

Astronaut Control: Space Programming Adventure

Task 1: Movement



Your Mission: Program your astronaut to move up and down using Events clicked for up and down

Success Criteria:

- Astronaut responds to up button clicks
- Astronaut responds to down button clicks
- Movement is smooth and controlled

The Scratch script consists of the following blocks:

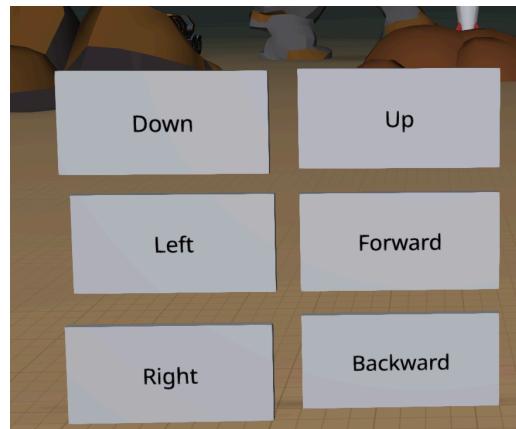
- When Play clicked
- when Down is clicked
 - push Astronaut woman up with velocity 1
- when Up is clicked
 - push Astronaut woman forward with velocity 1
- when Forward is clicked
 - push Astronaut woman down with velocity 1
- restrict Astronaut woman rotation to axis X on Y on Z off
- set gravity pull to 0.3
- restart scene

Task 2: Direction Movement + Stop



Your Mission: Create buttons for complete directional control

- Up button
- Down button
- Left button
- Right button
- Forward button
- Backward button
- Essential STOP button (velocity 0)**



Success Criteria: All directions work smoothly with stop control

Task 3: Stop Falling Over!



The Problem: Your astronaut is like a toy with loose joints. When it jumps, it gets wobbly and falls flat.



Your Mission: Fix the astronaut's stability in 4 steps:

This is the correct block but are these correct?

restrict Astronaut woman ▾ rotation ▾ to axis X on ▾ Y on ▾ Z off ▾



Success Criteria: Astronaut stays upright and stable during movement

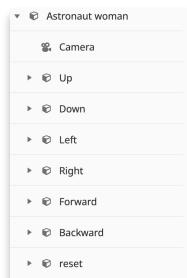
Task 4: Camera Connection



Your Mission: Make the camera follow the astronaut when they move — so it looks like you are moving through space!

Requirements:

- Attach camera to the astronaut
- Attach control buttons to the astronaut
- Test that camera moves with astronaut



Success Goal: Be able to match the right parts together (camera, controls, and astronaut) so everything moves as one unit

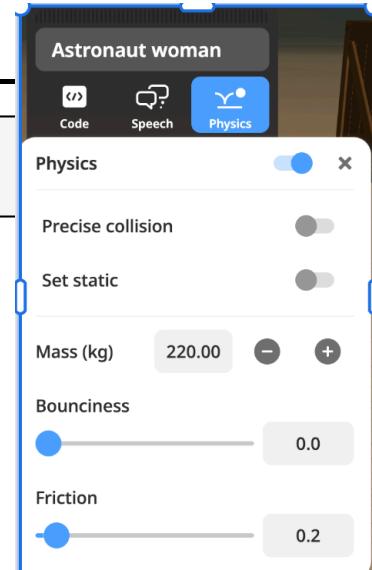
Task 5: Different Velocities & Friction



Your Mission: Create a more realistic space environment

Requirements:

- Add obstacles for your astronaut to move around
- Change how slippery or bouncy the surfaces are
- Experiment with different astronaut speeds
- Adjust friction settings



Success Goal: Make your astronaut easier to control and create realistic space physics

Help & Support

Stuck? Try These Common Solutions:

Astronaut Won't Move:

- Check your velocity values aren't zero
- Make sure buttons are connected to the right events
- Try different velocity numbers (start with 5)

Astronaut Moving Wrong Direction:

- Check you're using the right axis (X=left/right, Y=up/down, Z=forward/back)
- Try positive and negative values (+5 vs -5)

Camera Problems:

- Make sure camera is attached/parented to astronaut
- Check camera isn't inside the astronaut model
- Try repositioning the camera

Physics Issues:

- If too bouncy: reduce bounciness values
- If too slippery: increase friction values
- If unstable: check rotation lock settings in Task 3

Ask for Help:

- Raise your hand if stuck for more than 5 minutes
- Work with a partner to problem-solve
- Check your neighbor's setup if theirs is working