</WLRC>

_TEAM_NAME

_TEAM_MEMBER_NAME

2017-18_Wonder League Robotics Competition

wonder
workshop

NEWS FLASH

The World Discovers Space Island

< Recently, many people on the planet Earth saw a solar eclipse. They had a once-in-a-lifetime experience as the moon crossed directly in front of the sun midday, causing a "totality" for many North Americans. The sky grew dark, the stars shone, and the animals chatted their way to sleep (or so they thought!). >

< What many failed to notice with their snazzy eclipse glasses was that there was a change in the gravitational pull. With both the sun and moon on one side of the Earth, their combined gravitational pull caused the Earth to bulge, just a tiny bit.* >

< And at the same time, a small astronomical object (think asteroid, before it is an asteroid) passed between the moon and sun. It became caught up in the moon's gentle gravitational pull, and now this island -- well, space island -- orbits lazily around our moon.** >

< For 2018, many countries, such as the United States and China, had been planning new missions to the moon, but this breaking news changes everything! Countries around the world are teaming up to create a new intergalactic neighborhood on Space Island. This new universe task force will be responsible for creating a cosmic community, for all creatures near and far. And the possibilities are endless. >

*This fact is indeed true! Do some quick research about it.

**This part is indeed fictional. No research needed -- just use your imagination.

NEWS FLASH

< The first recruits for this task force? Why, Dash ... and you!
Your help, Earthling, is needed. No space travel is required, but
Dash and Dot need your help as part of the Mission Control ground
team. You need to provide the inspiration and the ideas to build
the greatest community any girl, boy, woman, man, and … well,
all creatures in general have ever seen! Will you create programs
to help Dash explore, clear, design, build, and celebrate this
new space space (get it)? >

< Your missions, should you accept:

    MISSION ONE: Explore and clean up Space Island.

    MISSION TWO: Renovate Space Island by creating a _(you choose)_.

    MISSION THREE: Celebrate your accomplishments with an intergalactic
                Space Island parade.>

Are you ready to be a star?

MISSION ONE // LOGBOOK

EXPLORE

_TEAM_NAME

_TEAM_MEMBER_NAME

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2017-18_Wonder League Robotics Competition

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

E X P L O R E

< CHALLENGE_ONE // A LOT TO PLOT >

1 **< Mission Control Center >**

2

3 **< Far out! Satellites show that Space Island,**

4 **orbiting near the moon, is a good size.**

5 **However, Astronaut Dash must explore every**

6 **square centimeter of the island carefully.**

7 **We need your team to help guide Dash and**

8 **record the discoveries to share with the**

9 **world. Is your team up for this first**

10 **challenge? >**

11

12 **< Over and out. >**

//_0917_MATERIALS_NEEDED

☐ **5x8 grid**

☐ **Dash**

☐ **Blockly or Wonder**

☐ **Device**

//_SET_UP

1. Place Dash in A1 to start.

< TIME TO LOG >

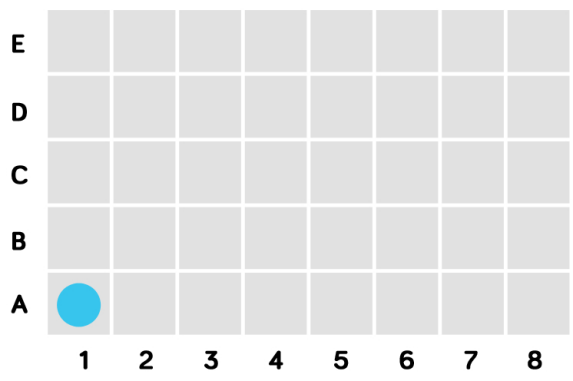**Make sure to record your hard work. Work with your coach to:**

1 **Record your Wonder Key or take a screenshot of your code**

2 **Take a short video of Dash running through your program**

3 **Take a few pictures of your work in this logbook**

</WLRC>

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

E X P L O R E

< CHALLENGE_ONE // A LOT TO PLOT >

< YOUR CHALLENGE >

	1	2	3	4	5	6	7	8
E								
D								
C								
B								
A	●							

● DASH

1. **Program Dash to travel through each and every cell on Space Island.**
   Discuss with your team and document what Dash finds!

2. **Do not fall off Space Island (stay inside of the grid)!**

< SCORING >

1 point For each cell Dash travels through

(40 points possible)

< BONUS POINTS >

2 points Each time Dash uses lights, sounds, or animations during the exploration

20 points If you create a successful program in both Blockly and Wonder

< TOTAL POINTS EARNED >

[ ] CHALLENGE_ONE = [ ] TOTAL_POINTS_EARNED

</ WLRC >

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

< TODAY'S PLAN >   _WHAT IS YOUR GOAL TODAY?

_____

_____

_DRAW OR WRITE ABOUT WHAT DASH NEEDS TO DO.

_WHAT STEPS DO YOU PLAN TO TAKE?

STEP
1 _____

_____

_____

STEP
2 _____

_____

_____

STEP
3 _____

_____

_____

</WLRC>

_TEAM NAME | _TEAM MEMBER NAME | _DATE | _TEAM MEETING #

< PLANNING GRID >

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1   2   3   4   5   6   7   8

E
D
C
B
A

1   2   3   4   5   6   7   8

</ WLRC>

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

< DESIGNS >

_____ **needs to** _____
< user >   < action >

in order to / because / so that _____
< circle one >

_____

_SKETCH YOUR IDEAS

_HOW DID YOU TEST YOUR IDEAS?

_____

_WHAT WORKED WELL?

_____

_____

_WHAT DIDN'T?

_____

_____

</WLRC>

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

< TODAY'S MILESTONES >

_WHAT WAS YOUR ROLE TODAY? WHAT DID YOU DO TO HELP THE TEAM?

_WHAT HAPPENED WHEN YOU RAN YOUR PROGRAM? WHAT MIGHT YOU NEED TO CHANGE?

_WHAT WAS THE MOST CHALLENGING PART OF TODAY?

_WHAT WAS THE MOST REWARDING PART OF TODAY?

_WHAT WILL YOU TACKLE THE NEXT TIME YOU MEET?

</ WLRC >

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

E X P L O R E

< CHALLENGE_TWO >

1 **< Extraordinary Earthling >**
2
3 **< Thank you for your help! We now have a much**
4 **better idea of what is floating so far above**
5 **the Earth. Your team must be excited about**
6 **creating this cosmic community for all**
7 **creatures, near and far. But sadly, we've**
8 **also discovered litter on Space Island —**
9 **space junk! Please work together with Dash**
10 **to move the large items of space junk into**
11 **a collection zone. Time to clean up this**
12 **amazing space! >**
13
14 **< Report back. >**

//_0917_MATERIALS_NEEDED

- [ ] **5x8 grid**
- [ ] **Three 18 oz. cups**
- [ ] **Bulldozer accessory** _optional_
- [ ] **DIY materials for an attachment** _optional_
- [ ] **Dash**
- [ ] **Blockly or Wonder**
- [ ] **Device**

//_SET_UP

1. **Place Dash in A1 to start.**

2. **Place a piece of space junk (an upside-down cup) in B3, C4, and D5.**
   What kind of space junk did Dash find? Decorate the cups to represent this galactic garbage.

3. **Mark A8-E8 as the Collection Zone.**

< TIME TO LOG >

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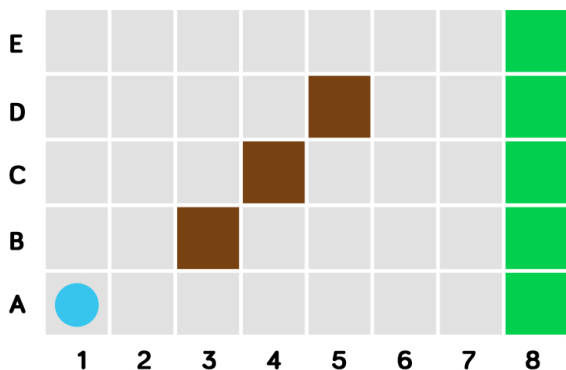</ WLRC >

_TEAM NAME	_TEAM MEMBER NAME	_DATE	_TEAM MEETING #

E X P L O R E

< CHALLENGE_TWO >

< YOUR CHALLENGE >

DASH

SPACE JUNK (upside-down cup)

COLLECTION ZONE

1. Program Dash to locate the space junk.

2. Program Dash to move the space junk into the Collection Zone (A8-E8) using an original attachment or the bulldozer.

3. Do not fall off Space Island (stay inside of the grid)!

< SCORING >

10 points

For each piece of space junk moved from:

_B3 into the Collection Zone (A8-E8)

_C4 into the Collection Zone (A8-E8)

_D5 into the Collection Zone (A8-E8)

< BONUS POINTS >

20 points

If you moved all three pieces of space junk in one trip

20 points

For creating an original attachment to move the space junk

< TOTAL POINTS EARNED >

CHALLENGE_ONE	+	CHALLENGE_TWO		=	TOTAL_POINTS_EARNED

</ WLRC >

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< TODAY'S PLAN > _WHAT IS YOUR GOAL TODAY?

_DRAW OR WRITE ABOUT WHAT DASH NEEDS TO DO.

_WHAT STEPS DO YOU PLAN TO TAKE?

STEP 1 _____ _____ _____

STEP 2 _____ _____ _____

STEP 3 _____ _____ _____

</WLRC>

< PLANNING GRID >

	1	2	3	4	5	6	7	8
E								
D								
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B								
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	1	2	3	4	5	6	7	8
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E X P L O R E

< CHALLENGE_THREE >

1   **< Humble Human >**

2

3   **< Your team is almost done! Dash just needs**
4   **your help to remove the last little bits of**
5   **space junk. Sort the trash from the recyclables**
6   **and move them into the correct spots in the**
7   **collection zone. Thank you for hard work. >**

8

9   **< Well done! >**

10

11 **< Signing Off >**

//_0917_MATERIALS_NEEDED

- [ ] **5x8 grid**
- [ ] **Six cotton balls**
- [ ] **Nine large paper clips**
- [ ] **Bulldozer accessory** _optional_
- [ ] **DIY Materials for an attachment** _optional_
- [ ] **Additional materials (e.g. bottle caps) for more space junk** _optional_
- [ ] **Dash**
- [ ] **Blockly or Wonder**
- [ ] **Device**

//_SET_UP

1. **Place Dash in A1 to start.**

2. **Place three pieces of trash (cotton balls) about 10 cm apart inside of B5 and D5.**

3. **Place three recyclables (large paper clips) about 10 cm apart inside of B3, C4, and D3.** *Bend the paper clips so that they don't lie flat.*

4. **Mark E8 as the recyclables collection area and A8 as the trash collection area.**

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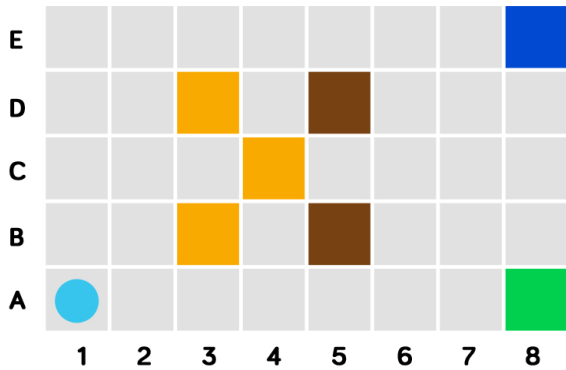
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E X P L O R E

< CHALLENGE_THREE >

< YOUR CHALLENGE >

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1 2 3 4 5 6 7 8

● **DASH**

■ **RECYCLABLES COLLECTION AREA**

■ **TRASH** (cotton balls)

■ **TRASH COLLECTION**

■ **RECYCLABLES**

1. **Program Dash to locate the trash and move it to the trash collection area in the Collection Zone (A8).**

2. **Program Dash to find the recyclables and move them to the recyclables collection area in the Collection Zone (E8).**

   What property could the attachment have to move the metal bits more easily?

3. **Do not fall off Space Island (stay inside of the grid)!**

< SCORING >

5 points — For each piece of trash moved:
_From B5 to A8 (15 points total)
_From D5 to A8 (15 points total)

5 points — For each recyclable piece moved:
_From B3 to E8 (15 points total)
_From C4 to E8 (15 points total)
_From D3 to E8 (15 points total)

< BONUS POINTS >

10 points — For creating an original attachment to move the trash and recyclables

10 points — If Dash makes only one trip to the collection zone while sorting the trash from the recyclables

5 points — For each piece of additional space junk added and sorted correctly

5 points — For having Dash celebrate a job well done (dance, sing, etc.)

< TOTAL POINTS EARNED >

☐	+ ☐	+ ☐	=	☐
CHALLENGE_ONE	CHALLENGE_TWO	CHALLENGE_THREE		TOTAL_POINTS_EARNED

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STEP 1	STEP 2	STEP 3
_____	_____	_____
_____	_____	_____
_____	_____	_____

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< PLANNING GRID >

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