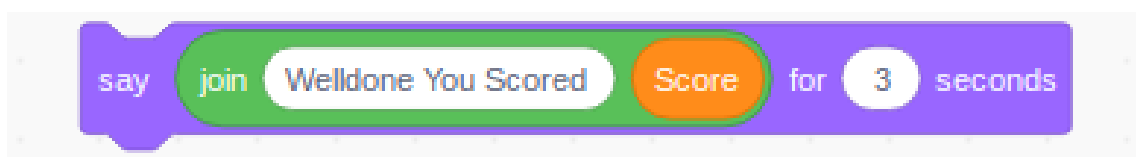
Module 3: Adding a scoring system



Create a script to validate answers and add or subtract points.

Add the "**wait**" block to pause the script for a few seconds before proceeding to the next question.

At the end of the quiz, write a script that displays the player's score.



LESSON 5

CREATING A FAMILY TREE

Module 1: Setting up the family tree layout

Creating a family tree in Scratch can be a fun and interactive way to learn about one's family history.

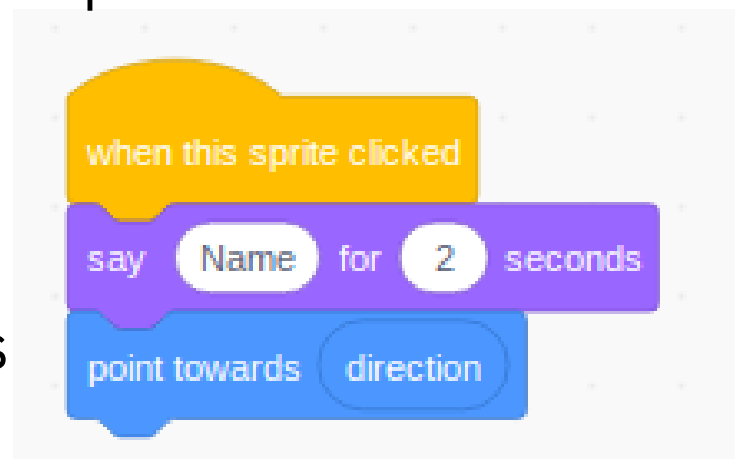
- Begin by making a new Scratch project and changing the background of the stage to a color or image that represents your family tree.
- Make several sprites to represent various family members. Each sprite should have a distinct appearance to help differentiate them.
- Make a script for each member of the family that displays their name when the sprite is clicked.

LESSON 5

CREATING A FAMILY TREE

Module 2: Adding family members as sprites

- Make several sprites to represent various family members. Each sprite should have a distinct appearance to help differentiate them.
- Make a script for each member of the family that displays their name when the sprite is clicked.
- Set the direction of each sprite to the direction of their parent using the "point in direction" block.



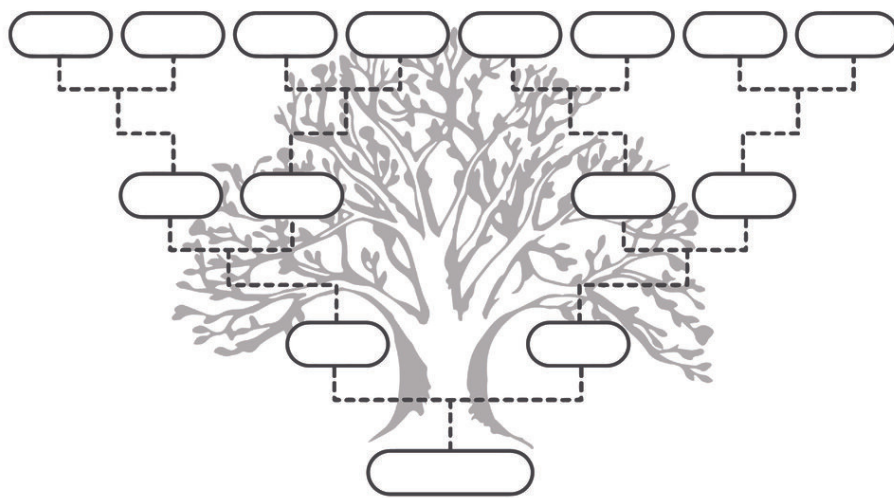
LESSON 5

CREATING A FAMILY TREE

Module 3: Adding relationships and information to the family tree

- Draw lines between each family member and their parent to form a visual family tree.

OUR FAMILY TREE



- When a family member's sprite is clicked, write a script that displays information about them, such as their birth and death dates or a brief biography.

LESSON 6

FAMILY BONDING SCAVENGER HUNT

Module 1: Planning out the scavenger hunt

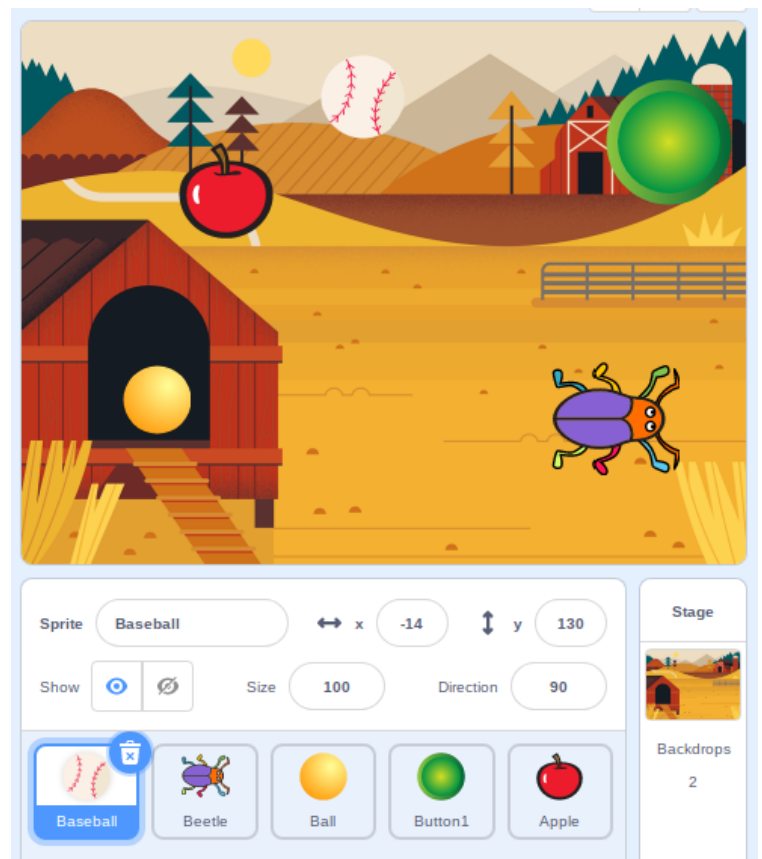
- Make a shopping list for the scavenger hunt. These can be natural items, such as a specific type of leaf or rock, or man-made items, such as a stop sign or a fire hydrant.
- Sort the scavenger hunt items into categories like "found in nature" or "found in the community."
- Give each item on the list a point value, with more difficult or rare items worth more points.
- To make it more difficult, create a clue or riddle for each item on the list.

LESSON 6

FAMILY BONDING SCAVENGER HUNT

Module 2: Creating a list of items to find

- Begin by making a new Scratch project and changing the stage background to a color or image related to your scavenger hunt.
- Make several sprites to represent various items on the scavenger hunt list. Each sprite should have a distinct appearance to help differentiate them.



LESSON 6

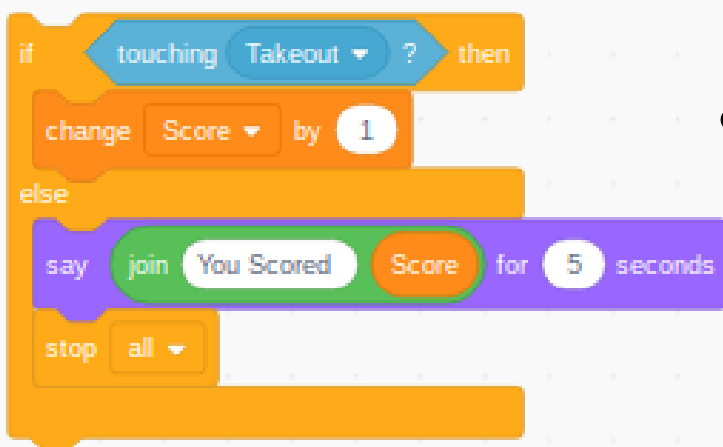
FAMILY BONDING SCAVENGER HUNT

Module 3: Adding challenges and puzzles to the hunt

- Create a script that displays the item's name when the sprite is clicked for each scavenger hunt item.



- Create a script that increases the score by a certain number of points when an item is found and the puzzle is solved.



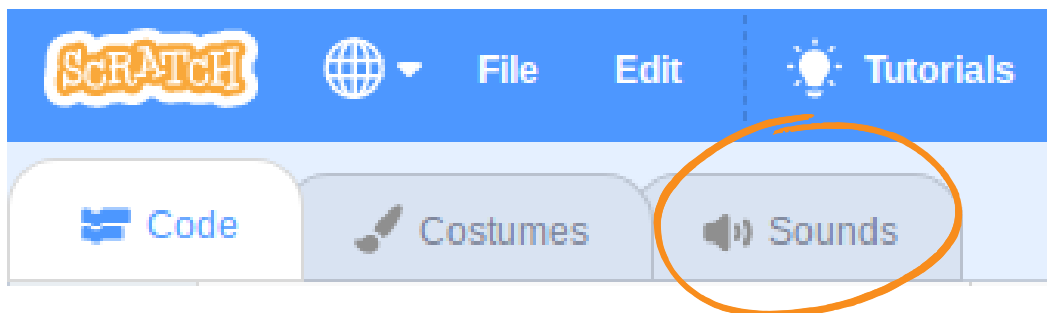
- At the end of the scavenger hunt, write a script that displays the player's score.

LESSON 7

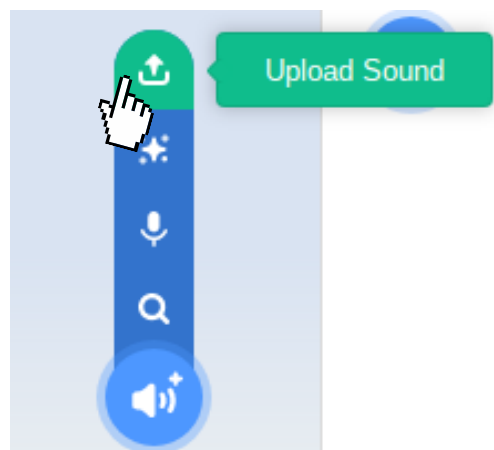
MORE ACTIVITIES TO TRY USING SCRATCH

Module 1: Adding Sound and Music to the projects

Click the "**Sounds**" tab in the Scratch editor, which is located in the upper-left corner of the screen.



To add a sound, click the "**upload sound**" button and navigate to the sound file on your computer.

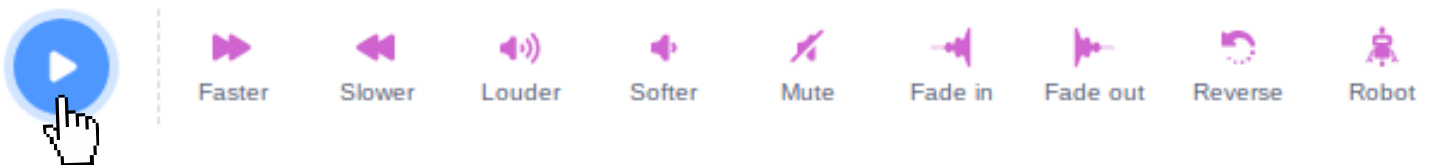


LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 1: (Cont'd)

Once the sound has been imported, you can listen to it by clicking the "**play**" button. You can also add sound effects to your sound, such as changing the tempo, pitch, or volume.



Drag the sound block from the "**Sounds**" tab to your script and place it where you want the sound to play to add it to your script.

You can also use the "**stop all sounds**" block to silence all of your project's sounds and music.

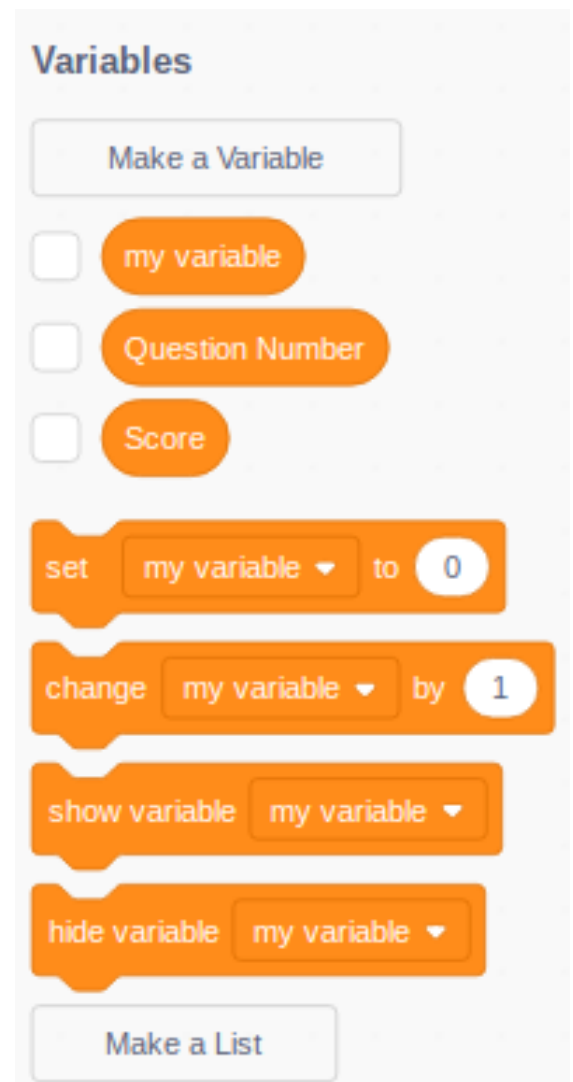
LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 2: Using variables and operators to create more interesting programs

Variables for data

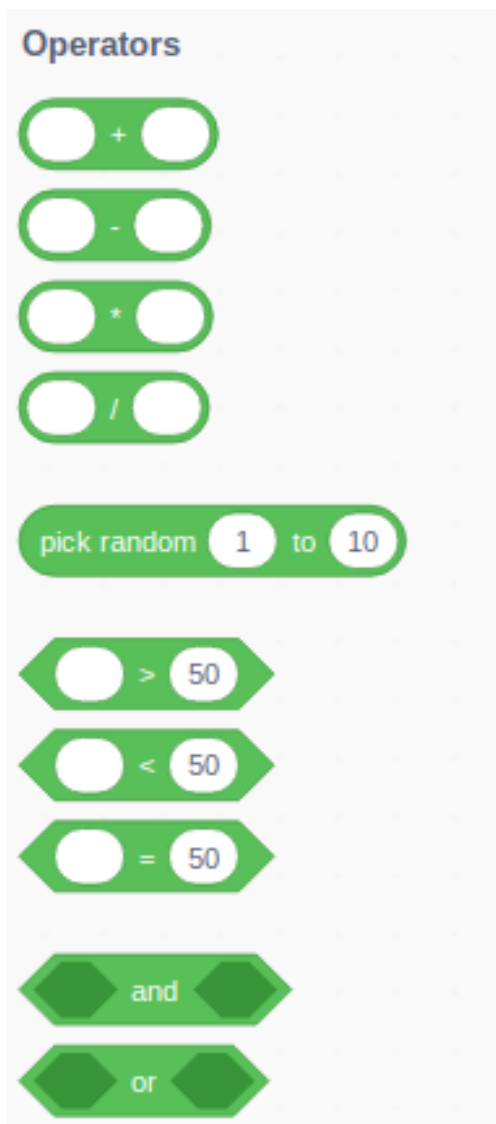
storage: You can create a variable to store a value, such as a score, and then use it in various parts of your program. You can, for example, create a variable called "**score**" and then use it in a script to display the player's score on the screen.



LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 2: (Cont'd)



Performing calculations with operators: To perform calculations on variables, use operators such as "+", "-", "*", and "/". For example, you can use the "+" operator to add one point to the player's score every time they find an item in your scavenger hunt.

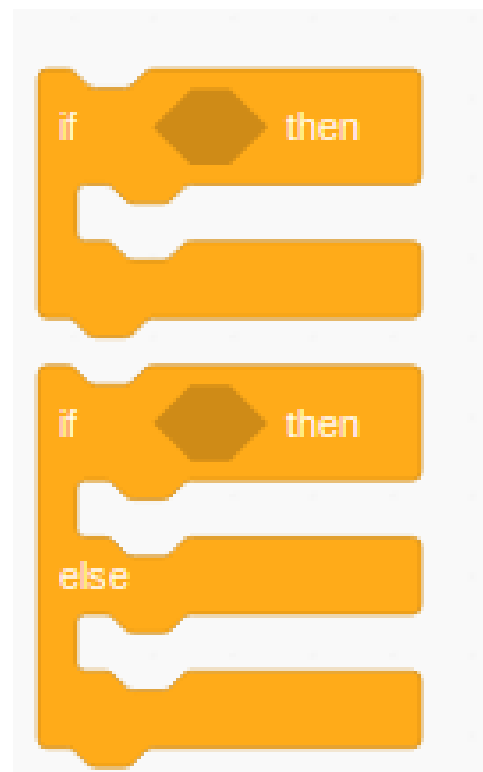
LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 2: (Cont'd)

Conditional statements:

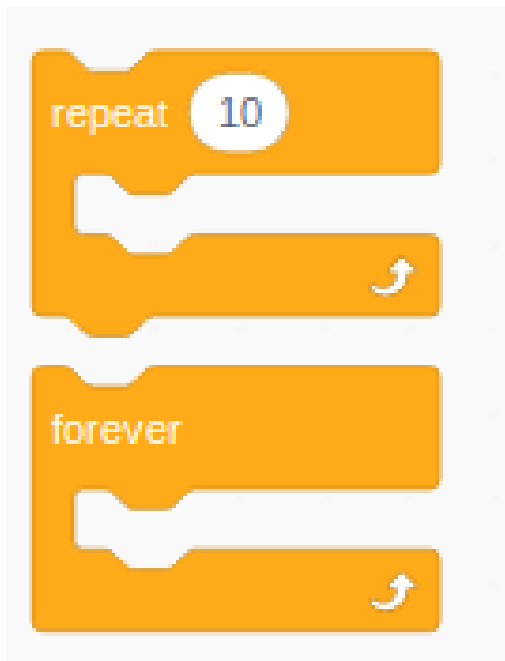
Conditional statements such as **"if-then"** or **"if-then-else"** can be used to control the flow of your program. You can, for example, use a conditional statement to check if the player's score is greater than a certain value and then display a congratulations message.



LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 2: (Cont'd)



Using loops: Loops such as "**forever**" or "**repeat**" can be used to execute a block of code repeatedly. A loop, for example, can be used to make a sprite move across the screen.

Using lists: You can store multiple values in lists and then use them in your program. For example, you could make a list of scavenger hunt items and then use it to see if the player has found all of them.

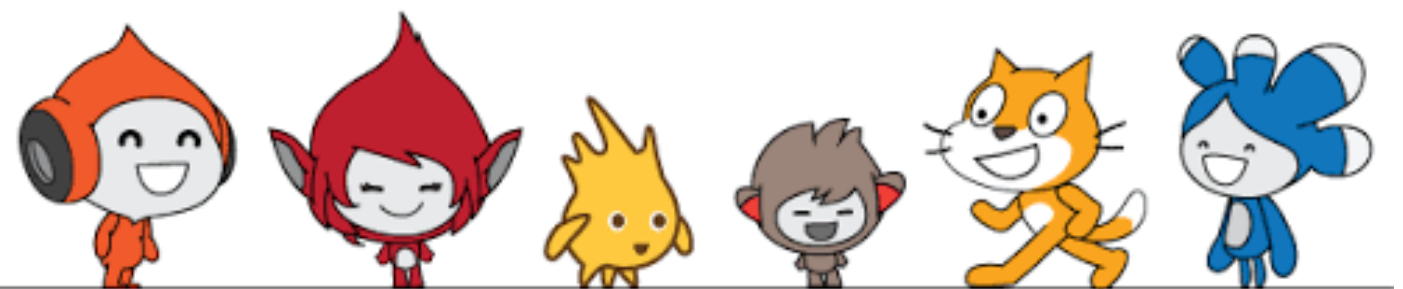
LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 3: Collaborating with others on scratch projects

Collaborating on Scratch projects with others can be a great way to learn new skills and improve your own. Here are some ways to work with others on Scratch.

Scratch has a large online community of users who share their projects, provide feedback, and collaborate on new ideas. You can join a community by going to the Scratch website and looking for one that interests you.



LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

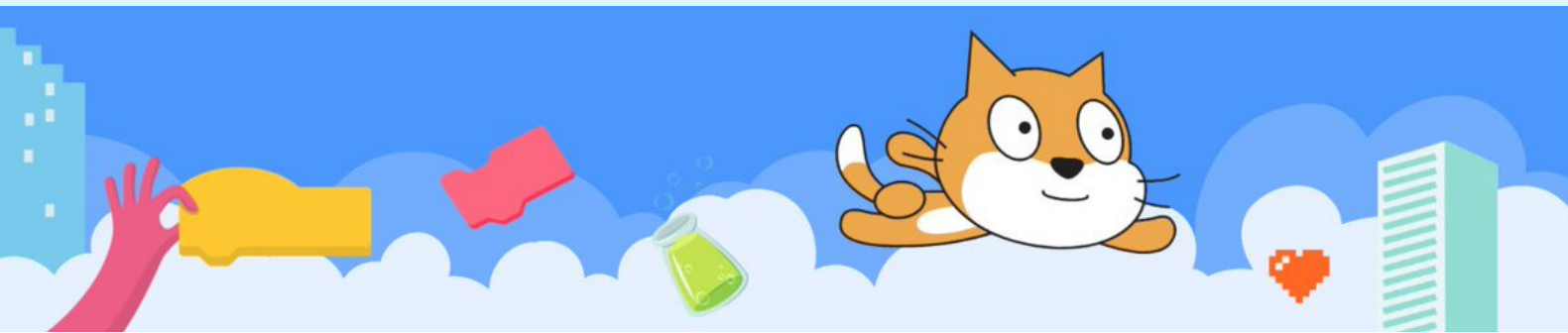
Module 3: (Cont'd)

- **Remix other projects:** You can do this by simply clicking “**see inside**” of the project and editing it.
- **Use Scratch's built-in commenting system:** Scratch's built-in commenting system can be used to leave comments on projects and provide feedback to other users.
- **Participate in a hackathon or coding event:** You can participate in a hackathon or coding event where you can work with other Scratch users to create a project in a short period of time.
- **Join a club or class:** You can join a club or class with other Scratch enthusiasts and work on projects together.

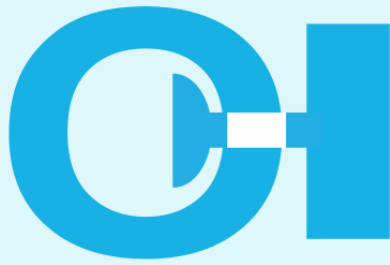
LESSON 7

MORE ACTIVITIES TO TRY USING SCRATCH

Module 3: (Cont'd)



Collaborating on Scratch projects can be a rewarding and enjoyable experience. With the help of others, you can learn new skills, get feedback on your projects, and create something new and exciting. It's also an excellent way to improve teamwork, family bonding, and problem-solving abilities.



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