Unit 5

Intentionally left blank.

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 5

SESSION 1

Know Want Learn

Session Schedule

Pre-teaching (10 minutes)

Activity Part 1 (20 min)

Break (2 min)

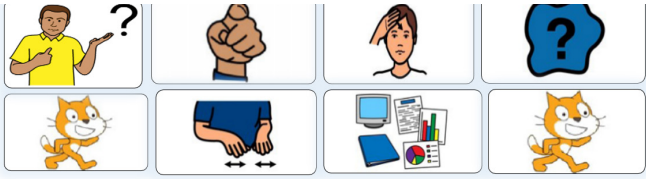
Activity Part 2 (20 min)

Pre-Teaching Topics & Terms

Topics:

Tell students that they are expected to generate a list of what they know about Scratch, and what they want to find out more about Scratch.

Terms:

Know	To understand something in Scratch or to be able to do something in Scratch 
Want	Something that you wish or need 
Learn	To have an understanding of something in Scratch, or to have skills in doing something in Scratch 
Self-asses	To ask yourself if you know something in Scratch or if you can do something in Scratch 

Expectations:

Explain students that they are expected to generate a list of what they know about Scratch, and what they want to find out more about Scratch.

Session Objectives

The purpose of this session is to teach students to reflect on past projects and experiences, self-assess current knowledge and learning goals, and identify what they would like to discover more about Scratch.

Learning Objectives

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

1. Generate a list of at least 3 items regarding what they know about Scratch.
2. Generate a list of at least 2 items regarding what they would like to discover new/more about Scratch.

ACTIVITY DESCRIPTION

Activity Part I

- Using the reflection prompts, ask students to reflect on what they know already and what they want to know next about Scratch and creative computing.
- Ask students who prefer to work in groupsto share their responses with the class.
- Ask students to share their responses with a peer and/or USAT and ask all students to record their responses in their design journals in written and/or symbol format.

Activity Part 2

- Divide students into pairs and have them take turns interviewing one another about their processes of generating the list of what they know and what they would like to discover new and/or learn more about Scratch.
- Utilize the reflection prompts to guide the interviews.
- Ask the USATs to work with students who struggle with communicating with others to verbally prompt the students to ask questions of another student.

Resources:

- Scratch Wiki at http://wiki.scratch.mit.edu
- Scratch discussion forums at https://scratch.mit.edu/discuss
- Scratch FAQ at http://scratch.mit.edu/info/faq

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 as specified in their IEP, or as indicated by classroom data.
- Offer extended time to students who respond to visual or verbal prompting.
- 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 5
SESSION 2

Round Two

Session Schedule

Pre-teaching (10 minutes)

Activity Part 1 (5 min)

Break (2 min)

Activity Part 2 (25 min)

Break (2 min)

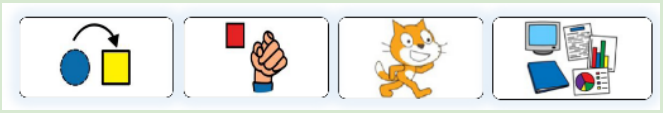
Activity Part 3 (10 min)

Pre-Teaching Topics & Terms

Topics:

Show students a project that they created in one of the prior sessions, and give them some directions as to how it can be completed if it was incomplete or remixed to improve.

Terms:

Self-Remix	Is to change your own Scratch project. 

Expectations:

Tell students that they are expected to self-remix a project that they created in one of the prior sessions to complete and/or improve it.

Session Objectives

The purpose of this session is to give students an opportunity to create a self-remix of a past project.

Learning Objectives

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

1. Complete and/or improve a project that they created in one of the prior sessions

ACTIVITY DESCRIPTION

Activity Part I

- Have the activity handouts from Units 0-5 available to guide students with a pre-K and higher reading level.

Activity Part 2

- Students who have little or no formal communication may need one-to-one systematic instruction where the USAT shows the step on the handout, demonstrates then asks the student to model the step.
- Give students who work independently self-directed time, and students who struggle time to work with a peer/USATs to:
  a. Reimagine or extend a past project by creating a self-remix (A remix of one's own project)
  b. Revisit and work on a previous unit that was either skipped or not completed

Activity Part 3

- Utilizing the reflection prompts, encourage students who prefer to work in groups share their self-remixes or activity outcomes with one another.
- Ask students who prefer to work alone to share their self-remixes with USATs and/or a peer.
- Ask students with a pre-K and higher reading level characteristics to think back on their design process of their self-remixes by responding to the reflection prompts in their design journals in written and/or symbol format.

Resources:

- Units 0-5 handouts

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 as specified in their IEP, or as indicated by classroom data
- Offer extended time to students who respond to visual or verbal prompting
- 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 5 SESSION 3

Advanced Concepts

Session Schedule

Pre-teaching (10 minutes)

↓

Activity Part 1 (15 min)

↓

Break (2 min)

↓

Activity Part 2 (25 min)

↓

Break (2 min)

↓

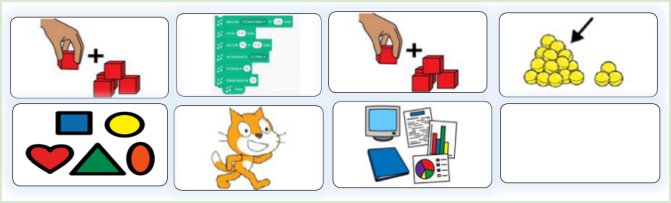
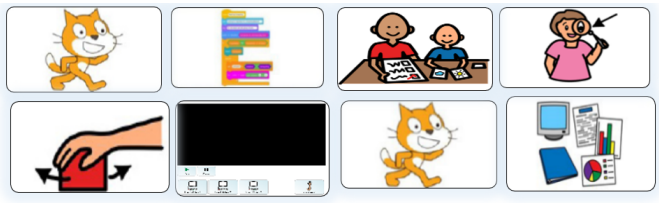
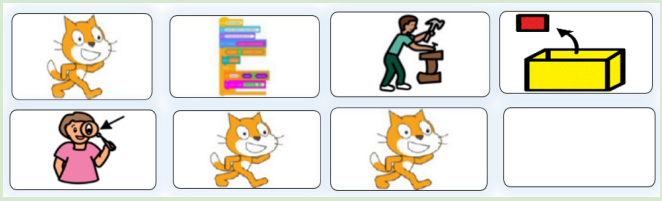
Activity Part 3 (5 min)

Pre-Teaching Topics & Terms

Topics:

Show students some example projects from video sensing, cloning, and advanced concepts studios, and show them how to add these projects.

Terms:

Advanced concept	Additional block categories to add more features to Scratch projects. 
Video Sensing	Scratch Block category to integrate, detect, and use a webcam in a Scratch project. 
Cloning	Scratch Blocks used to create, delete, and detect copies of Sprites (i.e., the Scratch cat) 

Incorporate	To add and use 

Expectations:

Tell students that they are expected to incorporate one of the advanced concepts (video sensing, cloning) into a Scratch project.

Session Objectives

The purpose of this session is to show students how to create a project that incorporates video sensing or cloning into a Scratch project.

Learning Objectives

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

1. Incorporate at least one of the advanced concepts (video sensing, cloning) into a project.

ACTIVITY DESCRIPTION

Activity Part I

- Show example projects from the Advanced Concepts, Video Sensing, and Cloning studios to help students get familiar with Scratch blocks that control video sensing and cloning.
- Have students watch the Advanced Concepts Studio, Video Sensing Studio, and Cloning Studio instructional videos.
- Have the Advanced Concepts, Video Sensing, and Cloning handouts available.
- Have the Advanced Concepts Handout, Video Sensing Handout, and Cloning Handout instructional videos available

Activity Part 2

- Think-aloud while modeling how to create a project that experiments with one or more of the advanced concepts (video sensing, cloning) for students with a pre-k or higher reading level to follow along.
- Ask students who engage with videos to watch the video Sensing and Cloning handout instructional videos
- Give students with a pre-K or higher reading level time to explore the code of example programs to create a project that experiments with one or more of the advanced concepts (video sensing, cloning).
- Ask students struggling and students with little or no formal communication to work with USATs and/or a peer to create a project that experiments with one or more of the advanced concepts (video sensing, cloning).

Activity Part 3

- Encourage students who prefer to work in groups to share their projects with the class under the guidance of the reflection prompts.
- Encourage students who prefer to work alone to share their projects with USATs and/or a peer, guided by the reflection prompts.
- Encourage students to think back on their design process in their design journals, utilizing the reflection prompts.

Resources:

- Advanced Concepts studio at https://scratch.mit.edu/studios/221311/
- Video Sensing studio at https://scratch.mit.edu/studios/201435/
- Video Sensing studio instructional video at https://youtu.be/PewMirQOT9I
- Video Sensing handout
- Video Sensing handout instructional video at https://youtu.be/OcahROg_-Os
- Cloning studio at https://scratch.mit.edu/studios/201437/
- Cloning studio instructional video at https://youtu.be/uKAgDqfMpHU
- Cloning handout
- Cloning handout instructional video at https://youtu.be/cfqTpndAz4o

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 as specified in their IEP, or as indicated by classroom data.
- Offer extended time to students who respond to visual or verbal prompting.
- 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 5 SESSION 4

Hardware Extensions

Session Schedule

Pre-teaching (10 minutes)

↓

Activity Part 1 (10 min)

↓

Break (2 min)

↓

Activity Part 2 (30 min)

↓

Break (2 min)

↓

Activity Part 3 (5 min)

Pre-Teaching Topics & Terms

Topics:

Show students videos from the "How can I connect Scratch with other technologies?" and show them briefly how to incorporate a hardware extension to a Scratch project.

Terms:

Hardware Extension
LEGO WeDo
MaKey MaKey
Incorporate
Control

Expectations:

Tell students that they are expected to incorporate a hardware extension (LEGO WeDo or MaKey Makey) into a Scratch project.

Session Objectives

The purpose of this session is to introduce students to some hardware extensions that connect Scratch projects to a hardware extension (LEGO WeDo or MaKey MaKey).

Learning Objectives

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

1. Incorporate a LEGO WeDo or MaKey MaKey hardware extension from within a simple Scratch project to control the extension with Scratch code.

Resources:

- LEGO WeDo construction set.
- MaKey MaKey at http://makeymakey.com.
- How I can connect Scratch with other technologies? videos at http://bit.ly/hardwareandextensions.

ACTIVITY DESCRIPTION

Activity Part I

- Introduce students to ways Scratch can connect to other technologies and hardware extensions including the LEGO WeDo and MaKey MaKey.
- Show examples from the "How can I connect Scratch with other technologies?" video playlist.

Activity Part 2

- Divide students who prefer to work in groups into small groups of 2-4 people. Assign students who are struggling,or ho prefer to work alone and/or have little or no formal communication to work with USATs.
- Give students/groups time to create a simple Scratch project that incorporates a physical world component using LEGO WeDo or MaKey MaKey hardware extension.

Activity Part 3

- Allow students/groups to share their projects with others, guided by the reflection prompts.
- Ask students who prefer to work alone to share their projects with a peer and/or USAT, guided by the reflection prompts.
- Ask students to think back on their design process with the guidence of the reflection prompts in their design journals in written and/or symbol formats.
- Ask students with little or no formal communication if they liked or didn't like the project and put their response in the design journal.

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 as specified in their IEP, or as indicated by classroom data.
- Offer extended time to students who respond to visual or verbal prompting.
- 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:

Activity Design

Session Schedule

Pre-teaching (10 minutes)

↓

Activity Part 1 (10 min)

↓

Break (2 min)

↓

Activity Part 2 (20 min)

↓

Break (2 min)

↓

Activity Part 3 (10 min)

Pre-Teaching Topics & Terms

Topics:

Show students how to create a simple Scratch project following a tutorial and/or step by step visual guideline.

Terms:

Create

Expectations:

Tell students that they are expected to create a simple Scratch project similar to one of the projects at the ideas resource.

Session Objectives

The purpose of this session is to teach students how to design an activity following a video tutorial and/or visual guideline.

Learning Objectives

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

1. Create a simple Scratch project following one of the video tutorials at the Ideas resource.

ACTIVITY DESCRIPTION

Activity Part I

- Have the Activity Design handout, activity design handout instructional video, and scratch design studio instructional videos available.
- Play a few project tutorials at the ideas resource for students who prefer to work in groups. Ask students who prefer to work alone, are struggling or have little formal communication to play these tutorials with a peer and/or USAT.
- Do a think-aloud as you examine the Scratch projects at the ideas resource for students who prefer to work in groups. Ask USATs to do the think-alouds for students who prefer to work alone, are struggling or have little formal communication.

Activity Part 2

- Show how to create a simple Scratch project similar to one of the projects at the ideas resource by following the associated Coding Cards for students with a pre K reading level and higher.
- Encourage these students to explore the ideas resource with turorials and associated Scratch Cards for inspiration to create a similar Scratch project.
- Ask USATs to create a simple Scratch project for students who are struggling or have little formal communication.

Activity Part 3

- Encourage students who prefer to work in groups to share their projects with the class and/or peers.
- Ask students to think back on the design process by responding to the reflection prompts in their design journals in written and/or symbol format.
- Have the USATs work with students who are struggling or have little or no communication comment on the project, or indicate like or don't like the activity and record this in their journal.

Resources:

- Activity Design handout.
- Activity Design handout instructional video.
- Ideas resource at https://scratch.mit.edu/ideas .
- Scratch cards at http://scratch.mit.edu/info/cards .
- Scratch Design Studio list at http://scratch.mit.edu/users/ScratchDesignStudio/
- Scratch Design Studio Instructional video.

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 5

SESSION 6

My Debug It!

Session Schedule

Pre-teaching (10 minutes)

Activity Part 1 (10 min)

Break (2 min)

Activity Part 2 (10 min)

Break (2 min)

Activity Part 3 (15 min)

Break (2 min)

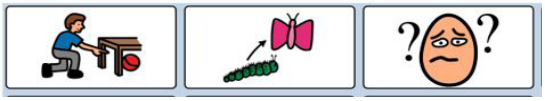
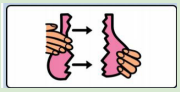
Activity Part 4 (10 min)

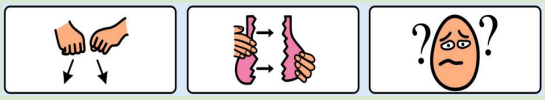
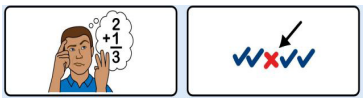
Pre-Teaching Topics & Terms

Topics:

Show students the projects on the Unit 5 Debug It! handout, and explain them the problems in the project. Show them how to solve one of these problems with one of these 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:

Students are expected to create a Scratch project with at least one problem and describe the problem(s) for others to debug.

Session Objectives

This session targets to teach students how to create a Scratch project with at least one problem and describe the problem(s) for others to debug.

Learning Objectives

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

1. Create a Scratch project with at least one problem
2. Describe the problem(s) in the problematic project for others to debug

ACTIVITY DESCRIPTION

Activity Part 1

- Have the Unit 5 Session 6 Debug It! Studio instructional video available to guide students
- Have the Unit 5 Session 6 Debug It! instructional video available to guide students

Activity Part 2

- Show students how to create a simple project with at least one problem
- Ask students to watch the Unit 5 Session 6 Debug It! instructional video.

Activity Part 3

- Encourage them to create a complete Scratch project and intentionally break the project with at least one problem
- Give students time to work on creating a buggy project
- Ask USATs to help students.

Activity Part 4

- Ask students to reflect based on their testing and debugging experiences by responding to the reflection prompts in their design journal in written or drawing format.

Resources:

- Unit 5 Session 6 Debug It! Studio instructional video at https://youtu.be/0ep-4Rec_-w
- Unit 5 Session 6 Debug It! instructional video at https://youtu.be/mfnN8gu0--U

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 XXX 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 XXX characteristics
- Offer extended time to students with XXX cognitive characteristicsProvide 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:

BACK COVER PAGE

Intentionally left blank.