Unit 4

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General Accomodation by Ability Level

Schedules:

- Schedules are a guide.
- Time for tasks and breaks should be individualized based on attention span and behavioral needs.
- Observational data should be collected to document these needs.

Pre-Teaching

Group 1

- Students with little or no formal communication systems, low tech AAC, sight word or non-readers will need 1:1 or 1:2 instruction
- Manipulatives
- Direct Modeling by the teacher
- Hand-under-hand to instruct, and hand-over-hand to model responses.
- Systematic Prompting
  - Least prompts, Most to Least, Guided Practice (independent; verbal cue; model; physical prompt, if tolerated)
  - Select the individualized prompts and record student response data
- Lessons broken into smaller segments
- Repeated practice

Group 2

- Students who use AAC and/or other visuals for comprehension and have some sight words or pre-K reading levels may need small group instruction
- Lessons broken into smaller segments
- Small group instruction
- Direct modeling by the teacher
- Repeated Practice

Group 3

- Students who have a grade 2 reading level or higher, formal communication systems (verbal or AAC) may need content to be broken down into smaller segments
  - Select content reading level grade 2 or grade 4 for each student
  - Video Modeling or Direct Modeling by the teacher
  - Visuals and manipulatives for improved comprehension
  - Probe length of time on task and needs for breaks and adjust instructional times (record if different from times in the suggested schedules)

Design and Reflection Journals

Group 1

- For student with little or no formal communication system:
  - Model and prompt the response
  - May need to only answer like/dislike the task using individualized communication (point to symbol; answer a question with a yes/no response)
  - Have the instructor record the response in the student's journal

Group 2

- Students who use AAC and/or other visuals for comprehension and have some sight words or pre-K reading levels may need small group or individual instruction
  - Model expectations and repeat the task for those who did not complete the task
  - Responses may be written, oral with a scribe writing the response in the journal, or may draw a picture.

Group 3

- Students with a grade 2 reading level or higher
  - May need repeated instruction for the first few lessons

Notes:

Unit 4
SESSION 1

Dream Game List

Session Schedule

Pre-teaching (10 minutes)

Activity Part 1 (20 min)

Break (2 min)

Activity Part 2 (20 min)

Break (2 min)

Activity Part 3 (20 min)

Pre-Teaching Topics & Terms

Topics:

Discuss a few games with students including their design elements, mechanics, and common features

Terms:

Terms	Description and Symbol
Brainstorm	Discussion with your group members to find different game ideas. 
Game Mechanics	Rules of the game. 
Game Design	Design of the game. 
Purpose	Reason for doing something. 

Expectations:

Tell students that they are expected to come up with a dream game they would like to create including its design elements.

Session Objectives

This session aims to teach students how to identify common design elements of games.

Learning Objectives

By the end of this session, students will be able to

1. Come up with a dream game with at least three design elements (e.g., character(s), scoring, game mechanics, the start and end, purpose, competition, progress, etc.).

ACTIVITY DESCRIPTION

Activity Part I

- Divide students with a pre-K reading level or higher into small groups of 2-3 people.
- In their small groups, ask students to come up with a list of games that they enjoy playing. Students may choose to generate the list on their design journal or may choose to do a brainstorm activity with their peers and/or with USATs.

Activity Part 2

- For students who prefer working in groups, facilitate a class discussion about what elements make up a game, and come up with a common game mechanics.
- Students who prefer to work alone may have the discussion with a peer and/or with USATs, and students may respond to the discussion questions (i.e., what elements make up a game and come up with a list of common game mechanics) on their design journals.

Activity Part 3

- Ask students to describe their dream games with design elements (e.g., character(s), competition, game mechanics, scoring, start and end, purpose, storyline, progression, etc.) for the games.
- Students who prefer to work in groups (names) may have a small group discussion.
- Students who prefer to work alone may discuss this with USATs, may write/sketch this down on their design journals.

Resources:

- Paper to write down game design elements
- Things to sketch with (pencils, pens, markers, etc.)

Notes to the Teacher

- Move students who seem agitated, uncooperative, being destructive, and/or showing repetitive, idiosyncratic speech patterns, and/or inappropriate behavior to an individual workstation, a calming, or quiet area.
- Move students showing anxiety to a familiar environment to reduce their anxiety levels.
- Facilitate ways to calm students down.
- Pair students who does not intitiate interaction but will accept initiations from others with students who prefer studying in groups.
- Use common and familiar words in your verbal instructions for students having difficulty communicating.
- Do not enforce a time limit for students who are having difficulty comprehending instructions and/or completing tasks
- For students with tendency to persevere on a topic, involve teacher aid/USATs for individualized assistance.
- Give frequent breaks for students as specified in the IEP or based on classroom data
- Offer extended time to students as indicated in the IEP or based on classroom data.
- Provide positive, meaningful, and immediate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts.
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom.

Notes by the Teacher:

Unit 4
SESSION 2

Starter Games

Session Schedule

Pre-teaching (10 minutes)

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Activity Part 1 (5 min)

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Break (2 min)

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Activity Part 2 (10 min)

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Break (2 min)

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Activity Part 3 (20 min)

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Break (2 min)

↓

Reflection Prompts (5 min)

Pre-Teaching Topics & Terms

Topics:

Go over the Scratch blocks in one of the example starter projects (Maze, Pong, or Scrolling).

Terms:

Terms	Description and Symbol
Starter Game	First game that you design using your idea. 
Game-in-progress	A game that is already created and being played now. 

Expectations:

Tell students that they are expected to create a starter game project by either starting from scratch or remixing/reusing one of the example starter projects (Maze, Pong, Scrolling).

Session Objectives

This session aims to teach students how to create a starter game project.

Learning Objectives

By the end of this session, students will be able to

1. Create a starter game project by either starting from scratch or remixing/reusing one of the example starter projects (Maze, Pong, Scrolling).

ACTIVITY DESCRIPTION

Activity Part 1

- Play the Maze, Pong, and Scrolling example starter projects
- Have the Maze, Pong, and Scrolling visual handouts available to guide students with a pre-K reading level and higher
- USATs should work 1:1 with students who have little or no formal communication systems, using a step-by-step and systematic prompting, pairing the handout with each step.
- Have the Maze, Pong, and Scrolling instructional videos available for students who engage with the videos

Activity Part 2

- Choose one game project (Maze, Pong, or Scrolling) and go over the script of the game for students with a pre-K to grade 2 reading level.
- Students with a grade 3 or higher reading level may choose to examine the script of one of these games with a peer or a USATs or may work on their own to explore one the games.
- Students may choose to watch the Maze, Pong, and/or Scrolling instructional video that reviews the script of the game or may follow the print visual guide

Activity Part 3

- Give students time to start building their games or let them remix one of the starter projects (Maze, Pong, or Scrolling)

Activity Part 4

- Encourage students who prefer to work in groups to get feedback on their games-in-progress from peers
- Students who prefer to work alone may get feedback from USATs using the reflection prompts. They may also reflect on their games-in-progress on their design journals in written and/or symbol format.
- Ask students with little or no formal communication system if they like/don't like the activity.

Resources:

- Maze visual handout
- Maze instructional video at https://youtu.be/GYH9PcxnQ_w
- Maze example starter project at https://scratch.mit.edu/projects/11414041/
- Pong visual handout
- Pong instructional video at https://youtu.be/d4ho9i32D5I
- Pong example starter project at https://scratch.mit.edu/projects/10128515/
- Scrolling visual handout
- Scrolling instructional video at https://youtu.be/1PR9fz5xKl4
- Scrolling example starter project at https://scratch.mit.edu/projects/22162012/
- Games Studio at https://scratch.mit.edu/studios/487504/

Notes to the Teacher

- Move students who seem agitated, uncooperative, being destructive, and/or showing repetitive, idiosyncratic speech patterns, and/or inappropriate behavior to an individual workstation, a calming, or quiet area.
- Move students showing anxiety to a familiar environment to reduce their anxiety levels
- Facilitate ways to calm students down
- Pair students who do not initiate interaction but will accept initiations from others with students who prefer studying in groups
- Use common and familiar words in your verbal instructions for students having difficulty communicating
- Do not enforce a time limit for students who are having difficulty comprehending instructions and/or completing tasks
- For students with tendency to persevere on a topic, involve teacher aid/USATs for individualized assistance.
- Give frequent breaks for students as specified in the IEP or based on classroom data
- Offer extended time to students as indicated in the IEP or based on classroom data.
- Provide positive, meaningful, and immediate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom

Notes by the Teacher:

Score

Session Schedule

Pre-teaching (10 minutes)

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Activity Part 1 (10 min)

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Break (2 min)

↓

Activity Part 2 (25 min)

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Break (2 min)

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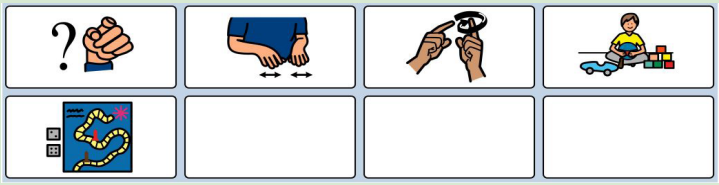
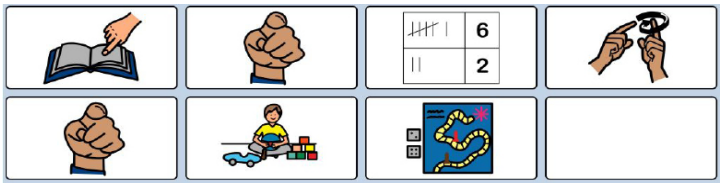
Activity Part 3 (10 min)

Pre-Teaching Topics & Terms

Topics:

Show students how to create variables and use them to keep score for a game.

Terms:

Terms	Description and Symbol
Variable	Information you add to blocks on scratch. 
Score	How you do when you play a game. 
Scoreboard	Shows you score when you played a game. 

Expectations:

Tell students that they are expected to create a variable and show this variable on a scoreboard for a game.

Session Objectives

This session aims to teach student how to create a variable and use it in a game project to keep score.

Learning Objectives

By the end of this session, students will be able to

1. Create a variable and use the variable to keep score in a game project

ACTIVITY DESCRIPTION

Activity Part I

- Do a think-aloud as you explore the Fish Chomp starter project for students with a pre—K reading level and higher.
- Ask USATs do a think-aloud as they explore the Fish Chomp starter project for students who are struggling.
- For students with little or no formal communication system, ask the USATs to demonstrate 1:1 the exploration of the Fish Chomp starter project. Have the student model each step and use systematic prompting.
- Ask students who prefer to work alone explore the Fish Chomp starter project with either a peer or the USAT.
- Have the Score visual handout available to guide students. For struggling students demonstrate following the steps. For those with little communication have the USAT work 1:1 using the strategies described above.

Activity Part 2

- Do a modeling for students with a pre-K and higher reading level to show how to add a scoreboard to the game by using variables.
- Ask USATs to repeat the modeling for struggling students.
- Ask students who prefer to work in groups to work with their peers to explore the variables and add a scoreboard to the game.
- Ask students who prefer to work alone to explore the variables and add the scoreboard to the game. Have the USAT prompt the students as needed.

Activity Part 3

- Ask students who prefer to work in groups to share their Fish Chomp remixes with the scoreboards added. Invite students to present their projects to the class and ask them to use the reflection prompts during their presentations.
- Ask students with a pre-K reading level and higher to think back on their design process by responding to the reflection prompts in their design journals. Ask students to add their projects into Score class studio.

Resources:

- Score visual handout
- Score examples studio at https://scratch.mit.edu/studios/218313/
- Fish Chomp starter project at http://scratch.mit.edu/projects/10859244
- Fish Chomp remix studio at http://scratch.mit.edu/studios/475615

Notes to the Teacher

- Move students who seem agitated, uncooperative, being destructive, and/or showing repetitive, idiosyncratic speech patterns, and/or inappropriate behavior to an individual workstation, a calming, or quiet area.
- Move students showing anxiety to a familiar environment to reduce their anxiety levels
- Facilitate ways to calm students down.
- Pair students who does not intitiate interaction but will accept initiations from others with students who prefer studying in groups.
- Use common and familiar words in your verbal instructions for students having difficulty communicating.
- Do not enforce a time limit for students who are having difficulty comprehending instructions and/or completing tasks.
- For students with tendency to persevere on a topic, involve teacher aid/USATs for individualized assistance.
- Give frequent breaks for students as classroom data or the IEP indicates.
- Offer extended time to students as classroom data or the IEP indicates.
- Provide positive, meaningful, and immediate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts.
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom.
- Offer extended time to students as indicated in the IEP or based on classroom data.
- Provide positive, meaningful, and immediate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts.
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom.

Notes by the Teacher:

Unit 4
SESSION 4

Extensions

Session Schedule

Pre-teaching (10 minutes)

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Activity Part 1 (5 min)

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Break (2 min)

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Activity Part 2 (15 min)

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Break (2 min)

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Activity Part 3 (20 min)

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Break (2 min)

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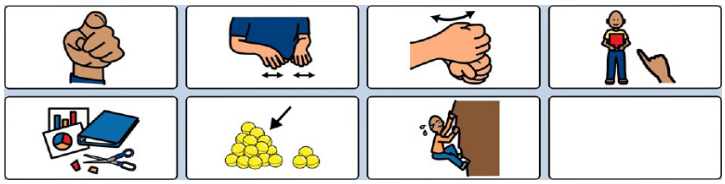
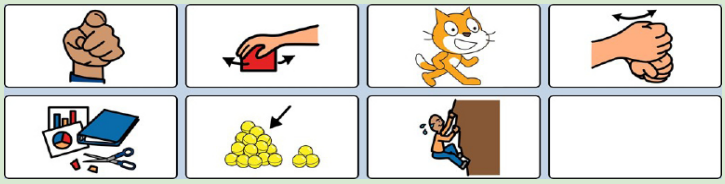
Activity Part 4 (5 min)

Pre-Teaching Topics & Terms

Topics:

Show students a few projects from the Extensions studio, and show them briefly how to add an extension to the game projects they developed before (maze, pong, or scrolling).

Terms:

Terms	Description and Symbol
Extend	What you do to make your project more difficult. 
Extension	What you use on scratch to make your project more difficult. 

Expectations:

Tell students that they are expected to add at least one extension to one of the projects they completed before.

Session Objectives

This session aims to familiarize students to the concepts of conditionals, operators, and data.

Learning Objectives

By the end of this session, students will be able to

1. add at least one extension to a project they previously developed/remixed

ACTIVITY DESCRIPTION

Activity Part I

- Show the example projects from the extensions studio.
- Have the Extensions handout to guide students, pairing each step with the demonstration.
- Have the Extensions studio instructional video available for students who engage with the video.
- Have the Extensions instructional video available to guide students who are struggling.

Activity Part 2

- Do a think-aloud (as described in unit 4 session 3) as you show the code of programs in the Extensions studio and explore different ways games can be increased in difficulty or extended.
- Ask students who engage with videos to watch the Extensions studio instructional video to learn about the projects in the Extensions studio
- Ask struggling students to watch the Extensions instructional video to learn how a project can be increased in difficulty or extended
- Ask USATS to work 1:1 with students who struggle with the hand-out to demonstrate each step of the handout having the student model each step. This can be done in small groups or 1:1 using systematic prompting as needed.
- USATs should work 1:1 with students who have little or no formal communication system using a step-by-step instructional sequence and systematic prompting

Activity Part 3

- Ask students with a pre-K and higher reading level to select one or more extensions to add to their previously started maze, pong, or scrolling games.
- Ask USATs to work with struggling students to add an extension to the previously started project.
- Ask students who prefer to work in groups to share-pair or work in small groups to accomplish this.

Activity Part 4

- Ask students who prefer to work alone to share their extended game projects with a peers or USAT
- Ask students who prefer to work in groups to share them with the class.
- Ask students to think back on their design process by responding to the reflection prompts in their design journals.

Resources:

- Extensions studio at https://scratch.mit.edu/studios/475619/
- Extensions instructional video at https://youtu.be/kG-LDpy0OqU
- Extensions studio instructional video at https://youtu.be/K1RKWczZd54
- Extensions visual handout

Notes to the Teacher

- Move students who seem agitated, uncooperative, being destructive, and/or showing repetitive, idiosyncratic speech patterns, and/or inappropriate behavior to an individual workstation, a calming, or quiet area.
- Move students showing anxiety to a familiar environment to reduce their anxiety levels.
- Facilitate ways to calm students down.
- Pair students who does not intitiate interaction but will accept initiations from others with students who prefer studying in groups.
- Use common and familiar words in your verbal instructions for students having difficulty communicating.
- Do not enforce a time limit for students who are having difficulty comprehending instructions and/or completing tasks
- For students with tendency to persevere on a topic, involve teacher aid/USATs for individualized assistance.
- Give frequent breaks for students as classroom data or the IEP indicates.
- Offer extended time to students as classroom data or the IEP indicates.
- Provide positive, meaningful, and immediate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom

Notes by the Teacher:

Unit 4

SESSION 5

Interactions

Session Schedule

Pre-teaching (10 minutes

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Activity Part 1 (5 min)

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Break (2 min)

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Activity Part 2 (25 min)

↓

Break (2 min)

↓

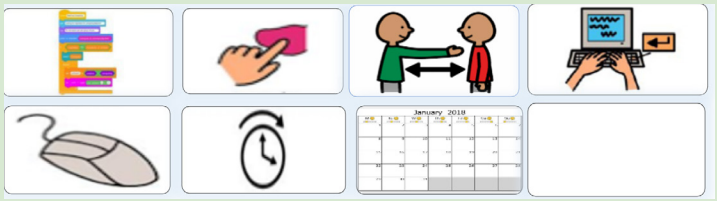
Activity Part 3 (10 min)

Pre-Teaching Topics & Terms

Topics:

Show students how to solve one of the nine Interactions programming puzzles.

Terms:

Terms	Description and Symbol
Interaction	The act of communicating with Sprites (e.g.., the scratch CAT) or among Sprites 
Sensing	Scratch blocks that can recognize touch, distance, key press, mouse movements, mouse location, time and date 
Puzzle	A problem which is hard to solve 

Expectations:

Tell students that they are expected to create a Scratch project that solves at least one of the nine Interactions programming puzzles.

Session Objectives

This session aims to teach different approaches to making projects interactive by solving a series of nine programming puzzles.

Learning Objectives

By the end of this session, students will be able to:

1. Create a Scratch project that solves at least one of the nine Interactions programming puzzles.

ACTIVITY DESCRIPTION

Activity Part I

- Challenge students to further explore Scratch by creating Scratch programs that solve one of the nine Interactions programming puzzles. These Interactions puzzles explore Sensing blocks, cover some of the more advanced concepts in Scratch related to interactivity.
- Have the Interactions handout available to guide students.
- Have Interactions instructional video ready to demonstrate how to solve one of the nine Interactions programming puzzles.

Activity Part 2

- Give students time to solve one of the Interactions programming puzzles. Ask students to attempt on their own, ask USATs to work with them.

Activity Part 3

- Utilizing the reflection prompts, ask students to share their solutions with the class.
- Ask students to share their solutions with USATs and/or their peers.
- Ask students to think back on their solution process by responding to the reflection prompts in their design journals in written and/or symbol format.

Resources:

- Interactions visual handout
- Interactions instructional video at https://youtu.be/OyGQW8ickz0
- Interactions studio at https://scratch.mit.edu/studios/487213/
- Interactions studio instructional video at https://youtu.be/fEzPwWxmMAc

Notes to the Teacher

- Move students who seem agitated, uncooperative, being destructive, and/or showing repetitive, idiosyncratic speech patterns, and/or inappropriate behavior to an individual workstation, a calming, or quiet area.
- Move students showing anxiety to a familiar environment to reduce their anxiety levels.
- Facilitate ways to calm students down.
- Pair students who does not initiate interaction but will accept initiations from others with students who prefer studying in groups.
- Use common and familiar words in your verbal instructions for students having difficulty communicating.
- Tolerate students with language skills.
- Do not enforce a time limit for students who are having difficulty comprehending instructions and/or completing tasks.
- For students with tendency to persevere on a topic, involve teacher aid/USATs for individualized assistance.
- Give frequent breaks for students with characteristics.
- Offer extended time to students with cognitive characteristics.
- Provide positive, meaningful, and immadiate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts.
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom.

Notes by the Teacher:

Unit 4

SESSION 6

Debug It !

Session Schedule

Pre-teaching (10 minutes)

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Activity Part 1 (10 minutes)

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Break (2 minutes)

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Activity Part 2 (10 minutes)

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Break (2 minutes)

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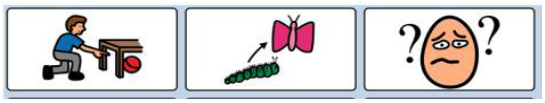
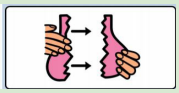
Activity Part 3 (15 minutes)

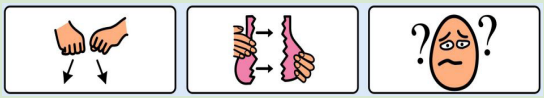
Pre-Teaching Topics & Terms

Topics:

Show students how to access the projects in the Unit 4 Debug It! studio, show them what the problems with the projects are, and demonstrate how to solve the problems in one of the projects.

Terms:

Terms	Description and Symbol
Debug	Is finding a problem and fixing it 
Fix	Is to repair a problem 
Investigate (explore)	Is to examine something to understand it 
Buggy (many errors)	Is having a lot of problems 

Tinker (Try and Fix)	Is to try and fix something. 
Code (create a program)	Is language that you can use to talk with a computer. 
Problematic (difficult)	Is making a task hard to do. 
Solution (answer)	Is solving a problem. 
Challenge (web activity)	Is testing what you can do. 
Testing (To try more than once)	Is trying more than once to find a solution to a problem 

Expectations:

Explain students that in this session, they will be expected to identify problems with the projects in Unit 4 Debug It! Studio, investigate sources of the problems, and solve the problems in at least one of the projects.

Session Objectives

The purpose of this session is to teach students how to identify problems in Scratch projects, investigate the sources of these problems, and offer solutions to debug them.

Learning Objectives

By the end of this session, students will be able to:

1. Identify problems in Scratch projects.
2. Investigate the sources of these problems.
3. Offer solutions to debug them.

ACTIVITY DESCRIPTION

Activity Part I

- Have the Unit 4 Debug It! handout available to guide students with pre-K or above reading level.
- Show students who struggle following the handout how to open the Debug It! projects, and debug the problems in one of the projects. Encourage them to click on the "Look Inside" button to investigate the buggy program, tinker with problematic code, and test possible solutions.
- Have students who engage with videos watch the Unit 4 Debug It! studio projects 1-5 videos.
- Have students who engage with videos watch the Unit 4 Debug It! Debug Project 4 video.

Activity Part 2

- Give students time to test and debug each Debug It! challenge.
- Ask USATs to help students.

Activity Part 3

- Ask students who have been successful to reflect back on their testing and debugging experiences by responding to the reflection prompts in their design journal in written or drawing format, and ask students who have difficulty sharing to discuss with their peers or USATs.

Resources:

- Unit 4 Debug It! handout
- Unit 4 Debug It! studio at http://scratch.mit.edu/studios/475634/
- Unit 4 Debug It! studio project 1 at http://scratch.mit.edu/projects/24271192
- Unit 4 Debug It! Project 1 Video at https://youtu.be/CiN1WMEer10
- Unit 4 Debug It! studio project 2 at http://scratch.mit.edu/projects/24271303
- Unit 4 Debug It! studio project 3 at http://scratch.mit.edu/projects/24271446
- Unit 4 Debug It! studio project 4 at http://scratch.mit.edu/projects/24271475
- Unit 4 Debug It! studio video at https://youtu.be/RklaR9jxqsM

Notes to the Teacher

- Move students who seem agitated, uncooperative, being destructive, and/or showing repetitive, idiosyncratic speech patterns, and/or inappropriate behavior to an individual workstation, a calming, or quiet area.
- Move students showing anxiety to a familiar environment to reduce their anxiety levels.
- Facilitate ways to calm students down.
- Pair students who does not intitiate interaction but will accept initiations from others with students who prefer studying in groups.
- Use common and familiar words in your verbal instructions for students having difficulty communicating.
- Tolerate students with language skills.
- Do not enforce a time limit for students who are having difficulty comprehending instructions and/or completing tasks.
- For students with tendency to persevere on a topic, involve teacher aid/USATs for individualized assistance.
- Give frequent breaks to students.
- Offer extended time to students.
- Provide positive, meaningful, and immidiate feedback to students who show inappropriate behavior and/or unresponsive to reflection prompts.
- Print verbal, visual directions before transitions and changes and post them in visible areas in the classroom.

Notes by the Teacher:

BACK COVER PAGE

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