UNIT 3
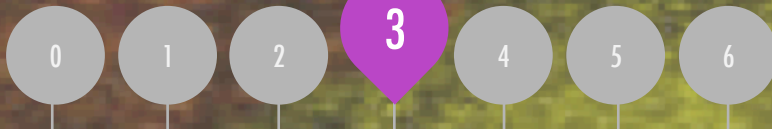# STORIES

WHAT'S INCLUDED

CHARACTERS
CONVERSATIONS
SCENES
DEBUG IT!
CREATURE CONSTRUCTION
PASS IT ON

CHARACTERS

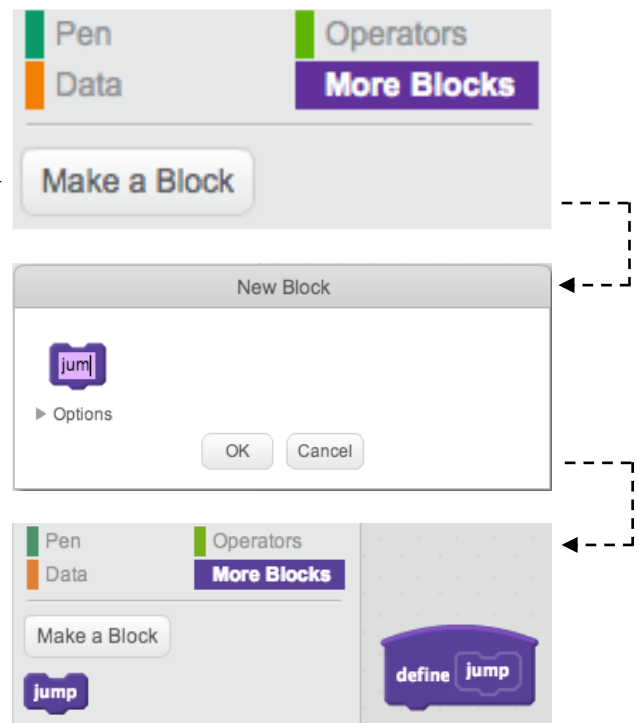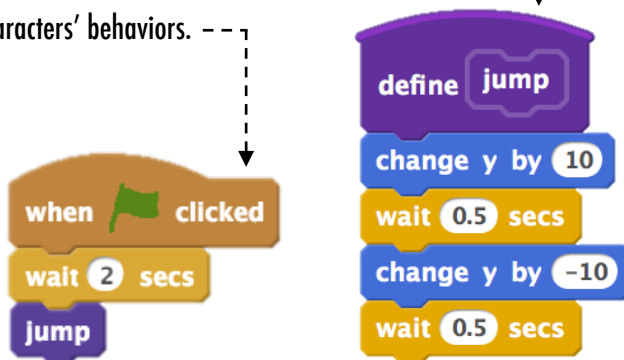Experiment with the Make a Block feature in Scratch! In this project, you will create your own blocks that define two behaviors for two different characters.

Press S for a small jump.
Press B for a big jump
Press A to ask how high to jump.

START HERE

❑ Choose from the library, paint, or upload two sprite characters.

❑ Click on the Make a Block button in the More Blocks category to create and name your block.

❑ Add blocks under the Define block to control what your custom block will do.

❑ Experiment with using your block to program your characters' behaviors.

❑ Repeat!

Pen
Data
Operators
More Blocks

Make a Block

New Block

jum|

▶ Options

OK   Cancel

Pen
Data
Operators
More Blocks

Make a Block

jump

define jump

when ⚐ clicked
wait 2 secs
jump

define jump
change y by 10
wait 0.5 secs
change y by −10
wait 0.5 secs

THINGS TO TRY

❑ Feeling stuck? That's okay! Check out this video to get started with the Make a Block feature: http://bit.ly/makeablock
❑ Explore other projects in the Characters Studio to see what new blocks others have created.
❑ Sometimes there can be more than one way of defining the same behavior. Experiment with different block combinations to try out multiple options and outcomes.

FINISHED?

+ Add your project to the Characters Studio: http://scratch.mit.edu/studios/475545
+ Challenge yourself to do more! Experiment with adding different characters and behaviors using the Make a Block feature.
+ Help a neighbor!

CHARACTERS
REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS USING THE SPACE PROVIDED BELOW OR IN YOUR DESIGN JOURNAL.

+ How would you explain Make a Block to someone else?

+ When might you use Make a Block?

CONVERSATIONS

WHAT ARE DIFFERENT WAYS TO COORDINATE INTERACTIONS BETWEEN SPRITES?

In this activity, you'll explore different ways to program sprites to have conversations! Experiment with timing and explore using broadcast by remixing a joke project.

What other jokes do you have?

START HERE

❑ Look inside the Penguin Jokes project:
http://scratch.mit.edu/projects/10015800
❑ Investigate the code to see how the wait and say blocks are used to coordinate the conversation.
❑ Remix the project to use the broadcast and when I receive blocks instead of wait blocks.

```
when [flag] clicked
say Hello! for 2 secs
wait 2 secs
say What do Penguins love to eat? for 3 secs
wait 2 secs
say Nope... for 2 secs
wait 2 secs
say Ice-burgers! for 2 secs
```

```
when I receive message1 ▼

broadcast message1 ▼

broadcast message1 ▼ and wait
```

FEELING STUCK?

THAT'S OKAY! TRY THESE THINGS...

❑ Brainstorm ideas with a neighbor! Generate a list of possible solutions and test them out together.
❑ Try using the broadcast and when I receive blocks in different parts of your project.
❑ Explore projects in the Conversations studio to get inspiration for different ways to coordinate conversations between sprites.

FINISHED?

+ Add your project to the Conversations studio:
http://scratch.mit.edu/studios/475547
+ Challenge yourself to do more! Add other characters and conversations.
+ Share your project with a neighbor and walk them through your process of exploration and design.
+ Help a neighbor!

CONVERSATIONS REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS USING THE SPACE PROVIDED BELOW OR IN YOUR DESIGN JOURNAL.

+ How would you describe broadcast to someone else?

+ When would you use timing in a project? When would you use broadcasting?
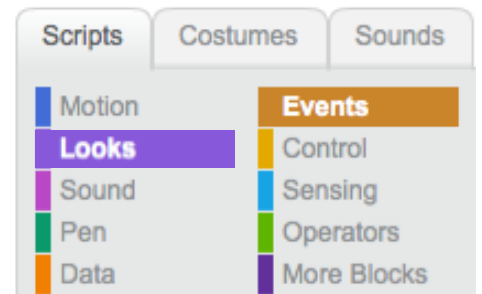
SCENES

In this activity, you will create a project that experiments with backdrops, like a story with multiple scenes or a slideshow.

START HERE

❑ Choose from the library, paint, or upload multiple backdrops into your project.

❑ Experiment with blocks from the Looks and Events categories to initiate switching backdrops.

❑ Add scripts to the stage and sprites to coordinate what happens when the backdrop changes in your project!

Scripts	Costumes	Sounds

Motion	Events
Looks	Control
Sound	Sensing
Pen	Operators
Data	More Blocks

switch backdrop to backdrop1 ▼

when backdrop switches to backdrop1 ▼

backdrop name

THINGS TO TRY

❑ Look for blocks under the sprites and the stage related to backdrop and test them out to see what they do!

❑ Need more inspiration? Explore the Scratch online community to discover projects that use multiple backdrops.

FINISHED?

+ Add your project to the Scenes Studio: http://scratch.mit.edu/studios/475550
+ Challenge yourself to do more! Add more backdrop changes to your project.
+ Help a neighbor!
+ Return to one of your previous projects or find a project you are inspired by and remix it by adding switching backdrops.

SCENES
REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS USING THE SPACE PROVIDED BELOW OR IN YOUR DESIGN JOURNAL.

+ What does the Stage have in common with sprites?

+ How is the Stage different from sprites?

+ How do you initiate a sprite's actions in a scene?

+ What other types of projects (beyond animations) use scene changes?

DEBUG IT!

HELP! CAN YOU DEBUG THESE FIVE SCRATCH PROGRAMS?

In this activity, you will investigate what is going awry and find a solution for each of the five Debug It! challenges.

START HERE

❑ Go to the Unit 3 Debug It! Studio:
   http://scratch.mit.edu/studios/475554
❑ Test and debug each of the five debugging challenges in the studio.
❑ Write down your solution or remix the buggy program with your solution.

FEELING STUCK?

THAT'S OKAY! TRY THESE THINGS...

❑ Make a list of possible bugs in the program.
❑ Keep track of your work! This can be a useful reminder of what you have already tried and point you toward what to try next.
❑ Share and compare your problem finding and problem solving approaches with a neighbor until you find something that works for you!

❑ **DEBUG IT! 3.1** http://scratch.mit.edu/projects/24269007

In this project, the Scratch Cat teaches Gobo to meow. But when it's Gobo's turn to try – Gobo stays silent. How do we fix the program?

❑ **DEBUG IT! 3.2** http://scratch.mit.edu/projects/24269046

In this project, the Scratch Cat is supposed to count from 1 to the number the user provides. But the Scratch Cat always counts to 10. How do we fix the program?

❑ **DEBUG IT! 3.3** http://scratch.mit.edu/projects/24269070

In this project, the Scratch Cat is doing roll call with Gobo's friends: Giga, Nano, Pico, and Tera. But everything is happening all at once! How do we fix the program?

❑ **DEBUG IT! 3.4** http://scratch.mit.edu/projects/24269097

In this project, the Scratch Cat and Gobo are practicing their jumping routine. When Scratch Cat says "Jump!", Gobo should jump up and down. But Gobo isn't jumping. How do we fix the program?

❑ **DEBUG IT! 3.5** http://scratch.mit.edu/projects/24269131

In this project, the scene changes when you press the right arrow key. The star of the project – a dinosaur – should be hidden in every scene except when the scene transitions to the auditorium backdrop. In the auditorium, the dinosaur should appear and do a dance. But the dinosaur is always present and is not dancing at the right time. How do we fix the program?

FINISHED?

+ Add code commentary by right clicking on blocks in your scripts. This can help others understand different parts of your program!
+ Discuss your testing and debugging practices with a partner, and make note of the similarities and differences in your strategies.
+ Help a neighbor!
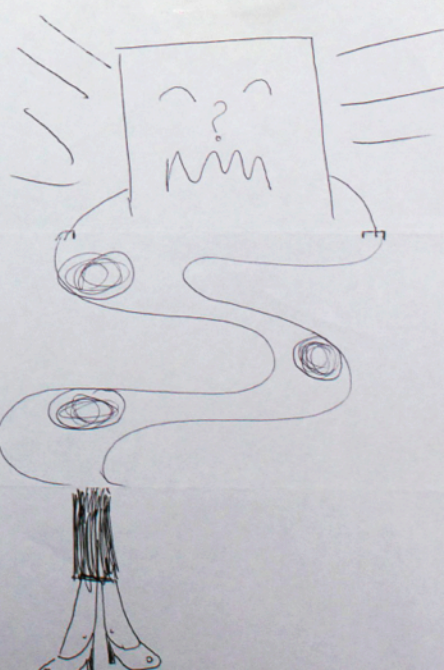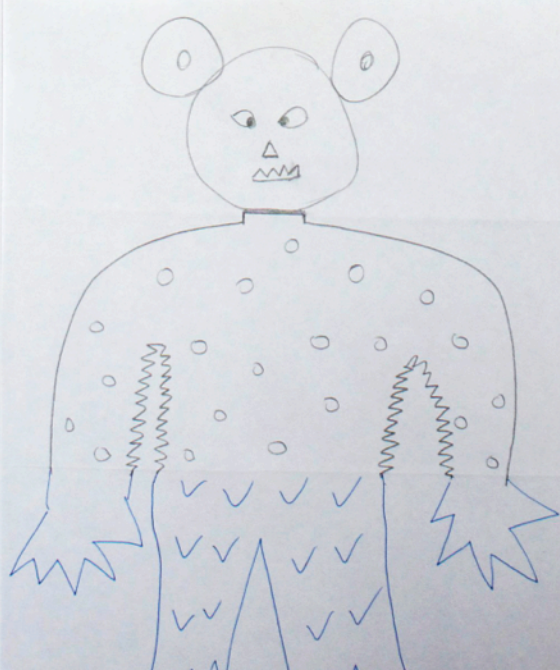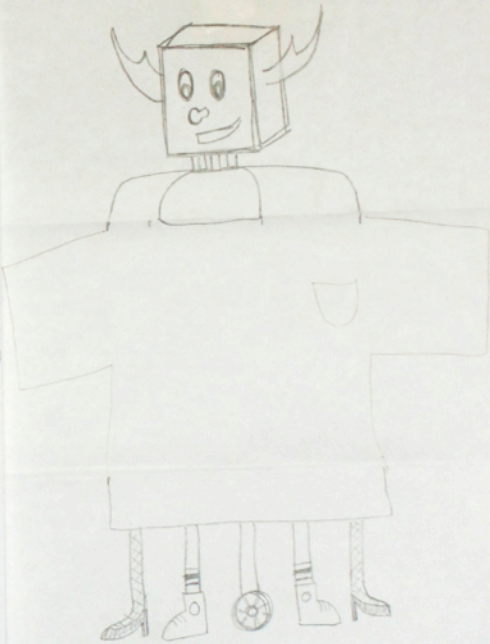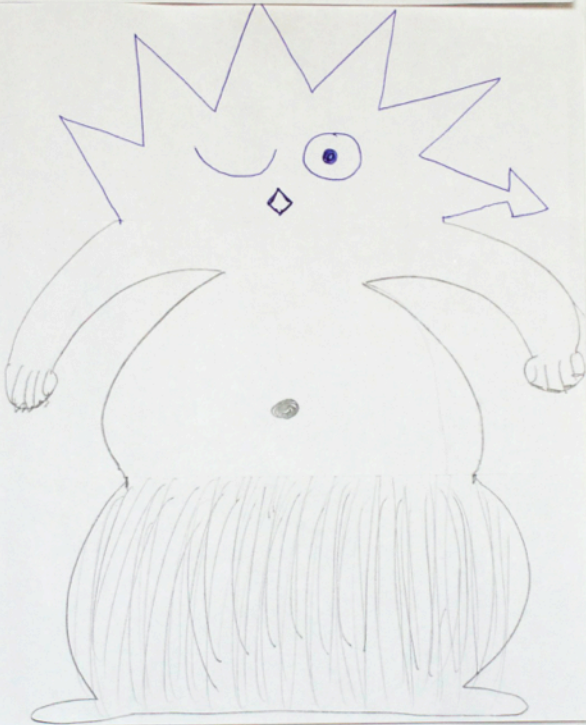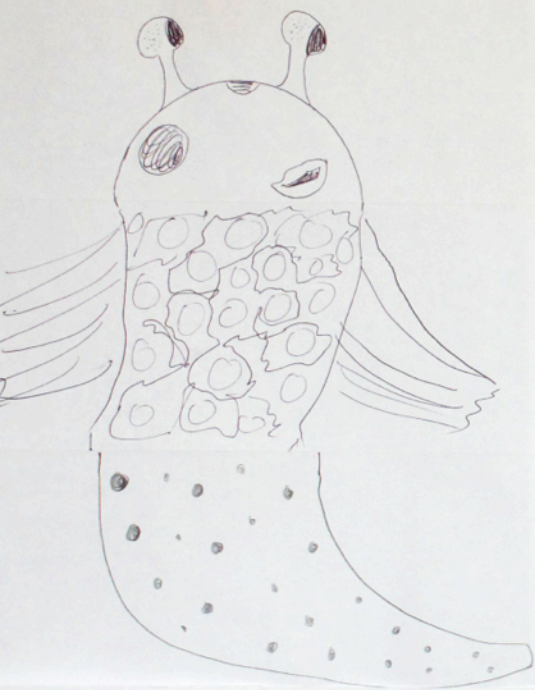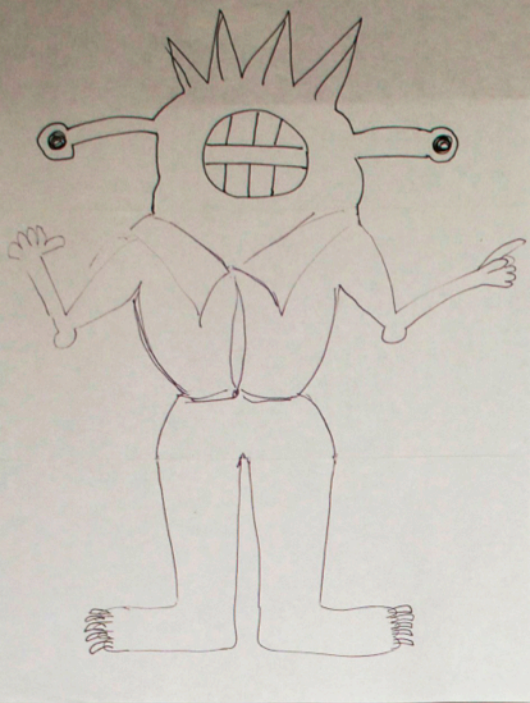
DEBUG IT!
REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS USING THE SPACE PROVIDED BELOW OR IN YOUR DESIGN JOURNAL.

+ What was the problem?

+ How did you identify the problem?

+ How did you fix the problem?

+ Did others have alternative approaches to fixing the problem?

CREATURE CONSTRUCTION REFLECTIONS

NAME:

_____

RESPOND TO THE FOLLOWING REFLECTION PROMPTS USING THE SPACE PROVIDED BELOW OR IN YOUR DESIGN JOURNAL.

+ What is your definition of remixing?

+ Think about the creature you started (drew the "head" for). How did your ideas become extended or enhanced by others' contributions?

+ Considering the creatures you extended (drew the "middle" or "bottom" sections for), how did your contributions extend or enhance others' ideas?

PASS IT ON

WHAT CAN WE CREATE BY BUILDING ON OTHERS' WORK?

In this project, you will start developing an animated story project, and then you will pass the story on to others to remix, extend, or reimagine!

START HERE

☐ Work on a story project that focuses on characters, scene, plot, or whatever element excites you.

☐ After 10 minutes, save and share your project online.

☐ Rotate & extend another story project by remixing it.

☐ Repeat!

```
when backdrop switches to  Title Screen ▼
hide

when  🚩  clicked
show

when this sprite clicked
broadcast  next page ▼
```
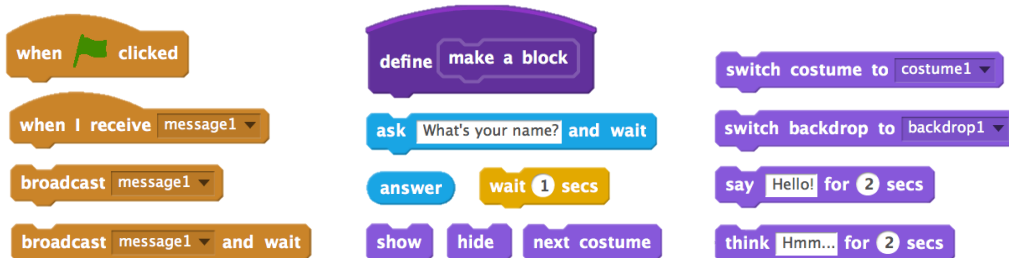
```
when backdrop switches to  metro1 ▼
set size to  200 %
play sound  dog2 ▼
glide  1  secs to x:  -102  y:  -99
glide  1  secs to x:  -55  y:  -67
glide  1  secs to x:  30  y:  -102
```

THINGS TO TRY

☐ Brainstorm different possibilities for remixing, extending, or reimagining a story. Do you want to add a new scene to the end? Could you imagine what happens before the story begins? What if a new character was added? How about inserting a plot twist? What else?

☐ Adding comments in your code can help others understand different parts of your program. To attach a comment to a script, right click on a block and add a description.

```
when this sprite clicked
broadcast  next page ▼
```
```
▼
add comment here...
```

BLOCKS TO PLAY WITH

FINISHED?

```
when  🚩  clicked

when I receive  message1 ▼

broadcast  message1 ▼

broadcast  message1 ▼  and wait
```

```
define  make a block

ask  What's your name?  and wait

answer      wait  1  secs

show    hide    next costume
```

```
switch costume to  costume1 ▼

switch backdrop to  backdrop1 ▼

say  Hello!  for  2  secs

think  Hmm...  for  2  secs
```

+ Add your project to the Pass It On studio: http://scratch.mit.edu/studios/475543
+ Help a neighbor!
+ Return to all the projects you contributed to and check out how the stories evolved!

PASS IT ON
REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS USING THE SPACE PROVIDED BELOW OR IN YOUR DESIGN JOURNAL.

+ How did it feel to remix and build on others' work? How did it feel to be remixed?

+ Where else in your life have you seen or experienced reusing and remixing? Share two examples.

+ How was working with someone else different from your prior experiences of designing your Scratch projects?