When technology fails:

Don't fret! Club members can still have a great experience, even when there are bumps in the road.

Computer/Internet Issues?

1. Talk to the teacher host about how to address the issue.
2. Troubleshoot the issue.
3. If the issue persists, pick a non-computer backup plan.

Website Issues?

1. Make sure club members are using the Chrome browser. This browser usually has fewer issues than Firefox, Internet Explorer, etc.
2. If the sites are blocked on some of the school computers, ask the teacher host how to address the issue.
3. If the issue persists, pick a non-computer backup plan.
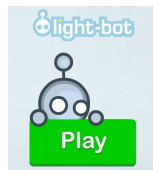
Computer Backup Plans

Backup Plan 1: Code.org
The Blockly activity on code.org teaches basic coding concepts and uses characters from Angry Birds and Plants v. Zombies.
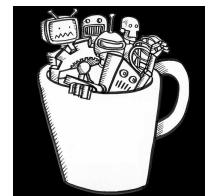
Backup Plan 2: Lightbot
In Lightbot, club members program a robot to move and perform different functions.
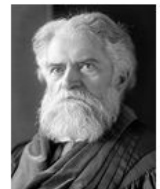
Non-Computer Backup Plans

Backup Plan 3: Draw Like a Robot
In this activity, club members practice giving very specific instructions.

Backup Plan 4: Programmer Says
Programmer Says reinforces the concepts of sequencing instructions and conditionals.
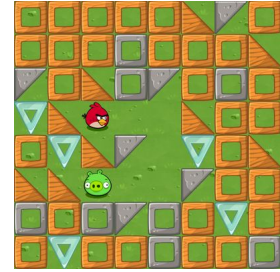
Contingency Plan: Code.org

Use this plan when:
1. The Scratch website is down or very slow.
2. The CS First website is down, or the videos are inaccessible.

Blockly is a block-based programming language that looks and works a lot like Scratch. The Blockly activity on **code.org** teaches basic coding concepts and uses characters from Angry Birds and Plants vs. Zombies.

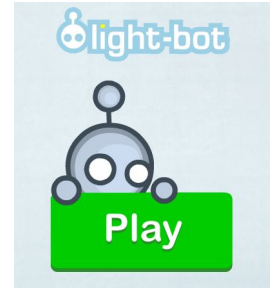### Transition to Blockly on Code.org

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Directions

1. Display the web address for the Blockly activity on the smartboard, or write it on the whiteboard.
   Use the following link: **learn.code.org/hoc/1**
   OR
   Search on your preferred browser for: **"code.org angry birds"**

2. Use the silent signal to get the attention of all club members. Have all members turn off their monitors and remove their headphones before they start.
   [Silent Signal] "I need everyone's attention up here, please. Everyone please turn off your monitors." [wait for all members to turn off monitors]

3. Introduce Blockly.
   "Since we're having some technical issues, we are going to try out a different programming tool called Blockly. Blockly is a block-based programming language just like Scratch. You're going to use Blockly to play a game that has the characters from Angry Birds and Plants vs. Zombies."

4. Explain not to watch the videos.
   "When you go to the website on the board, some videos will pop up. Go ahead and X out of those videos for now. We want to make sure you have plenty of time to solve the coding challenges in the game."

5. Emphasize that club members are not competing against each other.
   "One last thing: I want you to remember that you are not competing with each other. We are supportive in this club. Let's be supportive of each other no matter how far others get in Blockly."

6. Direct students to the website.
   "When I say 'go,' I want you to turn on your monitors, go to the website on the board, and start playing the first level. If you have a question, ask your neighbors for help. Okay, go!"

7. Circulate around the room, encourage club members, and answer questions.

8. For the closing discussion, ask:
   What did you like about today's activity?
   What was challenging about today's activity?
   What was one thing about Blockly that was similar to Scratch?

Contingency Plan: Lightbot

Use this plan when:
1. The Scratch website is down or very slow.
2. The CS First website is down or the videos are inaccessible.
3. **Flash is installed and updated on the computers.**

Lightbot is a game that teaches basic computer science concepts. In Lightbot, club members program a robot to move and perform different functions.

Transition to Lightbot

Directions

1. Ask the club host if Flash is installed/updated on the school computers. You will need Flash to run Lightbot.

2. Display the web address for the Lightbot on the smartboard, or write it on the whiteboard.
   > Use the following link: **lightbot.com/hocflash.html**
   > OR
   > Search on your preferred browser for**: "lightbot"**

3. Use the silent signal to get the attention of all club members. Have all members turn off their monitors and remove their headphones before they start.
   > [Silent Signal] "I need everyone's attention up here, please. Everyone please turn off your monitors." [wait for all members to turn off monitors].

4. Introduce Lightbot.
   > "Since we're having some technical issues, we are going to try out a different programming tool called Lightbot. In Lightbot, you program a robot to move and perform different actions."

5. Emphasize that club members are not competing against each other.
   > "One last thing: I want you to remember that you are not competing with each other. We are supportive in this club. Let's be supportive of each other no matter how far others get in Lightbot."

6. Direct club members to the website.
   > "When I say 'go,' I want you to turn on your monitors, go to the website on the board, and start playing the first level. If you have a question, ask your neighbors for help. Okay, go!"

7. Circulate around the room, encourage club members, and answer questions.

8. For the closing discussion, ask:
   > What was one thing you liked about today's activity?
   > What was one thing you thought was challenging about today's activity?
   > What was one thing about Lightbot that was similar to Scratch?

Contingency Plan: Draw Like a Robot

Use this plan when:
1. The computers or Internet are not working.
2. **There are more than 20 minutes left before the club ends.**

Time: 20 - 30 minutes (Flexible: This activity can be run multiple times.)

In this activity, you will practice giving very specific instructions. You need to be very specific when you talk to a computer. It will do exactly what you tell it to: no more, no less.

<div style="background:purple;color:white">Breakdown: Draw Like a Robot Activity</div>

Directions

1. Club members partner up with the person next to them.
   GURU NOTE: If there is an odd number of students, one Guru should pair with a student.

2. Club members fold a sheet of paper in half. They will draw their own picture on one side and their partner's picture on the other.

3. Club members put up folders between themselves and their partner.

4. Club members draw a picture on one half of the paper. (15 seconds)

5. Club member 1 describes to club member 2 how to draw their picture. (5 minutes)
   Club member 2 draws the picture on the other half of his/her paper.

6. Club member 2 shows club member 1 their depiction of the instructions.

7. Club member 1 shows club member 2 the original picture.
   Partners should then discuss differences between the two pictures and why they occurred.

8. Club members 1 and 2 reverse roles.

9. Start the discussion after both club members have swapped roles.
   > What was hard to get across to your partner?
   > Was the second time easier than the first?
   > What worked well?
   > How is this like talking to a computer?

Directions

1. Pass out a piece of paper and a writing utensil to each club member.

2. If possible, display a timer on the smartboard. If that's not possible, keep the time using a clock or watch.

3. Use the silent signal to get the attention of all club members. Have all members turn off their monitors and remove their headphones before they start.
    [Silent Signal] "I need everyone's attention up here. Please turn off your monitors." [wait for all members to turn off monitors].

4. Introduce Draw Like a Robot.
    "Since we're having some technical issues, we are going to try a fun activity called Draw Like a Robot. As you know from working in Scratch, you need to be very specific when you talk to a computer. It will do exactly what you tell it to: no more, no less. We will program by acting like a robot that is controlled by computer code! You are going to draw a picture, then give your fellow club members specific instructions on how to draw the same picture, without them seeing your drawing."

5. Give activity directions.
    "For this activity every club member needs a partner. Turn and face a partner next to you. When you have a partner, fold your paper in half, and put a folder between you and your partner. When I say "go," you will have 15 seconds to draw a picture. Then, you will have 5 minutes to explain the picture to your partner while he or she tries to draw it. **Make sure your partner cannot see your picture during this time period.** The person who is drawing is not allowed to talk or ask questions. After five minutes are up, I will tell you to switch roles: The person who gave instructions on how to draw his or her picture will then receive instructions on how to draw the other person's picture."

    GURU NOTE: If there is an odd number of students, one Guru should pair with a student.

6. Pause for questions.
    "Does anyone have any questions?" [Once questions have been answered:] "Go!"

7. Circulate the room while students complete the activity. If there is time, you can run the activity multiple times.

8. For the closing discussion, ask:
    What was hard to get across to your partner?
    Which time was easier, the first or the second?
    What worked well?
    How is this like talking to a computer?
    Some possible answers (bring these up if club members don't mention it on their own):
    ● A computer doesn't know how to draw pictures without specific instructions:
        ○ For example, "draw a sun" is probably less effective than "draw a circle about 3 inches in diameter in the middle of the page, then draw 6 equal lines around it to make it look like a sun."
    ● A computer can't ask you questions to figure out what you want it to do.
    ● A computer will do exactly what you tell it to do.
    ● You will not know whether your instructions are correct until you see the computer's result. That's why it's important to test your program often.

Contingency Plan: Programmer Says

Use this plan when:

1. The computers or Internet are not working.
2. **There are less than 20 minutes left BEFORE the club ends.**

Time: 20 - 30 minutes (Flexible: This activity can be run multiple times.)

In this activity, we will explain and reinforce the concepts of sequencing instructions and conditionals through an advanced version of Simon Says called "Programmer Says."
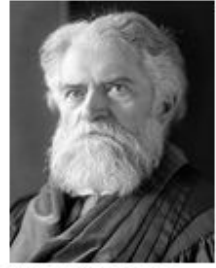
Simon Newcomb, mathematician

Transition to Programmer Says Activity

Directions

1. Use the silent signal to get the attention of all club members. Have all members turn off their monitors and remove their headphones before they start.

   > [Silent Signal] "I need everyone's attention up here. Please turn off your monitors." [wait for all members to turn off monitors].

2. Introduce Programmer Says.

   > "Since we're having some technical issues, we are going to play an advanced version of Simon Says called Programmer Says. This game uses some computer science concepts we've already used in Scratch. Who can tell me what Simon Says is? [wait for club member response]."

3. Connect Programmer Says to computer science.

   > "In this game, I'm going to play the role of a programmer, and you all are going to be computers. I'm going to program you with some instructions, but you should only follow them if I say, 'Programmer Says,' first. We're going to use two computer science concepts for this game: conditionals and sequencing instructions."

4. Briefly explain conditionals.

   > "Can someone explain to me what a conditional is?
   > [Wait for club member response. If needed, clarify: "In a conditional, a certain thing has to happen before an action can take place. The thing that has to happen is called the condition. For example, your parents might say, 'if your homework is done, then you can hang out with your friends.' Your homework being done is the condition that has to be met."] "So, in our game, the condition is me saying 'Programmer Says.' If I say it, you will perform the action that follows afterwards. If I don't say 'Programmer Says,' then you won't."

5. Briefly explain sequencing instructions.

   > "The other computer science concept we're going to use is sequencing instructions. Can someone explain to me what it means to sequence instructions?" [wait for club member response.]
   > "Sequencing instructions means doing something in a particular order. So, if Programmer Says 'touch your nose, then your lips, then your chin,' what are you going to do?"

6. Clarify what club members should do when they are out of the game.

   > "Remember that if you don't follow an instruction after I say 'Programmer Says,' or you do follow an instruction when I *didn't* say 'Programmer Says,' then you're out of the game for that round, and you should sit down. Does anyone have any questions before we start the game?"

7. Use the instruction suggestions below to run the activity.

8. For the closing discussion, ask:
   What was one thing you liked about today's activity?
   What was one thing you thought was challenging about today's activity?
   How is Programmer Says like Scratch? What computer science concepts does it use?

A few suggestions to help you get started:

Simple Instructions

Programmer says clap once.
Programmer says clap twice.
Programmer says look up.
Now look down. (If they do, they're out.)
Programmer says act like a robot.
Programmer says to pat your head. (Don't Stop!)
Stop. (If they stop, they're out.)
Programmer says turn around once.
Let's try that again. Turn around once. (If they do, they're out.)
Programmer says giggle.
Programmer says laugh.
Programmer says put both hands up in the air.
Programmer says put your left hand down.
Put your right hand down. (If they do, they're out.)
Programmer says spin around.
Stop. (If they do, they're out)
Programmer says stop.
Programmer says point to the door.
Programmer says point to the floor.
Point to the ceiling. (If they do, they're out.)
Programmer says stick out your tongue.
Touch your toes. (If they do, they're out.)
Programmer says make a funny face.
Programmer says point to your right.
Clap three times. (If they do, they're out.)
Programmer says reach for the sky.
Stand on one foot. (If they do, they're out.)
Touch your nose. (If they do, they're out.)
Programmer says touch your shoulders.
Programmer says touch your knees.
Programmer says touch your toes.
Stand up straight. (If they do, they're out.)
Programmer says stand up straight.
Touch your head. (If they do, they're out.)

Advanced Instructions

Programmer says if I'm holding up exactly one finger, then hop on your left leg.
Programmer says if I'm holding up exactly two fingers, hop on your right leg.
Programmer says if I'm waving my hand, nod your head yes.
Blink your eyes. (If they do, they're out.)
Programmer says if I nod my head yes, shake your head no.
Programmer says if I clap my hands, close your eyes.
Open your eyes. (If they do, they're out.)