

# Student and Teacher Questions and Answers

## Kwadropus – Duster Arm

I am expecting that the first Kwadropus we make will be around 24” in diameter so that you can make your component the size you want for demonstrations of how it works. I don’t want you to worry about size right now, I want to see your ideas for functionality. Eventually I expect that the Kwadropus robot we send to a future space station will need to be around 12” in diameter so it can clean in smaller nooks and crannies. I don’t need you to design for this yet but keep it in mind as you develop your prototypes.

Expect that the Kwadropus is cleaning the wall surface ‘under’ it—look at the artist’s rendering. Don’t try to clean the surface in front of it (like the wall it may be approaching)

What kind of motion does your duster arm need to have to clean the most effectively—rotation through the axis, back and forth, small circles (like a hand wiping down the table)?

Is it slow or fast motion?

As the duster arm moves, is the dust collecting on all of the surfaces of the bristles/threads/folds/fingers? You want to collect as much dust as you can before it needs to be cleaned or replaced.

Plan to demonstrate or show a video of how your duster arm picks up dust. You can use talcom powder or you can impress your mom and dad by cleaning up some real dust in your house—on top of shelves.

Plan to demonstrate or show a video of how the duster arm will be cleaned.