DISCOVER

4-H SCRATCH CODE CLUBS

(FOR INTERMEDIATE CODERS; AGE 9-14)

EXTENSION
UtahStateUniversity

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Description

The Discover 4-H Clubs series guides new 4-H volunteer leaders through the process of starting a 4-H club or provides a guideline for seasoned volunteer leaders to try a new project area. Each guide outlines everything needed to organize a club and hold the first six club meetings related to a specific project area.

Purpose

The purpose is to create an environment for families to come together and participate in learning activities that can engage the whole family, while spending time together as a multi-family club. Members will experiment with new 4-H project areas.

What is 4-H?

4-H is one of the largest youth development organizations in the United States. 4-H is found in almost every county across the nation and enjoys a partnership between the U. S. Department of Agriculture (USDA), the state land-grant universities (e.g., Utah State University), and local county governments.

4-H is about youth and adults working together as partners in designing and implementing club and individual plans for activities and events. Positive youth development is the primary goal of 4-H. The project area serves as the vehicle for members to learn and master project-specific skills while developing basic life skills. All projects support the ultimate goal for the 4-H member to develop positive personal assets needed to live successfully in a diverse and changing world.

Participation in 4-H has shown many positive outcomes for youth. Specifically, 4-H participants have higher participation in civic contribution, higher grades, increased healthy habits, and higher participation in science than other youth (Learner et al., 2005).

Updated March 2015

Utah 4-H

4-H is the youth development program of Utah State University Extension and has more than 90,000 youth participants and 8,600 adult volunteers. Each county (Daggett is covered by Uintah County) has a Utah State University Extension office that administers the 4-H program.

The 4-H Motto

"To Make the Best Better!"

The 4-H Pledge

I pledge: My HEAD to clearer thinking, My HEART to greater loyalty, My HANDS to larger service and My HEALTH to better living, For my Club, my Community, my Country, and my world.

4-H Clubs

What is a 4-H Club? The club is the basic unit and foundation of 4-H. An organized club meets regularly (once a month, twice a month, weekly, etc.) under the guidance of one or more volunteer leaders, elects its own officers, plans its own program, and participates in a variety of activities. Clubs may choose to meet during the school year, only for the summer, or both.

Club Enrollment

Enroll your club with your local Extension office. Each member will need to complete a Club/member Enrollment form, Medical History form, and a Code of Conduct/Photo Release form (print these from the www.utah4h.org website or get them from the county Extension office).

Elect Club Officers

Elect club officers during one of your first club meetings. Depending on how many youth you have in your club, you can decide how many officers you would like. Typical officers will include a president, vice president, pledge leader, and secretary. Other possible officers or committees are: song leader, activity facilitator, clean-up supervisor, recreation chair, scrapbook coordinator, contact committee (email, phone, etc.), field trip committee, club photographer, etc. Pairing older members with younger members as Sr. and Jr. officers may be an effective strategy to involve a greater number of youth in leadership roles and reinforce the leadership experience for both ages. Your club may decide the duration of officers–six months, one year, etc.

A Typical Club Meeting

Follow this outline for each club meeting:

- ☐ Call to order–President
- ☐ Pledge of Allegiance and 4-H Pledge–Pledge Leader (arranges for club members to give pledges)
- ☐ Song–Song Leader (leads or arranges for club member to lead)
- ☐ Roll call–Secretary (may use an icebreaker or get acquainted type of roll call to get the meeting started)
- ☐ Minutes of the last meeting–Secretary
- ☐ Business/Announcements–Vice President
- ☐ Club Activity–arranged by Activity Facilitator and includes project, lesson, service, etc. These are outlined by project area in the following pages.
- ☐ Refreshments–arranged by Refreshment Coordinator
- ☐ Clean Up–led by Clean-up Supervisor

Essential Elements of 4-H Youth Development

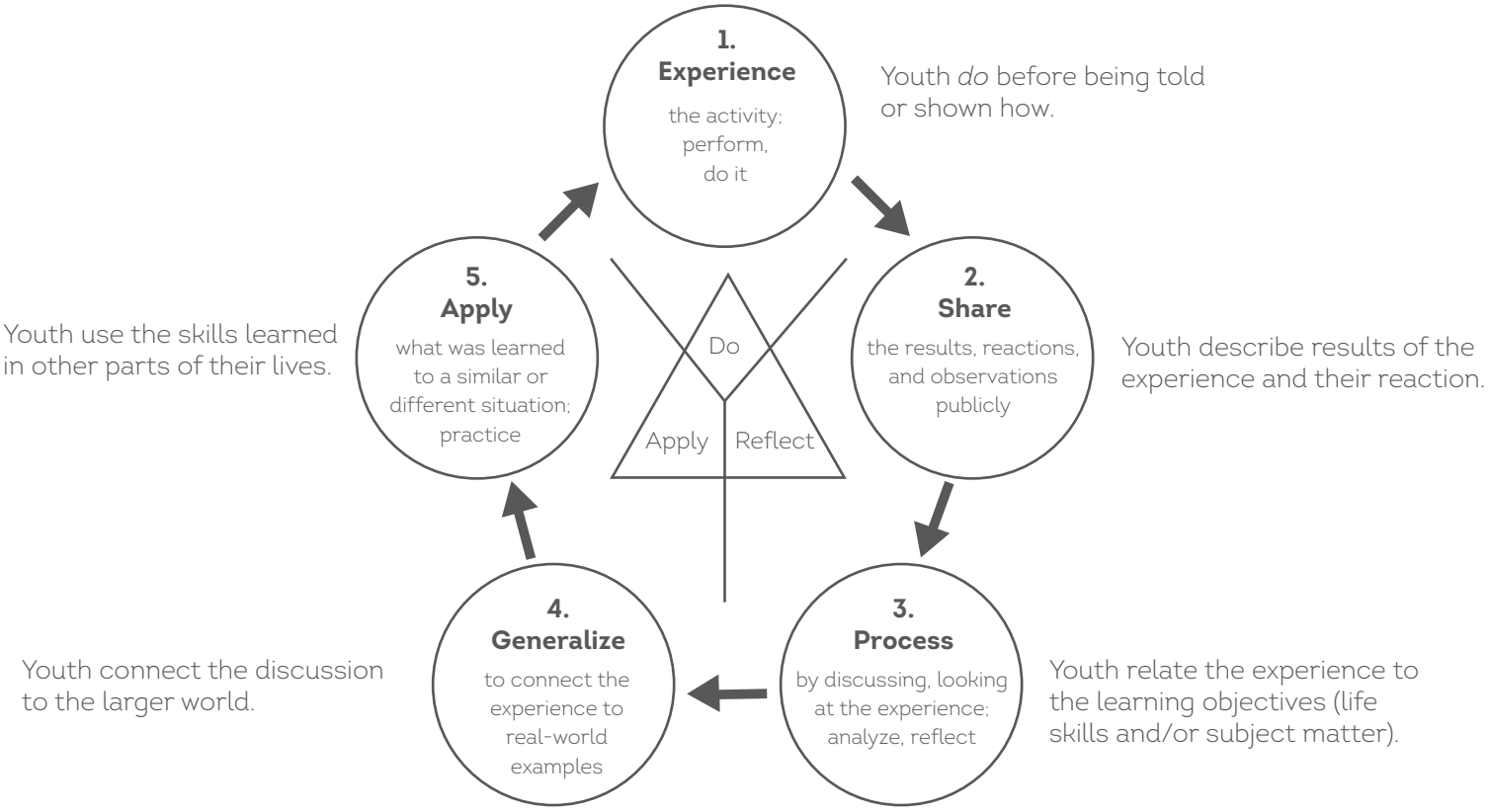
The essential elements are about healthy environments. Regardless of the project area, youth need to be in environments where the following elements are present in order to foster youth development.

1. **Belonging**: a positive relationship with a caring adult; an inclusive and safe environment.
2. **Mastery:** engagement in learning; opportunity for mastery.
3. **Independence:** opportunity to see oneself as an active participant in the future; opportunity to make choices.
4. **Generosity:** opportunity to value and practice service to others.

(Information retrieved from: http://www.4-h.org/resource-library/professional-development-learning/4-h-youth-development/youth-development/essential-elements/)

4-H "Learning by Doing" Learning Approach

The Do, Reflect, Apply learning approach allows youth to experience the learning process with minimal guidance from adults. This allows for discovery by youth that may not take place with exact instructions.



4-H Mission Mandates

The mission of 4-H is to provide meaningful opportunities for youth and adults to work together to create sustainable community change. This is accomplished within three primary content areas, or mission mandates, - citizenship, healthy living, and science. These mandates reiterate the founding purposes of Extension (e.g., community leadership, quality of life, and technology transfer) in the context of 21st century challenges and opportunities. (Information retrieved from: http://www.csrees.usda.gov/nea/family/res/pdfs/Mission_Mandates.pdf)

1. **Citizenship:** connecting youth to their community, community leaders, and their role in civic affairs. This may include: civic engagement, service, civic education, and leadership.
2. **Healthy Living:** promoting healthy living to youth and their families. This includes: nutrition, fitness, social-emotional health, injury prevention, and prevention of tobacco, alcohol, and other drug use.
3. **Science:** preparing youth for science, engineering, and technology education. The core areas include: animal science and agriculture, applied mathematics, consumer science, engineering, environmental science and natural resources, life science, and technology.

Getting Started

1. Recruit one to three other families to form a club with you.
    a. Send 4-H registration form and medical/photo release form to each family (available at utah4h.org)
    b. Distribute the Discover 4-H Clubs curriculum to each family
    c. Decide on a club name
    d. Choose how often your club will meet (e.g., monthly, bi-monthly, etc.)
2. Enroll as a 4-H volunteer at the local county Extension office (invite other parents to do the same)
3. Enroll your club at the local county Extension office
    a. Sign up to receive the county 4-H newsletter from your county Extension office to stay informed about 4-H-related opportunities.
4. Identify which family/adult leader will be in charge of the first club meeting.
    a. Set a date for your first club meeting and invite the other participants.
5. Hold the first club meeting (if this is a newly formed club).
    a. See *A Typical Club Meeting* section above for a general outline.
        i. Your activity for this first club meeting will be to elect club officers and to schedule the six project area club meetings outlined in the remainder of this guide. You may also complete a-d under #1 above.
    b. At the end of the first club meeting, make a calendar outlining the adult leader in charge (in partnership with the club president) of each club meeting along with the dates, locations, and times of the remaining club meetings.
6. Hold the six project-specific club meetings outlined in this guide.
7. Continue with the same project area with the 4-H curriculum of your choice (can be obtained from the County Extension Office) OR try another Discover 4-H Club project area.

Other Resources

Utah 4-H website: www.Utah4-h.org
National 4-H website: www.4-h.org
4-H volunteer training:
To set up login:
http://utah4h.org/htm/volunteers/get-involved/new-volunteer-training
To start modules: http://4h.wsu.edu/volunteertraining/course.html
(password = volunteer)

References

Information was taken from the Utah 4-H website (utah4h.org), the National 4-H Website (4h.org), the Utah Volunteer Handbook, or as otherwise noted.

Lerner, R., M. et al., (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth grade adolescents: Findings from the first wave of the 4-H Study of Positive Youth Development. Journal of Early Adolescence, 25(1), 17-71.

We would love feedback or suggestions on this guide; please go to the following link to take a short survey:
http://tinyurl.com/lb9tnad

4-H SCRATCH CODE CLUB *Meetings*

SCRATCH

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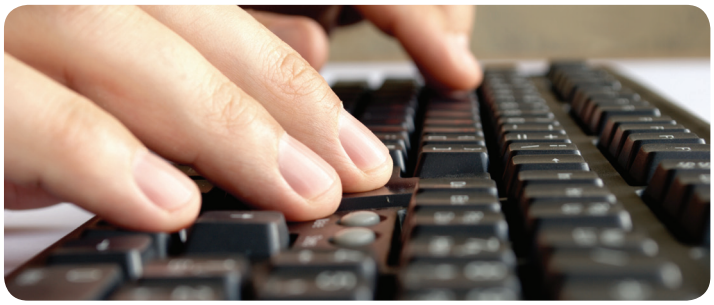
4-H Club Meeting 1
Exploring Scratch

There is an increasing demand for individuals with college degrees in computer science. By 2020, there is expected to be over 1 million unfilled jobs for computer programmers simply because not enough people know how to code. Jobs in computer science are some of the top paying jobs for people with bachelor's degrees. This 4-H Code Club curriculum will provide youth (age 9-14) with a head start on learning how to program a computer and think computationally. MIT's "Scratch" is a visual programming language designed for youth embarking on a quest to master computer science. In the first club meeting, youth will explore Scratch and make their very first coded creation. All club meetings include a Scratch challenge meant to teach a variety of programming skills, a stretch break for healthy work habits, and time to work on a Scratch 4-H project.



Supplies

- Computers for each youth, or one per two youth
- Internet connectivity
- Scratch 1.4 downloaded to each computer

Scratch is a visual programming language created by the MIT Media Lab that allows you to create interactive games and stories. 4-Hers can use Scratch to start learning about computer science. By programming with Scratch, youth will develop creative, collaborative, and systematic reasoning skills.

We recommend that 4-H club leaders go through and do the activities themselves before a club meeting. This will help them become familiar with the program and the challenge. It is best to encourage the youth to solve the problem on their own, but it is okay to guide them through with questions and hints.

Activity #1

EXPLORING SCRATCH

Allow the youth to explore the Scratch program and have them shout out things they notice in the interface for 5-10 minutes. Make a list of the things they find on a chalkboard or poster board. This experiential exploration activity is a great way for them to learn about the program.

Examples of things they might see: costumes, buttons, start, sprites, single stepping, different shaped pieces, 8 categories, color coding, 3 columns, coordinates, sprites can be drawn, can record sound, drop-down menus, and anything else they see.

Briefly talk about some of the things on the list and let them know they will learn more about all these things as they continue.

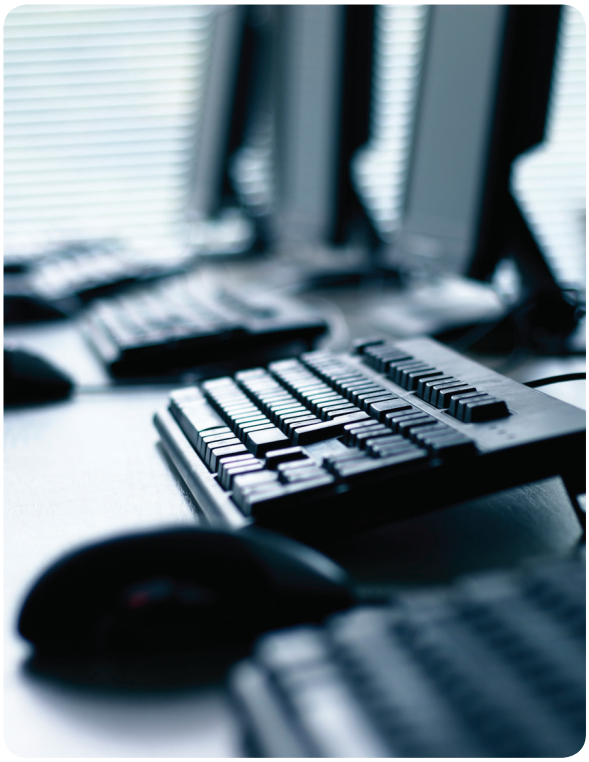
A CREATIVE CHALLENGE

Issue challenges to the youth to begin creating and see what they can figure out on their own. Let them know they will be creating a quick program and that the theme is:

Something Surprising.

Challenges:

- Did anyone figure out how to get rid of the cat? (click on the scissors, then click on the cat)
- How do we add a new sprite? What are the different ways to add a sprite?
- Choose a new backdrop for the stage.
- Have one of the sprites say something.
- How do you have your sprite be in a certain position?
- Have the character move. What did you use to make the character move?
- How can you trigger the blocks? (Hint: Event category)
- Add a sound. How did you add sound?
- When you click on the green flag is everything working right?
- We want to have a conversation with our second sprite. Where do we go?
- Now click the green flag on top. What is the problem? (They are both talking at the same time, and we are trying to have a conversation.)
- How can we fix our timing problem? What Block did you use? (Hint: Control category. Remember we are still on our second sprite.)
- Now click on the green flag on top. Did it work?
- How do you have your sprite walk off the screen? How do you control the movement speed?
- How do we add a new backdrop and have it switch?
- What did we use to make it switch? (Hint: broadcasting in the Events category.)
- Lets click on the green flag on top. What is the problem?
- Now click the green flag on top. Did it work?
- If you do not want your second sprite at the second scene, what can you do? (Hint: Looks, Hide block.)
- Now let's test this out. Did it work? Let's retest. What is the problem? Now we need to tell it what back ground we want it to start with. How would we do that? (Hint: Events category.)
- Let's check again. Did it work? Who is missing during the first scene? (The second sprite. Hint: Looks category.)
- Click the green flag on top and enjoy your creation.



Use these questions to reflect about the meeting's activities. Processing helps youth think through the learning experience and provides the opportunity to share what they did, how they felt about it, and engage in group discussion.

Reflect

- What was your first thought when you saw the Scratch program and began exploring?
- What problems did you encounter during your challenge?
- How did you solve them?

The last thing that should take place at a 4-H club meeting is for the youth to apply the experience to their daily life and future. Below are some possible questions to apply today's activities.

Apply

- When you get something new, how do you usually learn about it?
- What are some situations when you might be new and need to explore and learn about a new environment?
- When have you had to solve a problem at home? At school?
- What have you done to tackle the problem?

References

These first two activities come from a Scratch webinar done by MIT. They can be watched at:
http://scratched.gse.harvard.edu/resources/my-first-scratch-project-january-2012-scratched-webinar

Science

Learning by exploring is a great way to understand new things.

Independence

Allowing youth to explore Scratch on their own helps them to take charge of their learning.

Mastery

The mastering of skills begins with introductions to new things.

4-H Club Meeting 2
Pentagon Challenge and Scratch

Supplies

- Computers for each youth, or one per two youth
- Internet connectivity
- Scratch 1.4 downloaded to each computer
- Pentagon challenge handout for each youth/group
- Storyboard handout for each youth/group

4-H club meetings from now on will have a daily challenge. These challenges will introduce youth to new codes they can create in Scratch. In this club meeting, they will also begin a Scratch project to work on.

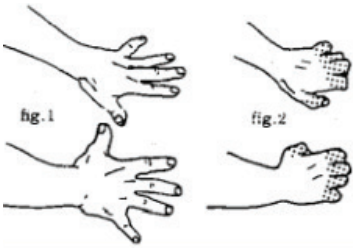
Activity #1

PENTAGON CHALLENGE

Provide each youth/group a Pentagon Challenge handout and let them get started. If they need help or cannot figure it out, use your 'Leader Sheet' to help them along. If they figure it out a whole different way, that is great!

Activity #2

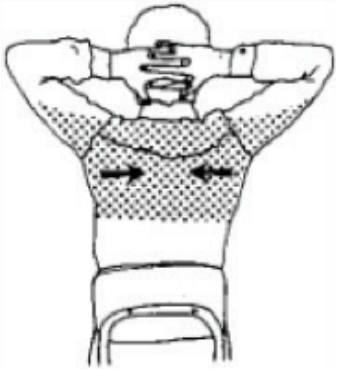
HEALTHY STRETCH BREAK



Finger Stretch: Separate and straighten your fingers until tension of a stretch is felt (Fig. 1). Hold for 10 seconds, relax and bend your fingers at the knuckles and hold for 10 seconds (Fig. 2). Repeat first outward stretch once more.

Shoulder Shrug: Raise the top of your shoulders toward your ears until you feel slight tension in your neck and shoulders. Hold this feeling of tension for 3-5 seconds, and then relax your shoulders downward into their normal position. Do this two to three times.

HEALTHY STRETCH BREAK CONTINED



Upper Back Stretch: With fingers interlaced behind head, keep elbows straight out at sides with upper body in a good aligned position. Now pull your shoulder blades toward each other to create a feeling of tension though upper back and shoulder blades. Hold this feeling of mild tension for 8-10 seconds, and then relax. Do several times.

Activity #3

The youth will begin planning a Scratch animation or game. Using the storyboard template provided, they will share their 4-H story in a way that promotes 4-H through their 4-H experience or a 4-H project etc. What will the first part of the project have in it? The middle? What do you imagine happening at the end of it? What types of things would be included (trees, a school, a home, a picture of a project you made, a 4-H clover, etc.)? After about 20 minutes, have them share with the club. Have the other youth write down what they liked and any suggestions that could improve the story idea. Each youth/group will take a little time to adjust their plans according to the feedback and then get started if there is time left. Be sure to remind them to save their work.

Use these questions to reflect about the meeting's activities. Processing helps youth think through the learning experience and provides the opportunity to share what they did, how they felt about it, and engage in group discussion.

Reflect

- What was your experience with today's challenge like?
- Did you get stuck somewhere? What did you do to figure it out?
- Why is it important to take stretch breaks when working on computers?
- How does writing a story board help you with your 4-H Scratch project?
- How did you feel about receiving suggestions for your story idea?

The last thing that should take place at a 4-H club meeting is to apply the experience to their daily life and future. Below are some possible questions to apply today's activities.

Apply

- Today you were given your first Scratch Challenge handout with instructions. When is another time you will need to follow instructions?
- Why is it important to follow instructions?
- What are other activities you should take a stretch break from?
- Where else have you seen storyboards used?
- What is an example of a situation where you may need to accept suggestions or feedback from others?

References

Storyboard retrieved from: http://extension.unh.edu/media/storyboard.pdf
Stretch break information was retrieved from: http://ehs.ucsc.edu/programs/ergo/stretch.html
Scratch Challenge developed by Carol Stander at Dixie State University

Healthy Living

Pausing for a stretch break encourages youth to take time for their health.

Science

Drawing up a plan with clear goals and expected outcomes is essential when planning a project.

Mastery

Providing youth with challenges will help them master their skills.

Step 1: Click the 'Stage' Icon and then choose 'Background' tab and then the 'Import' button. Choose the xy-grid.

Step 2: Click on 'Sprite1', which is the cat, and make sure that the 'Scripts' tab is chosen. This is where we are going to put the code. You will drag it from the left.

Step 3: Choose the 'Motion' pallet and drag the 'Glide' block into the scripts area. You will need five of these. Then grab a 'Go to' block and put it in the scripts area.

Step 4: Have each glide block glide for 1 sec. There are five blocks and five sets of coordinates as follows: (0,125), (150,30), (100,-120), (-100,-120), (-150,30)

Connect the blocks in the order shown above and then double click on them. The cat should move around the screen.

Step 5: Choose the 'Pen' pallet and drag the 'Clear', 'Set pen color' and 'Pen down' block

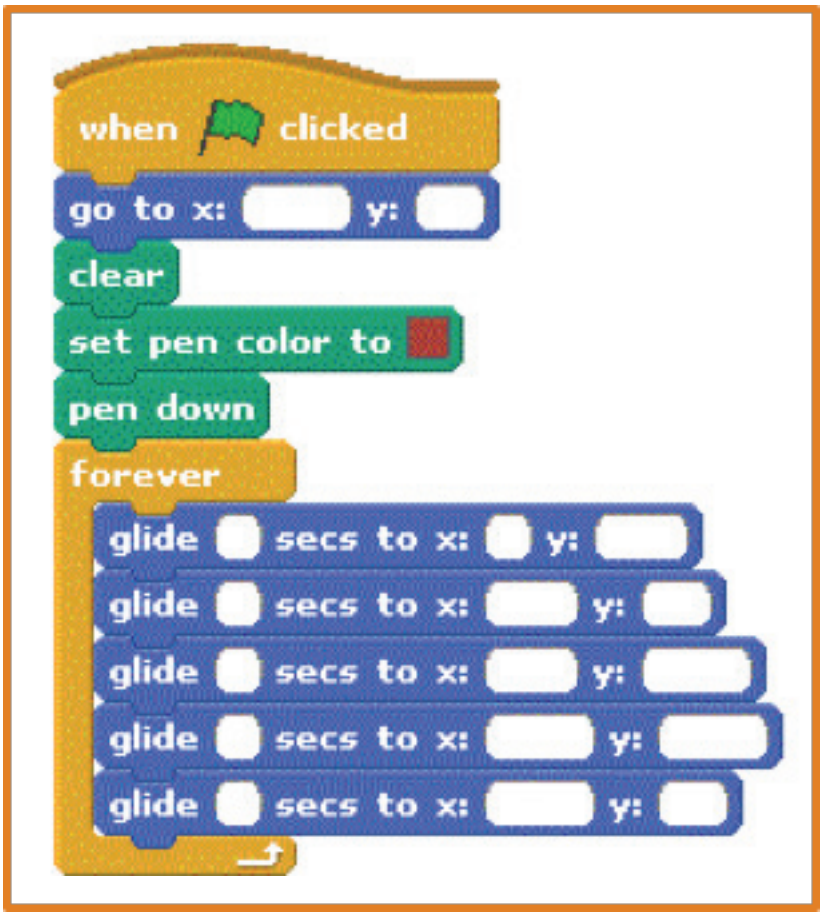
Now we can have Scratch draw the shape. What does Scratchy draw?

Step 6: Choose the 'Control' pallet and drag the 'When clicked' and 'Forever' blocks.

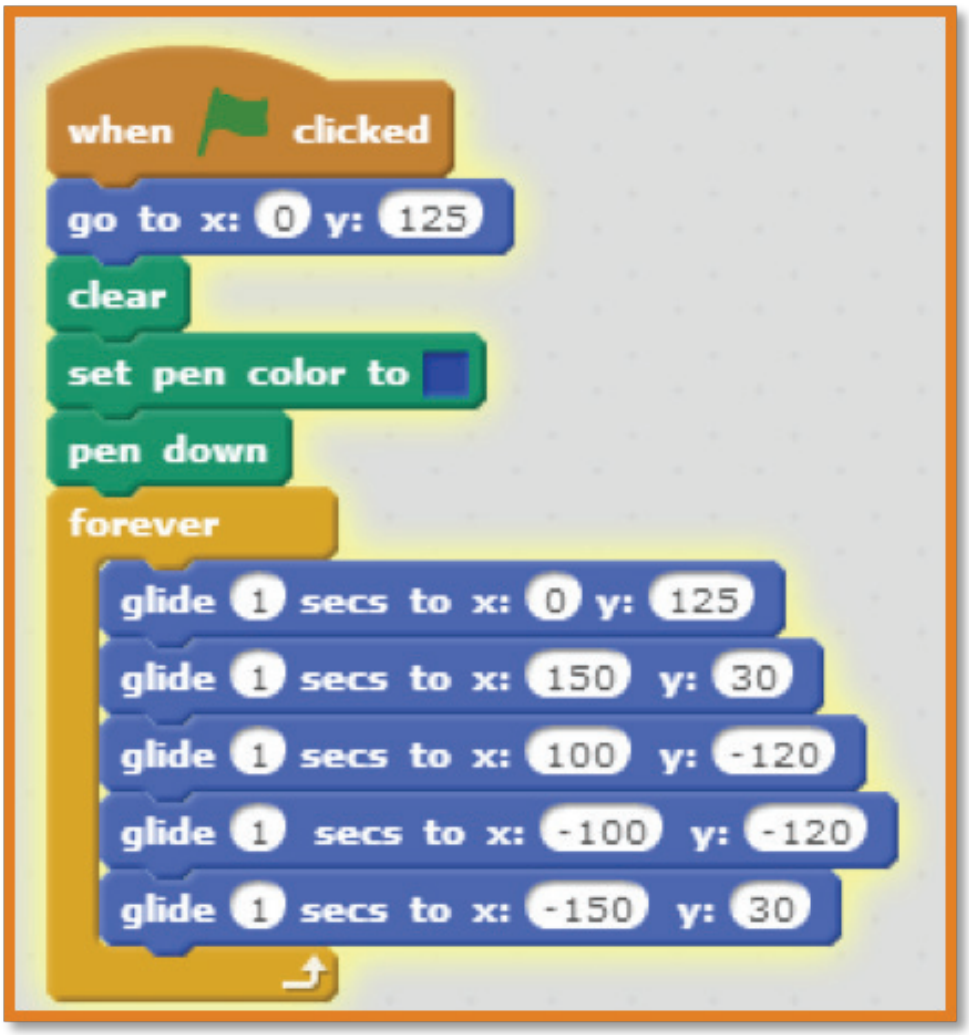
This tells Scratchy to start when you click the green flag. The forever loop will have Scratchy making a shape forever.

EXTRA MILE CHALLENGES

#1: Make the pen color change. (Add another 'when clicked' block that has a 'forever' loop. In that loop is the 'change pen color by' block.
#2: Rearrange the glide blocks so that Scratchy draws a star instead of a pentagon.
#3: Make the pen size change. (Use the 'change pen size by' block)
#4: Choose a new sprite in place of Scratchy.



Because this is their first activity, they were provided the script on their sheet. This is what it should look like with the coordinates entered.



4-H Club Meeting 3
Frogger Challenge and Scratch

Supplies

- Computers for each youth, or one per two youth
- Internet connectivity
- Scratch 1.4 downloaded to each computer
- Frogger Challenge handout for each youth/group

The challenge of this 4-H club meeting is to introduce youth to new code they can create in the Scratch programming language. In this club meeting, youth will continue their 4-H Scratch project.

Activity #1

FROGGER CHALLENGE

Youth will make a Frogger game using the handout provided. If they need help or cannot figure it out, use your Leader Sheet to help them along. If they figure it out a whole different way, that is great!

Activity #2

STRETCH BREAK

Neck Tilt Stretch: Start with head in a comfortable, aligned position. Slowly tilt head to left side to stretch muscles on side of neck. Hold stretch for 10-20 seconds. Feel a good, even stretch and do not overstretch. Then tilt head to right side and stretch. Do two to three times to each side.

Horizontal Neck Stretch: From a stable, aligned sitting position, turn your chin toward your left shoulder to create a stretch on the right side of your neck. Hold right stretch tensions for 10-20 seconds. Do each side twice.

STRETCH BREAK CONTINUED

Vertical Neck Stretch: Gently tilt your head forward to stretch the back of the neck. Hold for 5-10 seconds. Repeat three to five times. Hold only tensions that feel good. Do not stretch to the point of pain.

Activity #3

4-H PROJECT CONTINUED

The youth will work on their 4-H project. Their storyboard should be done or almost done so that they spend most of the time for this activity programming in Scratch. Be sure to remind them to save their work.

Use these questions to reflect about the meeting's activities. Processing helps youth think through the learning experience and provides the opportunity to share what they did, how they felt about it, and engage in group discussion.

Reflect

- What was your experience with getting the frog across to the other bank?
- Did you use a frog or something else?
- How did today's stretch break feel?
- What are you focusing your story on for the project?

The last thing that should take place at a 4-H club meeting is to apply the experience to 4-H members daily life and future. Below are some possible questions to apply today's activities.

Apply

- Where else have you seen a game like Frogger?
- What are some other computer games you know about?
- Do you know of any companies that make games or movies using computer programming?
- Do you think creating games and movies using computers would be fun? Why?

References

Storyboard retrieved from: http://extension.unh.edu/media/storyboard.pdf
Stretch break information was retrieved from: http://ehs.ucsc.edu/programs/ergo/stretch.html
Scratch Challenge developed by Carol Stander at Dixie State University

Healthy Living

Stretch break information was retrieved from: http://ehs.ucsc.edu/programs/ergo/stretch.html
Scratch challenge developed by Carol Stander at Dixie State University

Independence

Allowing youth to work through problems helps them learn that they can do hard things.

Science

Executing the plans that youth make for projects allows them to experiment to see if it works.

Step 1: Make the frog move down and sideways. It does not matter if it's a frog, it can be anything.

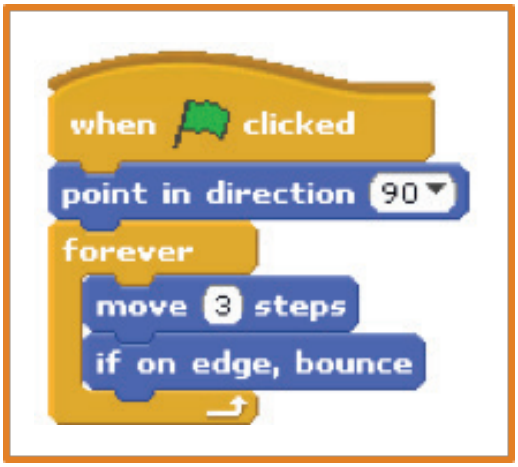
Hint:

Step 2: Change the stage to have two banks with a river inbetween. The object of the game is to get the frog from one bank to the other. The river bank can be whatever color you want it to be.

Step 3: Add more lily pads so the frog can get across the water.

Step 4: Make a script for the lily pads to move.

Hint:

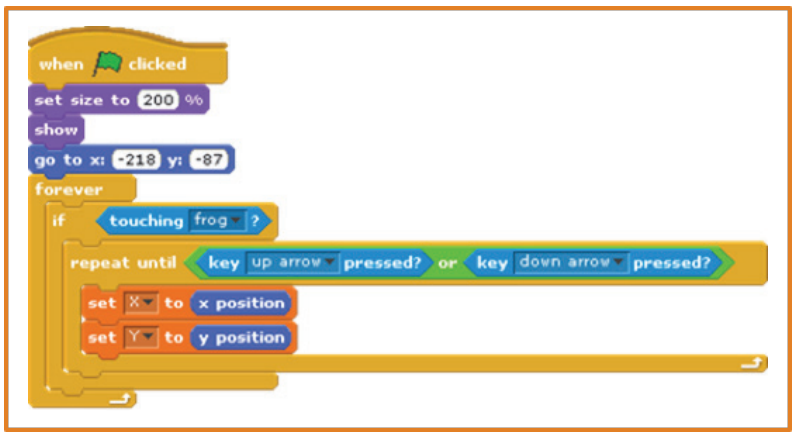


Step 5: If the frog is on the lily pad, I want the frog to stay on the lily pad until it jumps off. How would I do that?

Step 6: Make a script that executes when the frog wins.

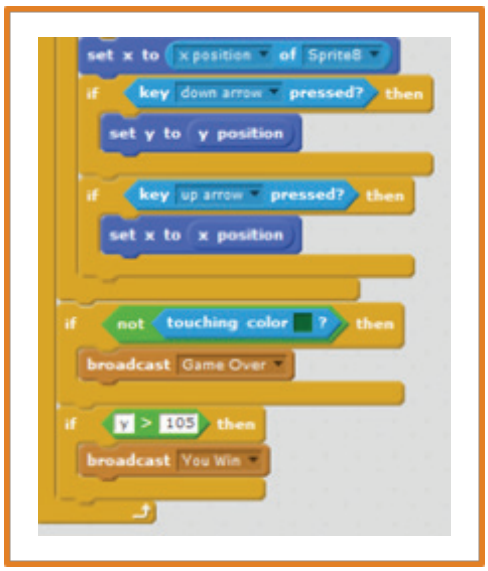
Step 7: Make a script that executes when the frog loses.

For the frog to stay on the lily pad:

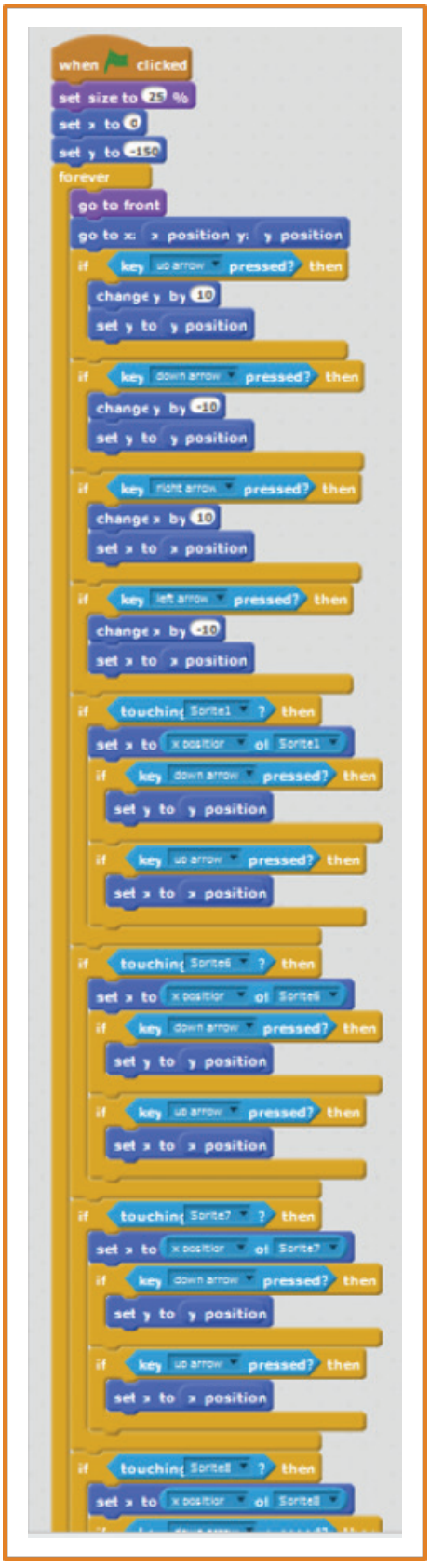


To make the lily pad go left and right:

Script where the frog loses:



Frog script:



4-H Club Meeting 4
Pong Challenge and Scratch

Supplies

- Computers for each youth, or one per two youth
- Internet connectivity
- Scratch 1.4 downloaded to each computer
- The Pong Challenge handout for each youth/group

The challenge of this 4-H club meeting is to introduce youth to new code they can create in the Scratch programming language. In this club meeting, youth will continue their 4-H Scratch project.

Activity #1

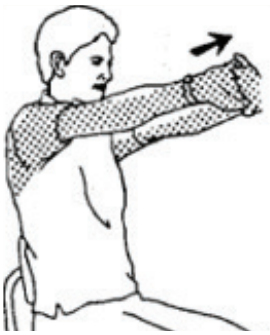
PONG CHALLENGE

Youth will make a Ping Pong game using the handout. If they need help or cannot figure it out, use your Leader's Sheet to help them along. If they figure it out a whole different way, that is great!

Activity #2

STRETCH BREAK

Shoulder Stretch: Hold your left arm just above the elbow with the right hand. Now gently pull elbow toward opposite shoulder as you look over your left shoulder. Hold stretch for 15-20 seconds. Do both sides.



Arm Stretch: Interlace fingers, and then straighten arms in front of you. The palm should be facing away from you as you do this stretch. Feel stretch in arms and through the upper part of the shoulder blades. Hold stretch for 10-15 seconds. Do at least two times.

Activity #2

STRETCH BREAK

Arm-Lat Stretch: Interlace fingers then turn palms upward above your head as you straighten your arms. Think of elongating your arms as you feel a stretch through arms and upper sides of rib cage. Hold for 10-20 seconds. Hold only stretches that feel relaxing. Do three times.

Tricep Stretch: Hold left elbow with right hand, then gently pull elbow behind head until an easy tension-stretch is felt in shoulder or back of upper arm (triceps). Hold easy stretch for 30 seconds. Do not overstretch. Do both sides.

Activity #3

4-H PROJECT CONTINUED

The youth will continue to work on their 4-H project. Be sure to remind them to save their work. Let them know that they have one more meeting to finish.

Use these questions to reflect about the meeting's activities. Processing helps youth think through the learning experience and provides the opportunity to share what they did and how they felt about it, and engage in group discussion.

Reflect

- How far along are you on your storyboard?
- Have things gone as planned?
- Have you had to change your story at all?
- What is it like to work on something that takes time to finish?

The last thing that should take place at a 4-H club meeting is to apply the experience to their daily life and future. Below are some possible questions to apply today's activities.

Apply

- What school assignment have you worked on that took more than one day to finish?
- What can people do to keep going on long, challenging projects?

References

Stretch break information was retrieved from: http://ehs.ucsc.edu/programs/ergo/stretch.html
Scratch Challenge developed by Carol Stander at Dixie State University

Healthy Living

Teaching youth a variety of stretching techniques equips them with tools they need to choose healthy habits.

Mastery

A long, challenging project helps youth learn perseverance while gaining mastery.

Belonging

Youth who experience a welcoming environment and a leader who is patient and encouraging gain a sense of belonging.

Step 1: Make two sprites: a ball and paddle (can just be a horizontal line).

Step 2: Program the paddle to move left and right.

Step 3: Make a script for the ball to move around and bounce off the paddle.

Hint:

Step 4: Make a cool background.

Step 5: Add scoring.

Hint: You are making your own block.

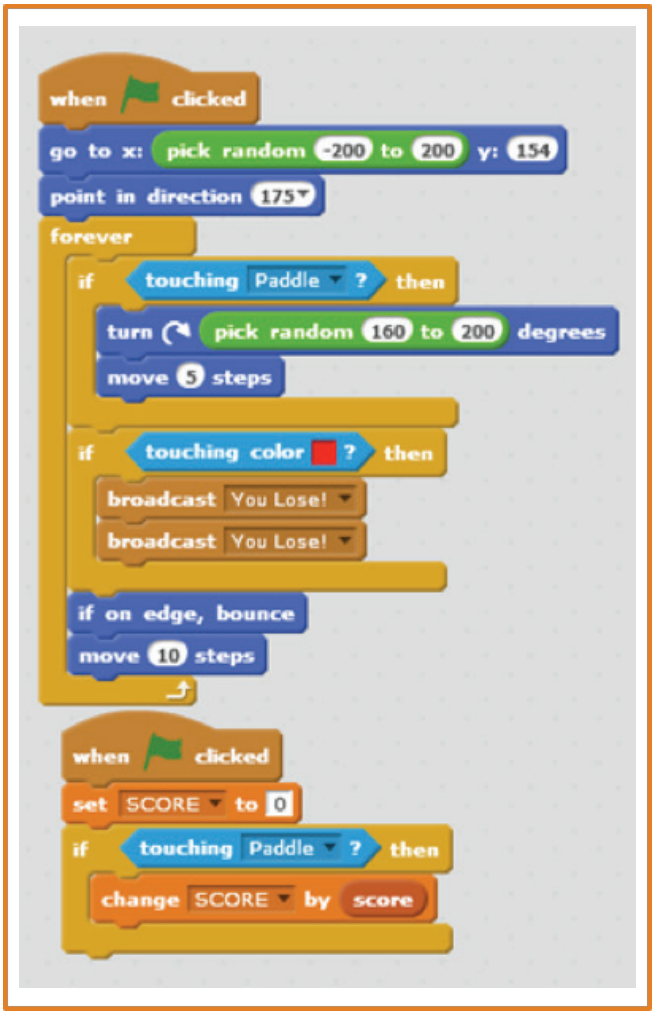
Step 6: Add sound effects.

Step 7: Make multiple levels.

You can add more sprites to hit the paddle at once.

Paddle Script:
Add more sprites to hit the paddle.
This script will go on that paddle script too.

Ball Script:



The score script will be on the ball script and on the paddle script.

4-H Club Meeting 5
Alien Invasion Challenge and Scratch

Supplies

- Computers for each youth, or one per two youth
- Internet connectivity
- Scratch 1.4 downloaded to each computer
- Alien Invasion Challenge handout for each youth/group

The challenge of this 4-H club meeting will be to introduce youth to new code they can create in the Scratch programming language. In this club meeting, youth will continue their 4-H Scratch project.

Activity #1

ALIEN INVASION CHALLENGE

Youth will make an Alien Invasion game using the handout. If they need help or cannot figure it out, use your Leader's Sheet to help them along. If they figure it out a whole different way, that is great!

Activity #2

STRETCH BREAK

Hamstring Stretch: Hold onto your lower leg just below the knee. Gently pull bent leg toward your chest and isolate a stretch in the side of your upper leg. Make use of the right arm to pull bent leg toward the opposite shoulder. Hold for 10-20 seconds at easy stretch tension. Do both sides.

STRETCH BREAK CONTINUED

Lower Back-Hip Stretch: Sit with left leg bent over right leg, then rest elbow and forearm of right arm on the outside of the upper thigh of the left leg. Now apply some controlled, steady pressure toward the right with the elbow or forearm. As you do this, look over your left shoulder to get the stretch feeling. Do both sides. Hold for 15 seconds.

Chest-Arm Stretch: The next stretch is done with fingers interlaced behind your back. Slowly turn your elbows inward while straightening your arms. Hold for 5-15 seconds. Do twice.

Calf Stretch: Stand a little way from a wall for solid support and lean on it with your forehead resting on your hands. Bend over and place your foot on the floor in front while leaving the other leg straight. Slowly move your hips forward until you feel a stretch in the calf of your straight leg. Be sure to keep the heel of the foot of the straight leg on the floor and your toes pointed straight ahead. Hold an easy stretch for 30 seconds. Stretch both legs.

Activity #3

4-H PROJECT CONTINUED

The youth will continue to work on their 4-H project. This is the last meeting they have to finish their project. If they are done, encourage them to double check that everything is working right and see if they would like to make any edits. Be sure to remind them to save their work. At the next meeting, they will need to be prepared to share their project with the club, including their storyboard.

Use these questions to reflect about the meeting's activities. Processing helps youth think through the learning experience and provides the opportunity to share what they did, how they felt about it, and engage in group discussion.

Reflect

- How did they like this last challenge?
- What problems did they experience?
- How do they feel about what they have accomplished with Scratch?
- Ask them to compare what it was like to explore Scratch in the first meeting to working on Scratch during this meeting.

The last thing that should take place at a 4-H club meeting is to apply the experience to their daily life and future. Below are some possible questions to apply today's activities.

Apply

- If you could design any video or computer game, what would you design?
- How could understanding computer programming help you in the future?

References

Stretch break information was retrieved from: http://ehs.ucsc.edu/programs/ergo/stretch.html
Scratch Challenge developed by Carol Stander at Dixie State University

Mastery

Finishing a project gives youth a sense of mastery.

Science

Comparing predictions/goals with outcomes is science in action.

Healthy Living

The feeling of accomplishing something can give youth a boost in confidence and self-esteem.

Code for the alien:

- Start Function with "When green flag clicked"
- Forever Loop
    - Go to a random x position and a y position of 180 #(which is the top)
    - "Show" the alien
    - Repeat until alien has fallen below the map
- Change the y-value of the alien so that he goes down
- If "touching mouse pointer" and "mouse down?"
- Repeat 10
- Change ____ effect by __ #(you can choose whirl, pixelate etc.)
- "Clear graphic effects"
- Go to a random x position and a y position of 180 (which is the top)
- Show
    - If y position of alien < -175 #(fallen off the map)
- Wait (random time between .1 and .3)
- Change lives by -1 #(You lost a life because the alien fell off the map)
    - Hide

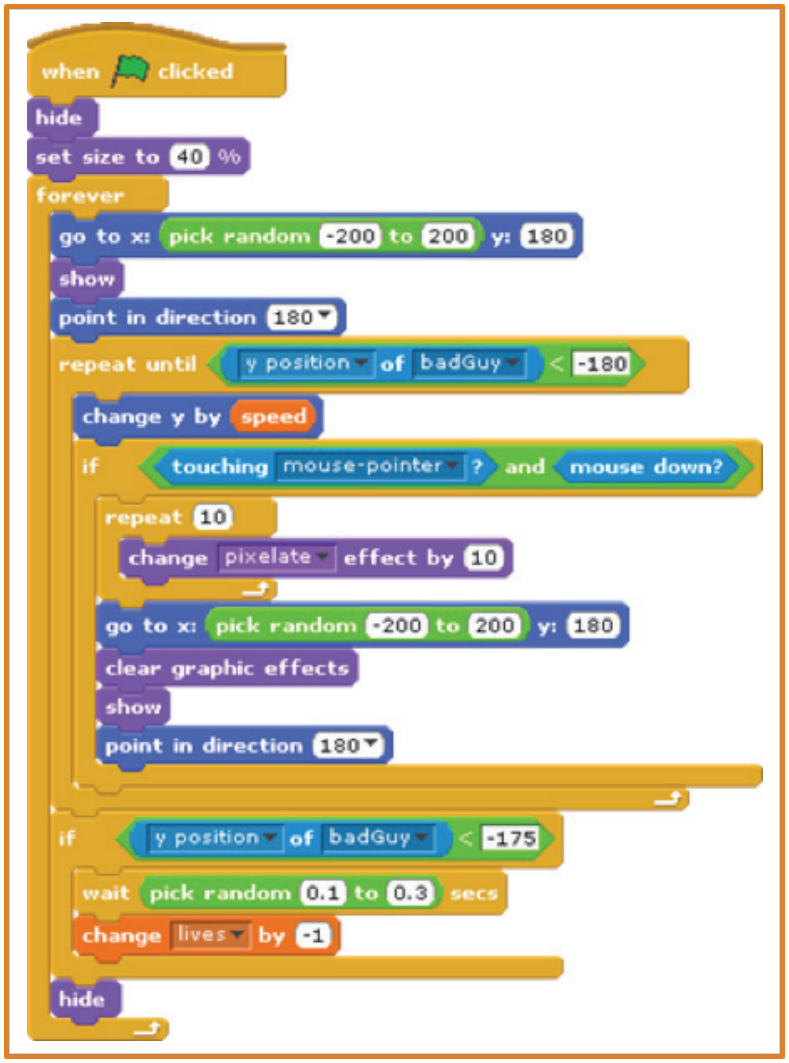
Code for the stage

- 1st) Create three variables called lives, speed, and time.

- Start Function with "When green flag clicked"
- Set initial value for lives with "Set lives to __" #(how many lives do you want to start with?)
- Forever
    - If lives < 1
    - Stop all

- Start Function with "When green flag clicked"
- Set initial value for speed with "Set speed to __" #(the larger the number – the faster they fall!)
- Set initial value for time with "set time to __" #(We usually start timers at 0)
- Forever
    - Repeat 10
        - Wait 1 second
        - Change time by 1 #(every second the timer adds 1)
    - Change speed by __ #(this is tricky as you are moving in a negative direction)

This is the code for the bad guy:



This is the code for the stage:

When you click on the bad guys in this game, you make them disappear. If they keep going down and you can't click on them, the bad guys get more lives.

4-H Club Meeting 6
Scratch Project Festival

Supplies

- Computers for each youth, or one per two youth
- Internet connectivity
- Scratch 1.4 downloaded to each computer
- A large screen and projector or television
- All the 4-H projects downloaded
- Popcorn/Treats

Throughout this 4-H Code Club curriculum, youth have been introduced to computer science using Scratch, a visual programming language. This is the last club meeting for this curriculum where youth will celebrate their accomplishments by sharing their 4-H Scratch project with everyone in the club, as well as family and friends (if invited). The fun and learning of computer science can continue, as the possibilities of Scratch are endless. Eventually, the club should consider moving onto learning to code using the Python programming language, also available in the Discover 4-H curriculum library.

Activity #1

SCRATCH PROJECT FESTIVAL

It's the big reveal! At this meeting youth will celebrate their achievements by sharing their 4-H Scratch Project program. The environment at this meeting should be fun, friendly, and encouraging. Be sure to let the youth know they can save their projects and enter them in their county fair. Similarly, they can demonstrate computer coding through Scratch at a 4-H demonstration contest. Showcasing skills learned and projects completed is an important part of being a well-rounded 4-H member.

Have each youth/group take turns showing their game and presenting it. After showing their project, ask the youth to share their storyboard and how they developed the project. Ask them to share why they chose it, challenges they faced, how they overcame the challenges, etc. Once they have shared, they can answer questions the other youth may have.

Being mindful of possible youth allergies, provide treats, and enjoy the celebration.

Use these questions to reflect about the meeting's activities. Processing helps youth think through the learning experience and provides the opportunity to share what they did and how they felt about it, and engage in group discussion.

Reflect

- What was your favorite thing about being in this club?
- What blocks did you use most in your project?
- What was the biggest overall obstacle/problem that you had to solve?
- Did you find yourselves helping each other with the challenges?

The last thing that should take place at a 4-H club meeting is to apply the experience to their daily life and future. Below are some possible questions to apply today's activities.

Apply

- Why is it important to share things you create?
- What opportunities does 4-H give you to showcase the projects and skills you have learned?
- How do video and computer game makers share their creations?

Belonging

Receiving kind comments from leaders and other club members about projects youth have worked hard on and completed gives them a sense of belonging.

Citizenship

Kind comments among club members about their projects create a spirit of camaraderie.

Generosity

When youth listen attentively and quietly as others present, they are showing respect and generosity to their fellow club members.

More to Discover

Congratulations on completing your Discover 4-H club meetings! Continue with additional curriculum in your current project area, or discover other 4-H project areas. Check out the following links for additional 4-H curriculum.

1. http://utah4h.org/htm/discover4hclubs
2. http://www.4-h.org/resource-library/curriculum/
3. http://utah4h.org/htm/resource-library/view-all-curriculum

Become a 4-H Member or Volunteer

To **register** your Utah club or individuals in your club visit:

http://www.utah-4.org/htm/staff-resources/4-h-online-support

http://utah4h.org/htm/about-4-h/newto4h/

Non-Utah residents please contact your local 4-H office:

http://www.4-h.org/get-involved/find-4-h-clubs-camps-programs/

Stay Connected

Visit Your County Extension Office

Stay connected with 4-H activities and news through your county Extension office. Ask about volunteer opportunities and don't forget to register for your county newsletter. Find contact information for counties in Utah here:

http://extension.usu.edu/htm/counties

Enjoy the Fair!

Enter your project or create a new project for the county fair. Learn about your county fair and fair judging here:

http://utah4h.org/htm/events-registration/county-fairs

Participate in Local or State 4-H Activities, Programs, Contests or Camps

For Utah state events and programs visit:

http://utah4h.org/htm/events-registration

http://www.utah4h.org/htm/featured-programs

For local Utah 4-H events and programs, visit your county Extension office.

http://extension.usu.edu/htm/counties

Non-Utah residents, please contact your local 4-H office.

http://www.4-h.org/get-involved/find-4-h-clubs-camps-programs/

Discover *Service*

Become a 4-H Volunteer!

http://www.youtube.com/watch?v=UBemO5VSyK0

http://www.youtube.com/watch?v=U8n4o9gHvAA

To become a 4-H volunteer in Utah, visit us at:

http://utah4h.org/htm/about-4-h/newto4h/

Serve Together as a 4-H Club or as an Individual 4-H Member

Use your skills, passions, and 4-H to better your community and world. You are needed! Look for opportunities to help in your area or participate in service programs that reach places throughout the world (religious groups, Red Cross, etc.).

Hold a Club Service Project

USU Collegiate 4-H Club hosted "The Gift of Giving" as a club activity. Club members assembled Christmas stockings filled with needed items for CAPSA (Community Abuse Prevention Services Agency).

http://tinyurl.com/lu5n2nc

Donate 4-H Projects

Look for hospitals, nursing homes, or other nonprofit organizations that will benefit from 4-H projects. Such projects include making quilts for CAPSA or Primary Children's Hospital, or making beanies for newborns. During Utah 4-H State Contests, 40 "smile bags" were sewn and donated to Operation Smile.

Partner with Local Businesses

92,000 pounds of processed lamb, beef, and pork were donated to the Utah Food Bank in 2013 by multiple companies.

http://tinyurl.com/pu7lxyw

Donate Money

Clubs or individuals can donate money gained from a 4-H project to a worthy cause. A nine-year-old 4-H member from Davis County donated her project money to help a three-year-old battle cancer.

http://tinyurl.com/mqtfwxo

Give Us Your *Feedback*

Help us improve Discover 4-H curriculum. We would love feedback or suggestions on this guide; please go to the following link to take a short survey:

http://tinyurl.com/lb9tnad