



ESSK V-Camp

One Week, 6 Hour Program

Day One- Crazy Hat Day

Drive/Look/Light Folders

Class Connect should already be completed with campers names entered prior to the class starting.

Campers log into: [Code.makewonder.com](https://code.makewonder.com)

Teacher Code for this session:

Instructors should review the calendar for the day to ensure they are dressed to match the theme of the day.

Welcome Campers: 15 minutes

- **Instructor should be wearing a crazy hat to go along with the theme of the day.**
- **Instructor Introduction- With excitement tell the campers why you are excited to teach this virtual robotics program.**
- **Campers Introduction- Name and grade level. What is one thing you are looking forward to in this program?**
- **Crazy Hat Day! Compliment their participation.**

Log On Help: 15 minutes

- **Ask if any camper had difficulty logging in to Zoom.**
- **Address any issues with logging in to the virtual simulator.**
- **Model how to toggle back and forth from Zoom to Simulator.**
- **Model how to Share Their Screen. Select the green button at the bottom of the Zoom screen. Instructors need to allow screen sharing for all participants.**

Introduce Blockly Program- 15 minutes

- **Instructors will share their screen with the simulator and give an overview of Blockly.**
- **Goes over the names of each folder.**

- Talk about the START block. All command blocks need to be connected to START otherwise Dash will not follow your program.
- All command blocks need to be connected to each other and then to start otherwise Dash will not know what you want it to do.
- Model how to connect command blocks together and attach to START.

Introduce Drive Folder:- 15 minutes

- Overview of the skills for the day. “Today you will be able to create a program in Blockly that includes the Drive, Look, and Light Folders.”
- Instructors need to share their screen and show the prefabricated program for engagement.
- Instructor to create prior to session starting:



- Play the program so campers can see what they will be completing at the end of the lesson.

Instructors will go over the Drive Folder, Look Folder, and Light Folder.

- Instructors need to share their screen so campers can see the screen as the instructors are modeling.
- Open Drive Folder- share all of the command blocks.
- Choose the Forward Command Block.
- Open the parameters and show how it is always set to 50 cm and normal speed.
- Show how to change the distance and speed. Set to 70cm and fast speed. Connect that forward block to START.

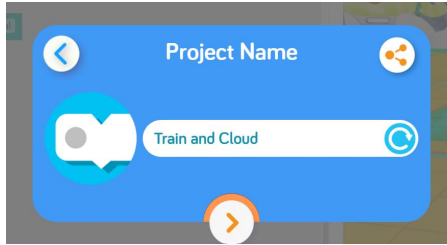
- o Share that it is the same to change the parameters in the backwards tab as well.
- o Select the Turn Left block.
- o Open it and show how to change the degree Dash will turn. It is the same for the Turn Right block. Connect the block to START.
- o Finally share the Set Wheel Speed tab.
- o Tell campers that is another way to have Dash turn by setting the parameters differently for each wheel.
- o “Now it is your turn to try the commands in the Drive Folder.

Campers Practice Drive Folder- 15 minutes

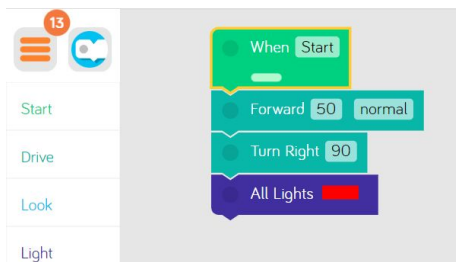
- Campers will create a 10 block program using the Drive Folder.
- Instructors are available for support and should be checking in with each camper to check how they are doing.
- Instructors should recommend that as the campers are creating their program that they are testing out their program to make sure it is working the way they want it to.
- If a camper is struggling, have that camper share their screen with you. That way the instructor can facilitate that camper.
- After 15 minutes- the instructor invites them back together.
- Choose 2 campers to share their program. Remind them of the positive behavior that is shown when others are sharing.
- Instructors should model how a camper can save their program.



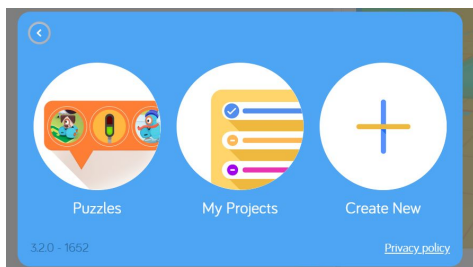
- Campers click the blue and white circle in the left corner of the simulator.



-
- Type in the name that they want to call this program and click the orange arrow when finished.
- To get back their saved program:



- Click on the 3 orange lines in the upper left corner.



- Now the caper can select My Projects and search for the specific named project that they saved.
- Q & A on the Drive Folder.

Introduce Look & Light Folders: 15 minutes

- Introduction to Look and Light Folders (refer to Look & Light Intro doc.)
- Instructor Led introduction to each folder.
- Open the Look Folder.
- Share in that folder they will see the Look right, look left, look up and look down command blocks.
- Model Parameters- Open the Look Right block- model how to turn that into Look Left by moving the white bar over to the other side.

- Open the Light Folder- Share all of the command blocks- All lights, right ear, left ear, front, and eye pattern.
- Model Parameters- Open the All Lights Block and show how they can change all of Dash's lights.
- Mention they can also change each individual light color as well.

Campers Practice- Drive, Look, and Light Folders 15 minutes

- Campers will create their own program using the Look & Light Folders.
- Instructors should be asking each camper individually how they are doing.
- If campers are struggling and need assistance the instructor will ask the camper to share their screen and facilitate the camper.
- Instructors should not give the solution, rather work with the camper to problem solve and come up with a solution together.
- After 15 minutes- the instructor invites them back together.
- Choose 2 campers to share their program. Remind them of the positive behavior that is shown when others are sharing.

Independent Practice 30 minutes

Today during camp we are playing a huge game of tag. As campers are creating their program they should be thinking about how Dash would react playing tag. Ask the campers: "during a game of tag are you walking?" They would respond, "no we would be running." So, Dash's speed needs to be adjusted to show that he would be running. Also, mention that Dash would be looking in all directions to make sure that no one is getting close.

- Campers should create a program that consists of command blocks from the Drive, Look, and Light Folders. Encourage campers to have no less than 7 command blocks.
- For more advanced campers they will have the option to include more commands within their overall program.
- Instructors should be checking in with each camper individually to ensure they are working well and they have no questions.

- Instructors should be aware of time, since campers will have time to share their work with the group.
- Instructors bring the group back together.
- Q&A

Wrap up activity - 45 minutes

Instructor to model appropriate behavior when campers are sharing.

- When we are sharing, we are only using positive words.
- Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”
- We should feel good after someone comments on our work.
- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is additional time, campers can complete puzzles.
- Top left corner there are 3 orange lines. Click on that and it will take them to a screen where they can select puzzles. Let them know that the instructors can monitor their progress on the puzzles to make sure that they understand what was taught today.

LUNCH

Introduce Activity - 15 Minutes

- Quickly review Drive, Look, and Light folders
- Explain five different challenges to complete
 - drive forwards
 - Drive forwards and backwards
 - Turn right
 - Turn Left
 - 180 degree turn
- Activity - 60 minutes

Station 1 – Drive Forwards

Campers will practice driving Dash different distances forwards and seeing that changing the number on the command changes how far Dash goes. Campers

will also add sounds and lights to their programs. Each time Dash drives forwards, Dash should also light up or make a sound before moving to the next block to move forwards.

Station 2 – Drive Forwards and then backwards

Campers will now use the commands to drive forwards, make a sound or change lights, then move backwards, make sounds or change lights. This should repeat 10 times. Each time a drive command is used, there should be a sound or light command directly after it, before another drive command is used.

Station 3 –Right Turn

Students will program Dash to drive forwards to any distance, then turn right 90 degrees then move forwards again. This should be completed four times. After each turn, Dash should change lights or make a sound.

Station 4 – Turn left

Students will program Dash to drive forwards to any distance, then turn left 90 degrees then move forwards again. This should be completed four times. After each turn, Dash should change lights or make a sound.

Station 5 – 180 degree turn

Students will program Dash to drive forwards to a certain mark, turn 180 degrees, then come back to start. This should repeat five times. Sounds and lights should be included.

The Dash robot is calibrated in centimeters. The conversion for centimeters is as follows:

$$1 \text{ IN} = 2.54 \text{ CM}$$

$$1 \text{ FT} = 30.48 \text{ CM}$$

In order to give your campers more practice with the Blockly Drive Application, prepare different challenges with parameters they should use to program Dash. For example:

Move forward 70cm

Right turn 45 degrees

Move forward 50 cm

Left turn 15 degrees

Move forward 30 cm

Whenever a turn command is used, a forward command needs to follow if Dash is to continue moving forward on its path. These different scenarios will give your students extra practice and better understanding how the Drive command is used. Decide on the difficulty based on the age and ability of your class.

Wrap up activity - 45 minutes

Instructor to model appropriate behavior when campers are sharing.

- **When we are sharing, we are only using positive words.**
- **Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”**
- **We should feel good after someone comments on our work.**
- **Ask who would like to share their program with the group? (instructor selects who will share first)**
- **If there is additional time, campers can complete puzzles.**
- **Top left corner there are 3 orange lines. Click on that and it will take them to a screen where they can select puzzles. Let them know that the instructors can monitor their progress on the puzzles to make sure that they understand what was taught today.**

Home Challenge Activity Directions

- **Instructor reviews directions for the Color War Relay Race:**

Day One-Color War Relay Race- Home Challenge

Campers will participate in Color War Relay Races with Dash. Using the simulator, they will create a program in Blockly that uses the Start, Drive, and Lights Tabs. What an exciting time, the last day of **Color War** and it all comes to this last

moment, Dash in the relay race for the win. Can he do it? Will his color win? Campers will create a program in Blockly that includes the following:

- Dash is warming up. He is pacing back and forth to calm himself down. Use Drive to complete this. As he is pacing his lights are changing color. Use at least 8 blocks to create this.
- Dash is all set to go. He is at the starting cone. To show he is ready his lights will go from Red, to Yellow, and then finally Green. Do this 2 times.
- Dash will drive forward 80 cm to the next cone.
- He will then turn around and drive 80 cm back to the starting cone.
- He will turn around and Drive 90 cm to pass the cone.
- At this cone his right ear will turn blue! His left ear will turn green. His front light will turn red.
- Then he will drive backwards 100 cm passing the starting cone for the win. This is it! Add some additional speed within the backward's block to ensure he gets there first!
- When he gets there his right ear light will turn red, his left ear will turn white, and the front light will turn blue. This will show Dash's Color War spirit.

Make sure that when you have completed this challenge you save your work as **Color War**. Tomorrow you will have the opportunity to share your program with the group. Remember if something is not looking right with your program, review the directions and problem solve while looking within your program. You may need to change a block or two in order for Dash to move the way you want him to. Good Luck!

Additional Home Activities:

- o Challenge Cards
 - 1.1, 1.4
 - [Mini Mission 1](#)

Day Two- Crazy Hair Day

Sound/Animation/Repeat Folders

Class Connect should already be completed with campers for this session.

Teacher Code for this session: _____

Campers log into: **Code.makewonder.com**

Instructors should review the calendar for the day to ensure they are dressed to match the theme of the day.

Welcome Campers: 15 minutes

- Instructors should have crazy hair to go along with the theme of the day.
- Instructor Introduction- How did you all make out with your “Campified Home Challenges Last Night?
- Campers Respond to questions.
- If time permits have a camper share their finished home challenge program.
- Crazy Hair Day! Compliment their participation.

Log On Help:

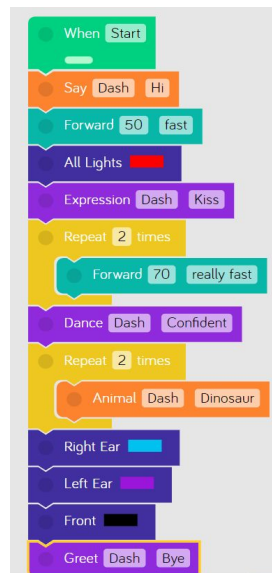
- Ask if any camper had difficulty logging in.
- Review logging in to the simulator. Address any issues if needed.

Review from yesterday’s session 15 minutes

- Yesterday we learned many things. We learned how to open the Drive, Look, and Light Folders.
- We were able to drag and drop command blocks from each folder to create a program that you wanted Dash to complete.
- You learned how to change the parameters in each block to change the distance, speed, color, and direction you wanted Dash to travel and look.
- Today we will continue with learning different commands so we can have Dash do more.

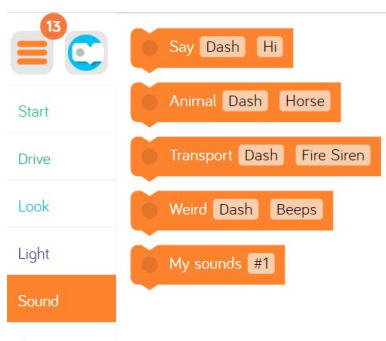
Introduce Sound Folder: 15 minutes

- Overview of the skills for the day. “Today you will be able to create a program in Blockly that includes the Sound, Animation and Repeat Tabs, in addition to the Drive, Look & Lights Folders.
- Show prefabricated program for engagement. Instructors should have this already made before the session starts for the day.
- Tell the campers that by the end of their independent activity they will be able to create a program similar to this one.

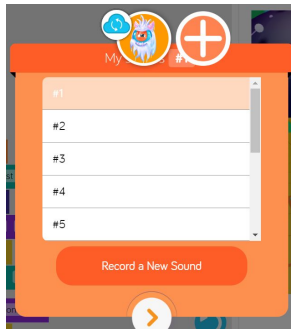


Introduction of the Sound Folder 15 minutes

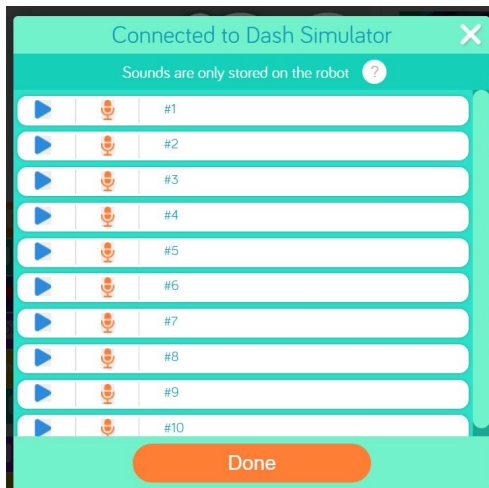
- Introduction to Sound and Animation Folders
- Instructors should share their screen as they are modeling.
- Open the Sound Folder.



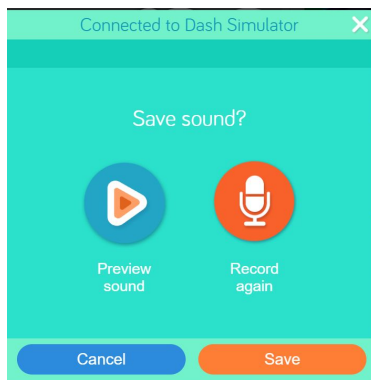
- Share in that folder they will see 5 different command blocks for Dash.
- **Model Parameters-** Open the Say command block. Show how they can change what Dash says. Select hi, so the campers can hear how it sounds. Connect the command block to START.
- Model how to go into each command block and change what Dash says. Connect the command blocks to START.
- Finally select the My Sounds command block. Tell campers that they will have the opportunity to put their voice onto Dash.
- Open the My Sound block.



- **Select Record a New Sound.**



- They select the microphone next to #1. They will see a countdown 3,2,1. They may have to allow their computer's microphone access.
- Remind campers that it must be appropriate. Model how to record your voice and save to #1. (Share Screen as you are completing that)
- Once they record their voice, they can play back a preview of the sound, they can save it, or they can re record a new one.

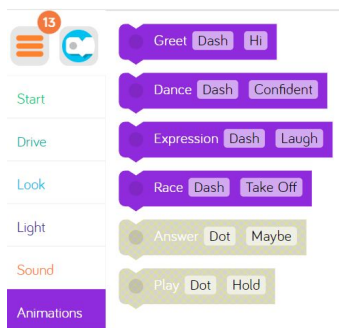


Campers Practice Commands in the Sound Folder 15 minutes

- **Have campers create a 5- command program. Share Screen**
 - (1) Dash says Hi
 - (2) Dash sounds like a Lion.
 - (3) Dash makes a helicopter sound
 - (4) Dash Gobbles
 - (5) Record your own sound on Dash.
- **Instructor brings campers back together and has a Q & A.**

Introduction of Animation Folder 15 minutes

- **Instructor Opens the Animation Folder and share their screen.**
- **Share the different command blocks within this folder.**



- **Open each tab to show campers how to change the parameters.**
- **Open the Control Tab**
- **Focus on the Repeat Command Block Only.**

- Model for the campers that when you place a command block within the Repeat Block that is how many times Dash will repeat that command.
- Choose to have Dash Repeat 3 times Saying Uh Oh!



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- Model how to change the number of times Dash will repeat the command. Change the number to 4.
- Q & A before they are released to practice.

Campers Independent Practice of Sound, Animation, and Repeat- 30 minutes

- Campers are going to be released to practice what was taught today.
- Imagine you are at summer camp. Today's Dash is competing in the CampUS Open. This is a tennis tournament. Think about how when someone is playing tennis they are running back and forth to hit the ball. They are also looking in many different directions along with making many noises. When you are creating your program include command blocks that will create a day at the Camp US Open.
- Here are the guidelines for their practice.
 - Create a program where you are using command blocks from all of the folders we worked in yesterday and today. Drive, Look, Light, Sound, Animation, and Repeat.
 - Beginners can create a smaller program with fewer blocks.
 - Advanced campers can create a more extensive program. They can use commands from Drive, Look, and Light Folders from yesterday as well as the Sounds, Animation, and Repeat that was modelled today.
 - Instructors should be aware of the time. Campers should have enough time to share as well as being shown the "Campified" Home Challenge.
 - Have campers save their program as US Open.

Wrap up activity - 45 minutes

Instructor to review appropriate behavior when campers are sharing.

- When we are sharing, we are only using positive words.
- Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”
- We should feel good after someone comments on our work.
- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is time remaining, campers can continue with the puzzles from yesterday. Click the 3 orange lines in the upper left hand corner and select puzzles. Remind campers that you can monitor their progress while they are completing the puzzles.

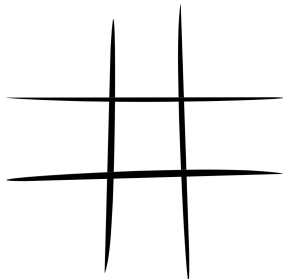
LUNCH

Welcome Back Campers

- Instructors welcome back campers from lunch.
- Campers this 2nd part of our day is mainly you creating your programs.
- I will introduce you to the activity and you will start to design your program using the folders that we focused on yesterday and today.

Instructors Introduce Afternoon Activity

Imagine you are spending a day at camp. Today’s camp activity is Camp Tic-Tac-Toe. It is played the same way the paper and pencil game is played however it is played with Campers being the X’s and O’s. You and Dash will be the campers that are running back and forth to the board.



Dash starts here. Your program should keep that in mind when you are creating your program.

You are playing with Dash. You will make a move and then you will create a program and have dash drive to a location on the board. Include sound, light, and animation changes to make your program more exciting.

Make sure that you are testing your program as you are creating it to ensure it is functioning the way you want it to.

Wrap up activity - 45 minutes

Instructor to model appropriate behavior when campers are sharing.

- **When we are sharing, we are only using positive words.**
- **Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”**
- **We should feel good after someone comments on our work.**
- **Ask who would like to share their program with the group? (instructor selects who will share first)**
- **If there is additional time, campers can complete puzzles.**
- **Top left corner there are 3 orange lines. Click on that and it will take them to a screen where they can select puzzles. Let them know that the instructors can monitor their progress on the puzzles to make sure that they understand what was taught today.**

Instructor Explains the Camp World Series Home Challenge Activity Directions

Day Two- Camp World Series- Home Challenge

Campers will spend a day at the mound with Dash. They will use the simulator to create a program that will incorporate the Start, Drive, Lights, Sound, Animations, and Model Repeat Tabs. What better than watching Dash at the Camp World Series. Campers will create a program in Blockly that includes the following:

- **Dash leaves the dugout and heads to the mound.**
- **Dash is at bat and waits for the perfect pitch. He hits right- handed so he needs to *look left*. *He gives 2 sighs*.**
- **Dash hits a homerun. He shows major excitement. *Using the sound tab, How will Dash sound excited?***

- Dash needs to run all the bases. *Using Drive, create a program where Dash makes it around the bases in the shape of a baseball diamond.*
- When Dash returns to home plate, *he faces his fans and turns his head back and forth 3 times, he cheers in excitement, his lights change color, and he drives back and forth 2 times. He then says “thank you” to his fans before he goes back in the dugout.*

Make sure you save your program as the World Series. Tomorrow you will have the opportunity to share your program with the group. Remember if something is not looking right with your program, review the directions and problem solve while looking within your program. You may need to change a block or two in order for Dash to move the way you want him to. Good Luck!

More at home extension activities:

- o [Mini Mission 2](#)
- o Challenge Cards
 - 2.1, 2.2

Day Three- Wear Your Camp Colors

Control Folder

Class Connect should already be completed with campers for this session.

Teacher Code for this session: _____

Campers log into: **Code.makewonder.com**

Instructors should review the calendar for the day to ensure they are dressed to match the theme of the day.

Welcome Campers: 15 minutes

- Instructor Introduction- How did you all make out with your “Campified Home Challenges Last Night?
- Campers Respond to questions.
- If time permits have a camper share their finished project.
- Camp Color Day! Compliment their participation.

Log On Help:

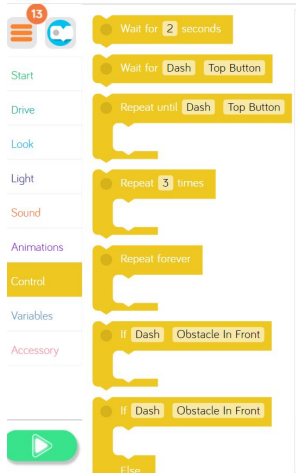
- Ask if any camper had difficulty logging in to Zoom.
- Review logging in to the simulator. Address any issues.

Review from yesterday’s session

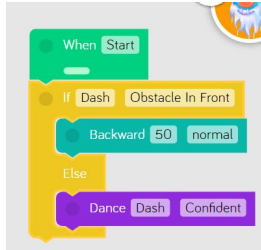
- Yesterday we learned many things. We learned how to add sound and animation to our program as well as making Dash repeat certain commands.
- We were able to drag and drop command blocks from each folder to create a program that you wanted Dash to complete.
- You also learned how to personalize your program by recording your own voice onto Dash. Super Cool!
- Today we will continue with learning different commands so we can have Dash do more.

Introduce Control Folder:

- Yesterday we used the repeat block in the Control Folder, but today we are going to learn all of the other command blocks within this folder as well.
- Share all of the command blocks in this folder:



- Model how to open each command block and change parameters.
- Wait for ____ seconds command block. Campers can modify the amount of time Dash will wait before doing any other command.
- Wait for Dash command block. Campers can put a different block inside this command block, and the command will happen until whatever they set happens. It is set with Wait for Dash -Top Button. So, Dash will wait to continue a command until that top button is pushed. A button will appear under the simulator window.
- Repeat until Dash – Top Button Command Block- Whatever command the camper puts inside this block will repeat until the next activity occurs. It comes set to Top Button. If a camper selects drive forward 50 cm that will repeat until the top button is pushed. A button will appear under the simulator window in a box labeled “Robot Inputs”.
- Repeat command block. Whatever command the camper places inside the repeat command block will repeat however many times they select. Model how to change the number of times it repeats.
- Repeat Forever Block- Whatever command is placed within this command block will repeat forever. Nothing after it will happen.
- If Dash- Obstacles In Front Command Block. Whatever is placed inside this block will be what Dash does if there is an obstacle in front of him. Model how you can change the parameters within that command block.
- If Dash- Obstacles in Front-Else. Whatever is placed in the top part of this command block will be substituted for what is placed in the bottom section of the command block. For example: If Dash has an obstacle in front instead of him driving backwards 50 cm he will do a silly dance instead.



- Q & A time.

Campers Independent Practice of Control Folder

- Campers are going to be released to practice what was taught today.
- Imagine you are at summer camp. Today Dash is competing in the Indy 400. This is a car race where the race cars drive in a big oval many times. Think about a NASCAR race, how the cars do the same thing over and over and over again. However the driver must always be looking around to check their mirrors, make sure no cars are going to pass them, and make sure they do not have a car accident. When you are creating your program include command blocks that will create a day at the Camp Indy 400.
- Here are the guidelines for their practice.
 - Create a program where you are using command blocks from all of the folders we worked in yesterday and today. Drive, Look, Light, Sound, Animation, Repeat, Wait, If, If/Else.
 - Beginners can create a smaller program with fewer blocks.
 - Advanced campers can create a more extensive program.
 - Make sure the cars *wait* until the lights change from red, to yellow, to green. Then Dash should drive in a square totalling 400 cm, 10 times. All the while, Dash should be looking around to make sure they are practicing safety and no one is gaining on their tail!
 - Have campers save their program as Indy 400.

Wrap up activity - 45 minutes

Instructor to review appropriate behavior when campers are sharing.

- When we are sharing, we are only using positive words.
- Instructor gives an example: "John, I really liked how you were able to use all the color lights in your program."
- We should feel good after someone comments on our work.

- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is time remaining, campers can continue with the puzzles from yesterday. Click the 3 orange lines in the upper left hand corner and select puzzles. Remind campers that you can monitor their progress while they are completing the puzzles.

LUNCH

Welcome Back Campers 10 minutes

- Instructors welcome back campers from lunch.
- Campers this 2nd part of our day is mainly you creating your programs.
- I will introduce you to the activity and you will start to design your program using the folders that we focused on yesterday and today.

Instructors Introduce Independent Activity 50 minutes

You are spending part of your camp day in Arts & Crafts. The Arts & Crafts instructor wants you to create an underwater habitat. Think of the different parts of an underwater habitat. What could you see? Have campers answer. Dash will need to explore your underwater habitat and make stops along his journey. When Dash stops to explore he needs to show excitement and needs to explain what he sees. Campers, you will need to be the voice of Dash and record what Dash sees throughout the habitat.

Your program should include command blocks from the folders we have worked in and include blocks from the Control Folder. Dash can repeat certain actions by using the blocks within this folder. Be creative when designing your experience.

Campers can draw down on paper if they decide to or they can visualize the underwater habitat as well.

- Instructors must check in with each camper as they are working to make sure that they are moving through the activity and don't need any assistance. If campers need help ask them to share their screen with you.
- Instructors want to monitor the time. Campers will need time to share their programs.

- Have campers save their program as Underwater.

Wrap up activity - 45 minutes

Instructor to model appropriate behavior when campers are sharing.

- When we are sharing, we are only using positive words.
- Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”
- We should feel good after someone comments on our work.
- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is additional time, campers can complete puzzles.
- Top left corner there are 3 orange lines. Click on that and it will take them to a screen where they can select puzzles. Let them know that the instructors can monitor their progress on the puzzles to make sure that they understand what was taught today.

Instructor Explains the Carnival Day Home Challenge Activity Directions

Day Three- Carnival Day- Home Challenge

Campers will spend a day at the Camp Carnival with Dash. They will use the simulator to create a program that will incorporate the Control Tab, Drive Tab, Light and Sound Tab. Maybe Dash can even have a cotton candy or some popcorn at the Camp Carnival. Campers will create a program in Blockly that includes the following:

- Dash needs to take a look at all the different booths at the Camp Carnival. The Carnival booths are set up in a rectangle shape. Create a program where Dash is traveling around looking at each booth.
- There are 8 booths. 4 booths are located on the right side of the carnival, and 4 booths are on the left side of the carnival. Dash has to travel and stop at all 8 booths looking either right or left at the booth.
- When Dash arrives at the last booth he needs to Ta Da!

- Dash now wants to go to the soccer booth and try to win a prize. Dash is so excited he Dances in a square 3 times. Use the Control tab to repeat that movement.
- Dash now asks the person at the booth how to win a prize. Record your voice explaining how Dash can win a prize.
- After Dash hears the rules he needs to travel 150 cms. Using the control tab have Dash move 150 cm.
- When he gets to where he needs to be, Dash then waits 6 seconds. Use the control tab to have Dash wait.
- Dash then moves backwards 90 cm. Use the control tab, have Dash move 90cm.
- Finally Dash wants to get a snack at the carnival. He needs to travel to the other side of the carnival to get some cotton candy. He has to travel 3 sides of the rectangle.
- When he gets to the booth he has to say hi and turn his lights all to blue. That is the color cotton candy he would like. Then Dash says, “Let’s do this”!
- Finally Dash makes it back to the place he started which is 120 cm away.
- Dash had a great and fun day at the Camp Carnival.

Make sure you save your program as the **Camp Carnival**. Tomorrow you will have the opportunity to share your program with the group. Remember if something is not looking right with your program, review the directions and problem solve while looking within your program. You may need to change a block or two in order for Dash to move the way you want him to. Good Luck!

More at home extension activities:

- [Mini Mission 3](#)
- **Challenge Cards**
 - 2.3, 2.4

Day Four - Dress Like a Robot

Variables Folder

Class Connect should already be completed with campers for this session.

Teacher Code for this session: _____

Campers log into: **Code.makewonder.com**

Instructors should review the calendar for the day to ensure they are dressed to match the theme of the day.

Welcome Campers: 15 minutes

- Instructor Introduction- How did you all make out with your “Campified Home Challenges Last Night?
- Campers Respond to questions.
- If time permits have a camper share their finished project.
- Dress Like A Robot Day! Compliment their participation.

Log On Help:

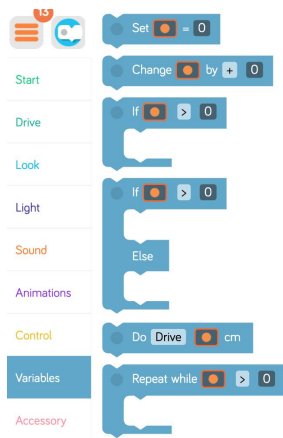
- Ask if any camper had difficulty logging in to Zoom.
- Review logging in to the simulator. Address any issues.

Review from yesterday’s session

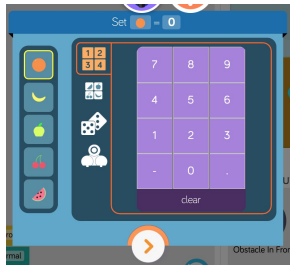
- Yesterday we learned many things. We learned how to use all the repeat blocks, as well as the wait block, if block, and if/else block.
- We were able to drag and drop command blocks from each folder to create a program that you wanted Dash to complete.
- Today we will continue with learning different commands so we can have Dash do more.

Introduce Control Folder - 30 minutes:

- Yesterday we used all of the blocks in the Control Folder. Today we are going to explore the Variables Folder.
- Share all of the command blocks in this folder:



- Model how to open each command block and change parameters.
- Set ____ = # block. This command is to set the certain fruits to certain numbers. You will call back to this block in order to use other blocks in the Variables Folder. You must tell the program the values of the fruits before calling to those fruits in the later blocks.
- You can set the fruit's value in many different ways.



- On the left you choose the fruit you want to use. If you want to set it to a number, use the top grid of 1,2,3,4 and choose a number to set it to. If you want to set the fruit to another fruit's value, choose the option below. If you want the fruit to get a random value, choose the dice option, and if you want the fruit to have a function where Dash needs to have an input, choose the Dash icon.
- With the Change variables block, you can multiply the value of the fruit, add, subtract, or divide.
- The If and the Repeat blocks in the Variables tab work the same as the If and the Repeat blocks in the Controls tab, however, this time they depend on the variables, not on the inputs on Dash.
- The Do block in the Variables tab lets you make Dash do a certain task when that fruit is set to a certain value.
- This is the most complex tab in the program. It takes creative thinking and problem solving in order to master this tab.
- Q & A time.

Campers Independent Practice of Control Folder - 90 minutes

- Campers are going to be released to practice what was taught today.

- Imagine you are at summer camp. Dash is playing Wiffle Ball. Have Dash hit a single (run to first base), then come back to home plate. Then hit a double (run to first base and then second base), then come back to home. Then hit a triple (run to first base, then second base, then third base), then back to home. And finally hit a home run (run from first base, to second base, to third base, to home plate.)
- You should be using the Variables folder to create your program. You also can have separate programs for each of the hits: single, double, triple, home run. Or, you can do it in one big program.
- Here are the guidelines for their practice.
 - Create a program where you are using command blocks from all of the folders as they coincide with the Variable commands.
 - Beginners can create a smaller program with fewer blocks.
 - Advanced campers can create a more extensive program.
 - Instructors should be aware of the time. Campers should have enough time to share as well as being shown the “Campified” Home Challenge.
 - Have campers save their program as Wiffle Ball. If they are doing four different programs have them save them as Single, Double, Triple, and Home Run.

Wrap up activity - 45 minutes

Instructor to review appropriate behavior when campers are sharing.

- When we are sharing, we are only using positive words.
- Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”
- We should feel good after someone comments on our work.
- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is time remaining, campers can continue with the puzzles from yesterday. Click the 3 orange lines in the upper left hand corner and select puzzles. Remind campers that you can monitor their progress while they are completing the puzzles.

- When you come back from lunch you will need paper and something to draw with.

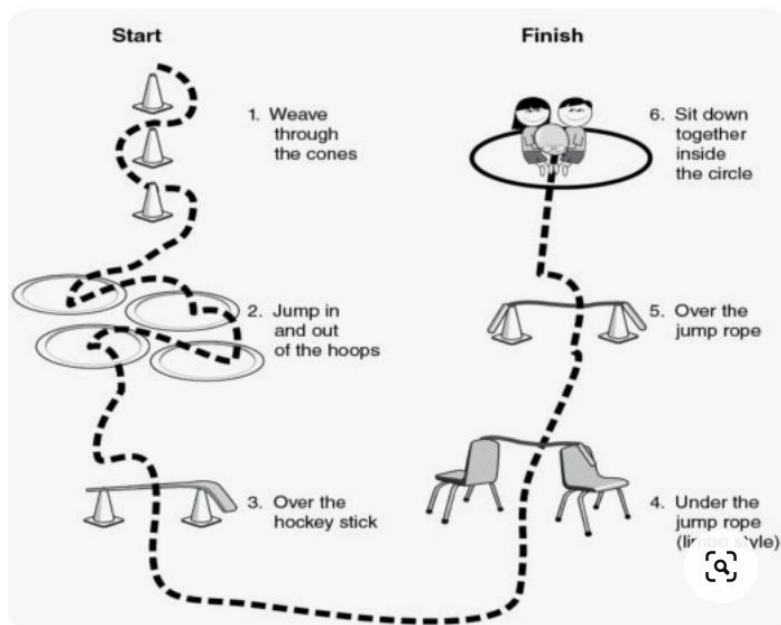
LUNCH

Welcome Back Campers 10 minutes

- Instructors welcome back campers from lunch.
- “Campers this 2nd part of our day is mainly you creating your programs and exploring what we have learned today.”
- “Also putting what we learned today together with what you have been learning with Blockly. “
- “I will introduce you to the activity and you will start to design your program using the folders that we focused on yesterday and today.”

Instructors Introduce Independent Activity 50 minutes

Today we are going to be participating in a Camp Ninja Course. When we think of a Ninja Course we think of running, weaving in and out, jumping, laughing, excitement and so much more. You will be designing a ninja course and having Dash compete in this camp challenge. I want you to create 3 activities that would fit into a Ninja Course. Here is an example.



Dash would need to make his way through this course successfully. Your objective is to design a ninja course and program Dash to partake in the activities. You also need to have Dash share his fun and excitement as well as describing the 3 activities that Dash is going to be working through.

- Instructors need to make sure that all campers understand that they are creating this course with 3 activities that Dash will work through.
- Encourage campers to use lights, various sounds, and even recording their own voices within their programs.

Wrap up activity - 45 minutes

Instructor to model appropriate behavior when campers are sharing.

- When we are sharing, we are only using positive words.
- Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”
- We should feel good after someone comments on our work.
- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is additional time, campers can complete puzzles.
- Top left corner there are 3 orange lines. Click on that and it will take them to a screen where they can select puzzles. Let them know that the instructors can monitor their progress on the puzzles to make sure that they understand what was taught today.

Instructor Explains the Beat the Heat Home Challenge Activity Directions

Day Four- Beat the Heat- Home Challenge

Campers will spend a day beating the heat with Dash. They will use the simulator to create a program that will incorporate the Control Tab, Drive Tab, Light and Sound Tab along with functions and variables. Dash is going to play on the water

pad at camp to cool down. Campers will create a program in Blockly that includes the following:

- Dash is so overheated from the camp sun. Dash needs to be cooled off on the camp's water pad. Dash has to get there and it involves a few turns. Dash needs to drive a total of 150 cm, turn left and go 60 cm, and then finally say "Okay".
- Dash is ready to play and cool off in the water. He sees that there is a huge sprinkler and he wants to be the first to get there. Using the Control Tab, make Dash drive backwards 170 cm so he can keep an eye on the other campers. Also turn all his lights on to your favorite color, and record Dash saying, "I can't wait to cool off!"
- Dash looks left and right and sees his robot friend approaching and DASH says, "Hi."
- Dash will "spin out" to the next water activity.
- Dash has to move forward 60 cm, turn right and go another 40 cm to the next water activity.
- When Dash gets there he turns his right ear blue, left ear, green, and the front light white.
- Dash wants to run through the water sprayer and into the pool at the end. Dash needs to move at the quickest speed possible. Dash "spins out" (animations tab). The pool is 120 cm. Use the control tab to accomplish that distance.
- After Dash runs 120cm he will do a "silly dance". (animations tab) Then finish with a recording of your voice saying- "This was the coolest camp day ever!"

Make sure you save your program as the **Beat the Heat**. Tomorrow you will have the opportunity to share your program with the group. Remember if something is not looking right with your program, review the directions and problem solve while looking within your program. You may need to change a block or two in order for Dash to move the way you want him to. Good Luck!

More at home extension activities:

- [Mini Mission 6](#)
- **Challenge Cards**
 - 3.2, 3.3

Day Five- Challenge Day Friday- Wear Gear from your Favorite Sport Team

ALL Folders

Class Connect should already be completed with campers for this session.

Teacher Code for this session: _____

Campers log into: **Code.makewonder.com**

Instructors should review the calendar for the day to ensure they are dressed to match the theme of the day.

Welcome Campers: 15 minutes

- Instructor Introduction- How did you all make out with your “Campified Home Challenges Last Night?
- Campers Respond to questions.
- If time permits have a camper share their finished project.
- Challenge Day! Compliment their participation and their gear from their favorite team.

Log On Help:

- Ask if any camper had difficulty logging in to Zoom.
- Review logging in to the simulator. Address any issues.

Review from yesterday’s session 10 minutes

- Yesterday we learned many things. We learned how to use all the Variables blocks including the set, change, if, if/else, do, and repeat blocks
- We were able to drag and drop command blocks from each folder to create a program that you wanted Dash to complete.
- Today we will reinforce our learning of ALL commands so we can master all that Dash can do.

Review ALL Folders:

- Yesterday we used all of the blocks in the Variable Folder. Today we are going to review all of the folders.
- Review all of the commands in each folder.
- Q & A time.

Campers Independent Practice of Control Folder 1 Hour

Dash's Neighborhood Adventure

Introduction:

Today is the final challenge for the week! You will use everything you have learned to create your own story with Dash and navigate "Dash's Neighborhood" Please write a story that takes Dash on an adventure through the Neighborhood. Be creative on what Dash is doing, what problems Dash needs to solve, and how Dash fits into the story in this Neighborhood.

Teacher Demonstration:

1. Explain the story-making process (5 step process below)
2. Explain what blocks must be included (list below)
3. Review using Blockly to create algorithm by going through all required tabs
4. Model using the "extra" tabs to enhance the story
5. Review how to record voice on the simulator

Extended Activity:

During your code Dash MUST use commands from the following tabs:

- Drive
- Look
- Light
- Sound
- Control
- Variables

In order to enhance your code and make it coincide with the story, use any and all blocks available in Blockly that will make your code even better! These may include Animations or Variables. Your story must bring Dash around the Neighborhood and **have Dash "interact"**

with at least three components of the Neighborhood - for example, drive up to one of the houses and complete a task or do an action. Your story can either be read to the class while your code is working in the background OR you can record your voice using the “My Sounds” block on Blockly and have the story told throughout your code. You will be sharing your story with the class at the end of the day. Be creative and most importantly, HAVE FUN!

How to write a story:

Step 1: Brainstorm

- Think of and write down multiple ideas for what your story may include. Who are the characters? Where are they?

Step 2: Choose a topic

- Select ONE idea from the brainstorming session to move forward with
 - Choose characters
 - Location
 - Plot

Step 3: Write a first draft and revise

- Write a first draft
- See if it works with your code
- What else can you implement?
- How can you make it better?
- Make changes

Step 4: Finalize story and code

- Practice your story and your code to ensure they work together
- Practice reading story out loud OR record story on Blockly

Step 5: Present to the class

Instructors should be checking in with all of the campers as they are working to make sure they are pacing themselves. If they need additional time they can continue to work on their program when they come back after lunch.

Wrap up activity - 45 minutes

Instructor to review appropriate behavior when campers are sharing.

- **When we are sharing, we are only using positive words.**

- Instructor gives an example: “John, I really liked how you were able to use all the color lights in your program.”
- We should feel good after someone comments on our work.
- Ask who would like to share their program with the group? (instructor selects who will share first)
- If there is time remaining, campers can continue with the puzzles from yesterday. Click the 3 orange lines in the upper left hand corner and select puzzles. Remind campers that you can monitor their progress while they are completing the puzzles.

LUNCH

Welcome Back Campers 10 minutes

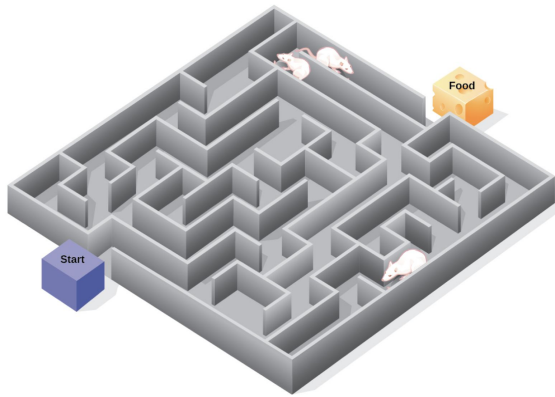
- Instructors welcome back campers from lunch.
- If you need to complete your morning activity you can also work on perfecting that.
- “Campers this 2nd part of our day is mainly you creating your programs and exploring what we have learned today.”
- “Also putting what we learned today together with what you have been learning with Blockly. “
- “I will introduce you to the activity and you will start to design your program using the folders that we focused on yesterday and today.”

Instructors Introduce Independent Activity 50 minutes

Campers, this afternoon you are going to work on your final camp activity. You are going to use all of the folders and command blocks that you have worked with this past week. When at camp there are so many fun activities that the campers participate in. One of the final activities is Color War. Dash is going to be running in the final Color War Run. Here is where the baton is passed to the next camper and they make it to the next person and so on. Dash is handed the baton and he has to run past all of the campers cheering him on. Along his way he is going to stop and participate in a maze run. You will be designing a maze that includes several turns at different angles and some obstacles in his way. Design a maze (example below) and program Dash making his way through it.

Include lights, sounds, animations, repeat tabs and other blocks you have worked with.

Remind campers to test their program to ensure it is following the maze that they created on paper. Instructors will check in with all campers to make sure they are working well and if assistance is needed, you can give it.



Instructor Explains the Talent Show Home Challenge Activity Directions

Day Five-Talent Show- Home Challenge

Dash has come to the end of the camp week and will be showing off his talent in the Camp Talent Show. Campers will use the simulator to create a program that will incorporate the Control Tab, Drive Tab, Light and Sound Tab along with functions and variables. Dash is going to play on the water pad at camp to cool down. Campers will create a program in Blockly that includes the following:

- Dash needs to include many different talents within his performance.
- Be creative with your programming and incorporate all of the coding blocks from Blockly that you have learned this week.
- Use no less than 10 blocks within your program.

Make sure you save your program and title it **Talent Show**. Remember if something is not looking right with your program, review the directions and

problem solve while looking within your program. You may need to change a block or two in order for Dash to move the way you want him to. Good Luck!

More at home extension activities:

- [Missions 1-5 for age group](#)
- Challenge Cards
 - 3.4, 4.1
- [Design Solutions for Home](#)