SPLAT BRIDGE RELAY

GAME SETUP

2–6
PLAYERS

■■□□□□

2
SPLATS

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ONLY YOUR SPLATS CAN SAVE YOU!

GAME SUMMARY

UNRULINESS: Walking, Jumping

GAME RULES: Keeping both feet on Splats, cross the gap without falling off

The river is flooded and all you have to cross it with are your trusty Splats! With both feet on one Splat, move your other Splat further across the river. Repeat until you make it to the other side. The next player can begin once you make it across. The first team to cross the river safely wins! Game requires a start and finish point–any distance apart.
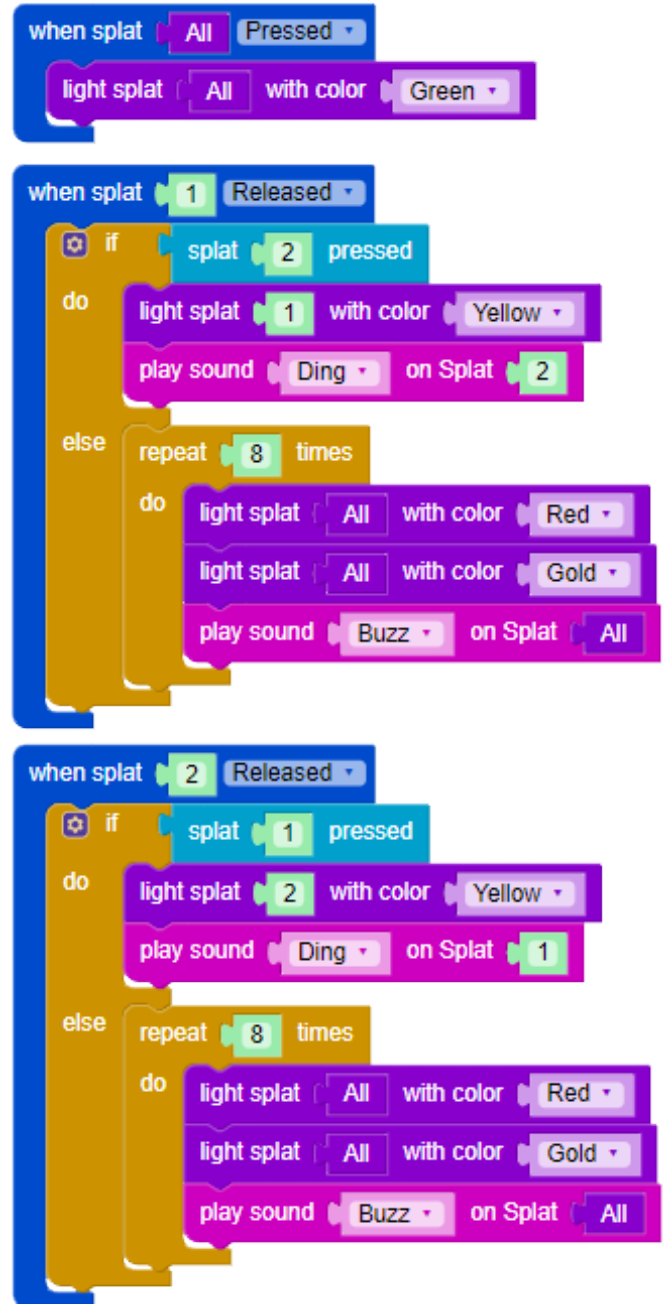
HOW IT WORKS

In order to make sure one Splat is always pressed, and that the player hasn't fallen off, this code uses **WHEN SPLAT RELEASED** blocks. If Splat one is released when Splat two is pressed (or vice versa), the player can continue their journey.

This code is a great example of using a **REPEAT/DO** block to clearly show the player when the fail state of a game is triggered.

If ever a Splat is released while the other one isn't being pressed, the fail sequence will be triggered: they will both flash red and gold and buzz repeatedly.

The **WHEN SPLAT RELEASED** block lights either Splat as yellow when ready to be stepped on. For increased game feedback, the **WHEN SPLAT PRESSED** block lights the Splats green to show the game is still running, and the player has made a step successfully.

```
when splat [ All ] [ Pressed ▾ ]
    light splat [ All ] with color [ Green ▾ ]

when splat [ 1 ] [ Released ▾ ]
    if    splat [ 2 ] pressed
    do    light splat [ 1 ] with color [ Yellow ▾ ]
          play sound [ Ding ▾ ] on Splat [ 2 ]
    else  repeat [ 8 ] times
    do        light splat [ All ] with color [ Red ▾ ]
              light splat [ All ] with color [ Gold ▾ ]
              play sound [ Buzz ▾ ] on Splat [ All ]

when splat [ 2 ] [ Released ▾ ]
    if    splat [ 1 ] pressed
    do    light splat [ 2 ] with color [ Yellow ▾ ]
          play sound [ Ding ▾ ] on Splat [ 1 ]
    else  repeat [ 8 ] times
    do        light splat [ All ] with color [ Red ▾ ]
              light splat [ All ] with color [ Gold ▾ ]
              play sound [ Buzz ▾ ] on Splat [ All ]
```

SUGGESTED OUTLINE

1 INTRODUCE EXERCISE
Introduce the activity. Explain the game rules and demonstrate how to play the game. Lead the class in identifying the objectives of their program, breaking down problems, and creating flowcharts / lists of tasks.

2 WORK TIME
Introduce the essential blocks and tie them directly to the game rules. Highlight the **WHEN SPLAT RELEASED** blocks and have students work together to build the rest of the code. Support groups in sharing note taking, testing, and coding roles.

3 GAME PLAY
Have students test out their programs as a group. Encourage students to brainstorm and test other innovative ways to cross the river. There will be a lot of fail noises!

4 STUDENT SHOWCASE!
It is relay time! Set up your "river" and line groups up for the relay.

GOING FURTHER

EXTENSION
Students can add code for more players, add a stopwatch or timer, and even change the code so the crossing can be done in one full group.

SUPPORT
Highlight the difference between when splat pressed and when splat released. Why do we use released in this program?

CSTA STANDARDS

ALGORITHMS & PROGRAMMING

GRADES 3—5

1B-AP-10 CONTROL	Create programs that include sequences, events, loops, and conditionals. **(P5.2)**

1B-AP-11 MODULARITY	Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. **(P3.2)**

1B-AP-15 DEVELOPMENT	Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. **(P.6.1, 6.2)**

1A-AP-16 DEVELOPMENT	Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. **(P2.2)**

1B-AP-17 DEVELOPMENT	Describe choices made during program development using code comments, presentations, and demonstrations. **(P.7.2)**