CE **Animation** Psych 111 – Heart Rate **Seq** 1 Page# 1

Sc 1 Panel 1

Congratulations, you've just been hired

Sc 1 Panel 2

to be the new Psych 111 professor at BYU.

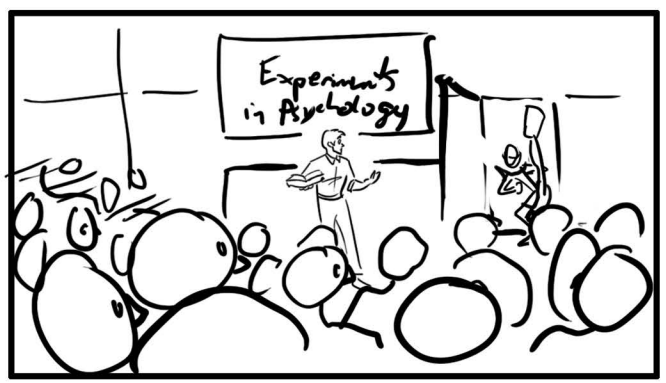
Sc 2 Panel 1

One day you're teaching in your large class,

Sc 2 Panel 2

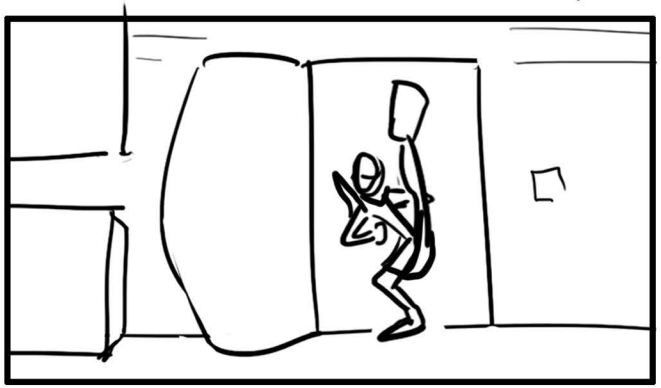
You have 200 students, and you're learning a bit about experiments in psychology when all of a sudden the back door bursts open.

Sc 2 Panel 3



[BAM]

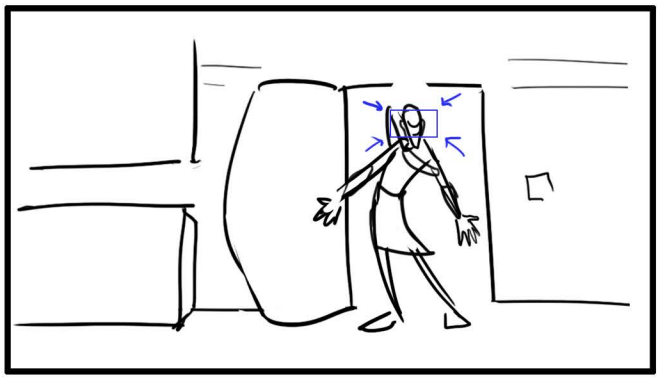
Sc 2 Panel 4



Story Artist AJ Ogden

CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 2

Sc 2 Panel 5



It's an alien

Sc 2 Panel 6

Not just an alien;

Sc 2 Panel 7

it's a skeptical alien.

Sc 3 Panel 1

The alien comes crawling in the class

Sc 3 Panel 2

and tells you that science only works when you study chemicals and natural laws.

Sc 3 Panel 4

He calls you a fool in front of your entire class of 200 students for even thinking you can do tests using people.

Story Artist AJ Ogden

CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 3

Sc 4 Panel 1

He tells you people are too complicated. Their weakness is they have agency and a will. It means you can never trust anything from them because you never know if they're telling the truth.

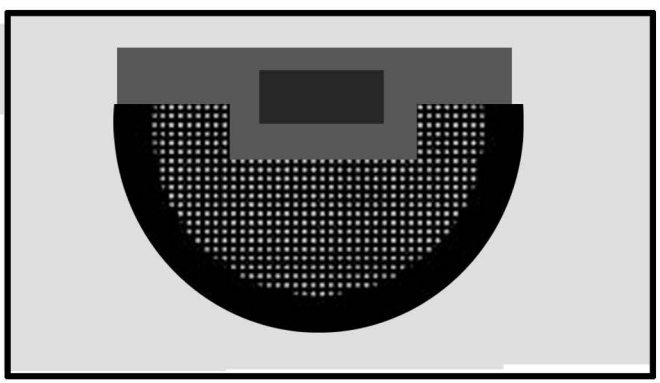
Sc 4 Panel 2

You're pretty quick on your feet, so you think, well, maybe I can come up with some kind of scientific experiment

Sc 4 Panel 3

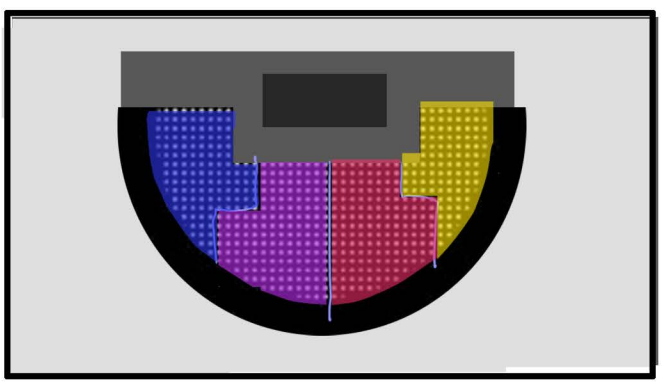
to show this alien that you can do work with people and you can trust your analyses

Sc 5 Panel 1



You decide to divide the class into

Sc 5 Panel 2



four groups of fifty.

Sc 6 Panel 1

You ask everybody to take their baseline heart rate. They learn how to check it, and then they write it down.

Story Artist AJ Ogden

CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 4

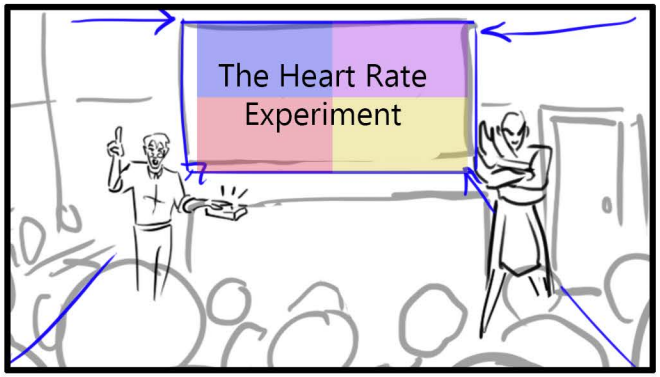
Sc 6 Panel 2

Fortunate for you, the alien actually has a special ability to measure and then remember each student's individual heart rate.

Sc 6 Panel 3

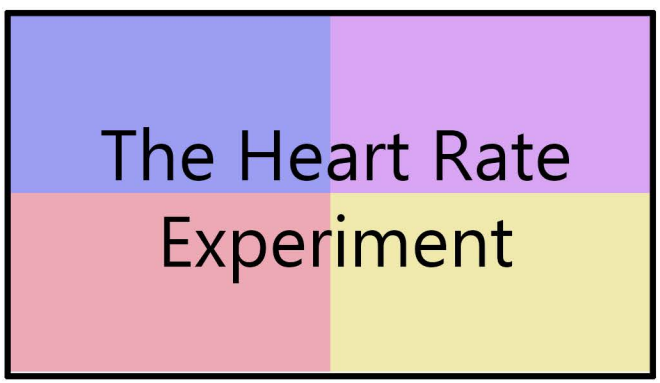
So the alien agrees to your proposal.

Sc 6 Panel 4

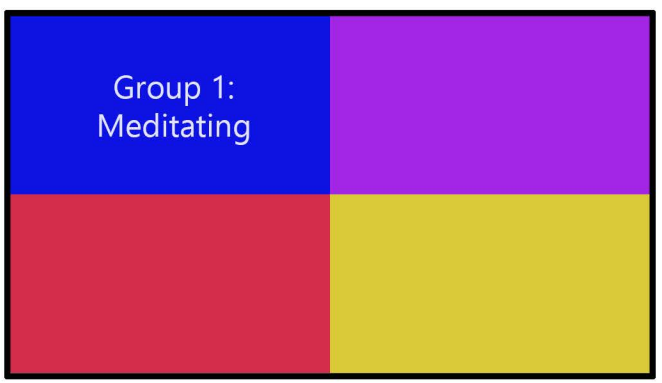


You come up with an experiment.
(Zoom onto the board and crossfade to a 2D representation)

Sc 7 Panel 1

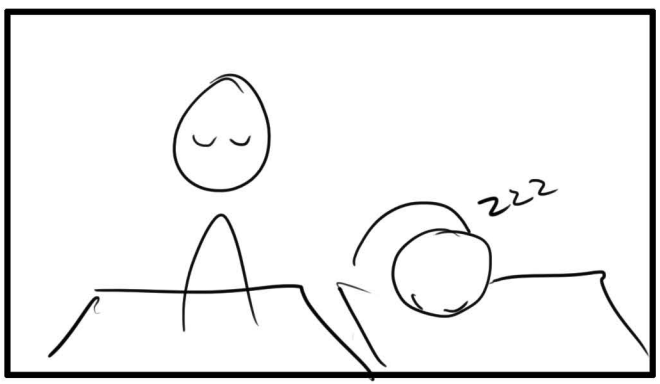


Sc 7 Panel 2



So the first group you have decides they're going to sit down and meditate.

Sc 7 Panel 3

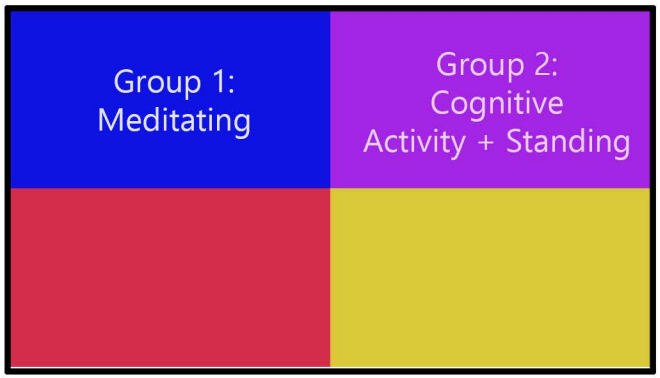


You ask them to be quiet for 10 minutes and silently mediate and rest.

Story Artist AJ Ogden

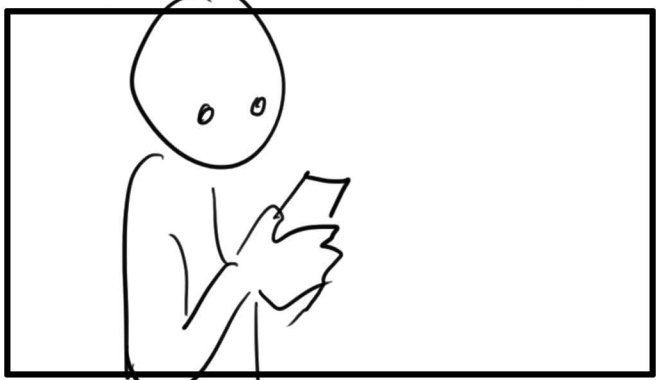
CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 5

Sc 8 **Panel** 1



Group 2 stands up in their spots, but they stay quiet, but you have them do something that's cognitively active.

Sc 8 **Panel** 2

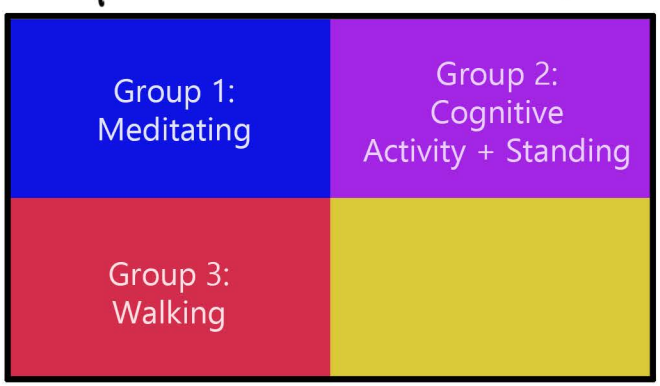


You have them get on their phone and do some kind of a task. So they're not moving a lot,

Sc 8 **Panel** 3

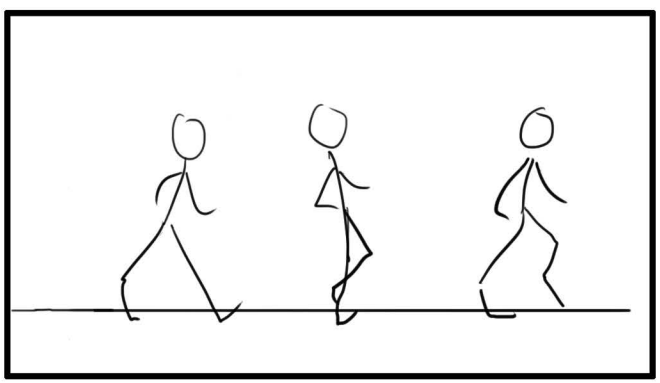
but they're still doing something with their mind and they're still being active.

Sc 9 **Panel** 1



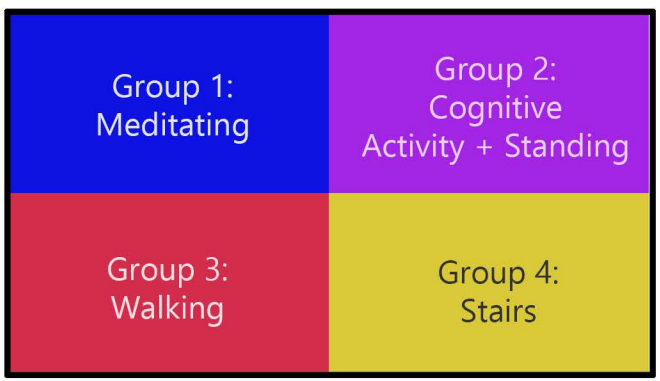
Group 3 goes out and walks in the hallway for 10 minutes.

Sc 9 **Panel** 2



They don't do anything else, they just walk.

Sc 10 **Panel** 1

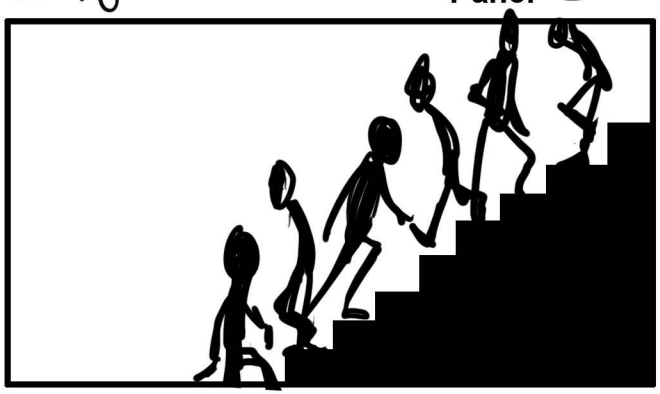


And group 4 goes out to the large stairs outside

Story Artist AJ Ogden

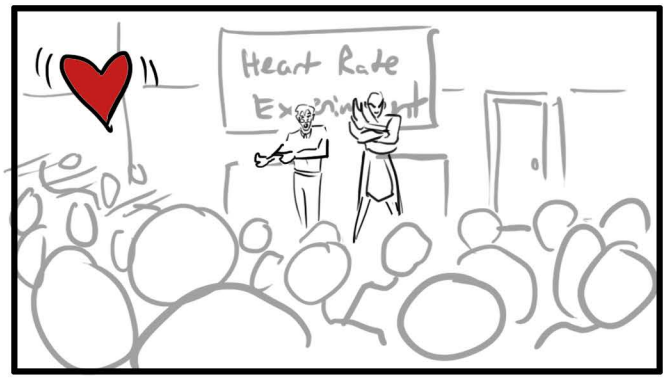
CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 6

Sc 10 **Panel** 2



And goes up and down the stairs for 10 minutes straight.

Sc 11 **Panel** 1

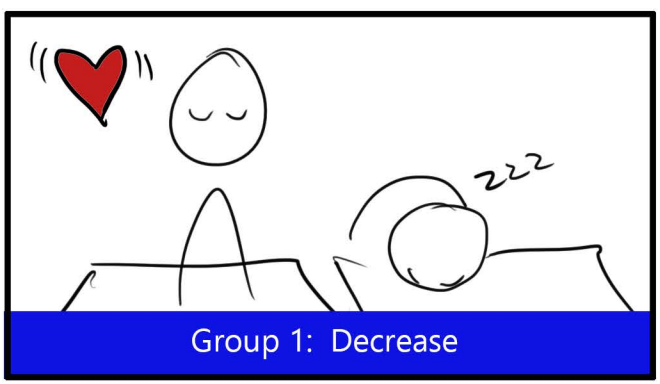


After everybody's finished with their 10 minutes, you have them come back to the class and you measure their heart rate again.

Sc 11 **Panel** 2

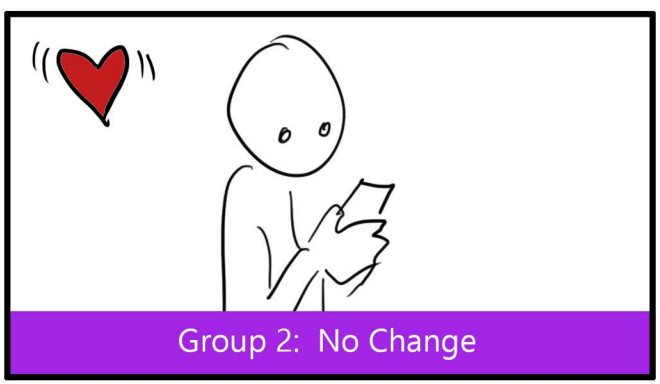
Silently, while they're doing the jobs that they were assigned to do, you had written down on a piece of paper your proposed hypothesis.

Sc 12 **Panel** 1



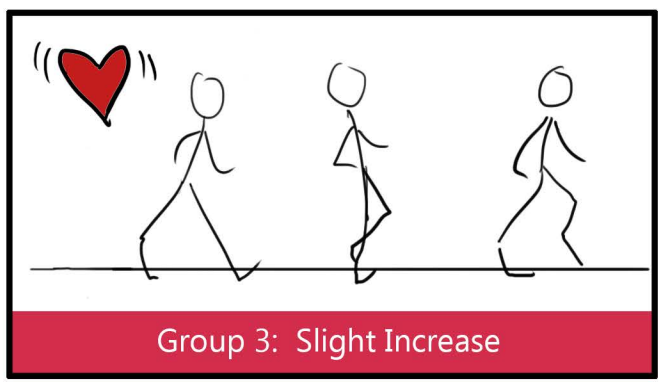
You expected that those that sat down, that their heart rate would actually decrease while they were sitting and being quiet and resting.

Sc 12 **Panel** 2



They were standing in class paying attention to their phone or whatever task they had mentally, which you figured would be about the same as what they were doing at baseline.

Sc 12 **Panel** 3



Group 3, you expected to go up a little bit because they were out walking the halls for 10 minutes.

Story Artist AJ Ogden

CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 7

Sc 12 Panel 4

Group 4, you expected to go up the most because they were vigorously going up and down the stairs.

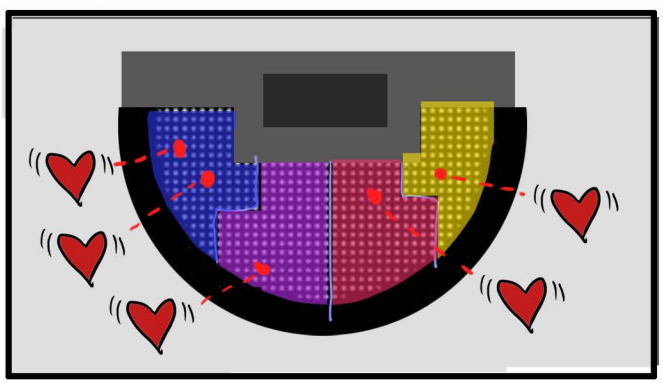
Sc 13 Panel 1

Much to the alien's surprise,

Sc 13 Panel 2

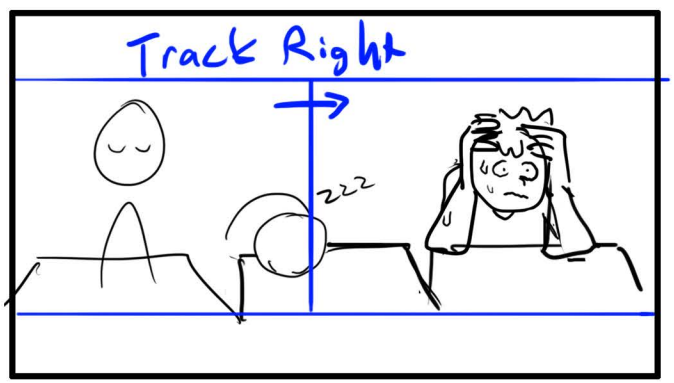
You were exactly right as you wrote down in your hypothesis.

Sc 14 Panel 1



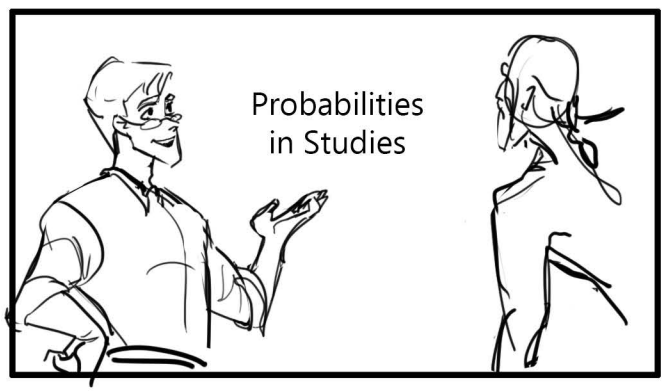
Now that didn't mean that you explained every single student. You had occasional people in each group of 50 that didn't match up with what the group did.

Sc 14 Panel 2



For example, there were a couple of students that were just sitting whose heart rate actually went up a little bit.

Sc 14 Panel 3

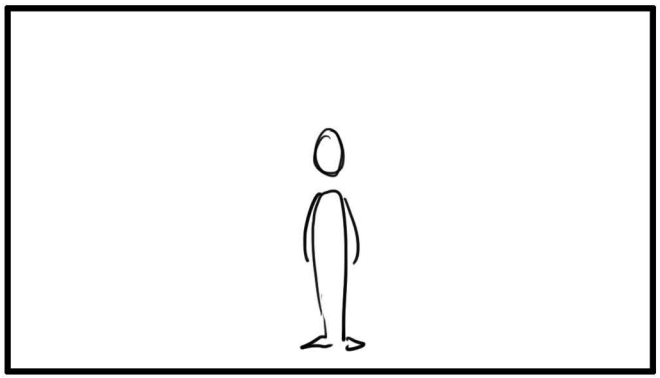


But you explained to the alien that this is the reason why you use probabilities in studies.

Story Artist AJ Ogden

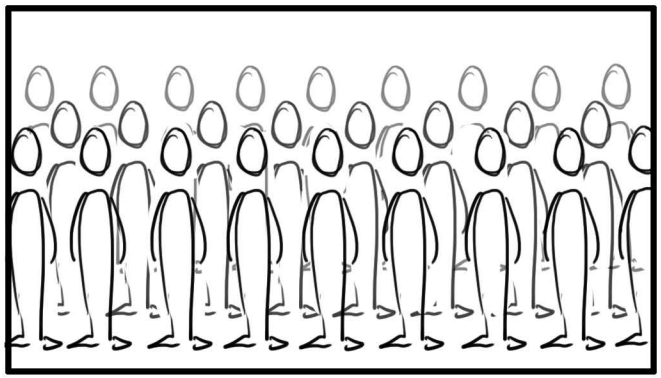
CE **Animation** Psych III – Heart Rate **Seq** 1 Page# 8

Sc 15 Panel 1



You don't just rely on each individual person alone,

Sc 15 Panel 2



but you look at averages across the people and show that the scientific principles that you've been covering in class really do work.

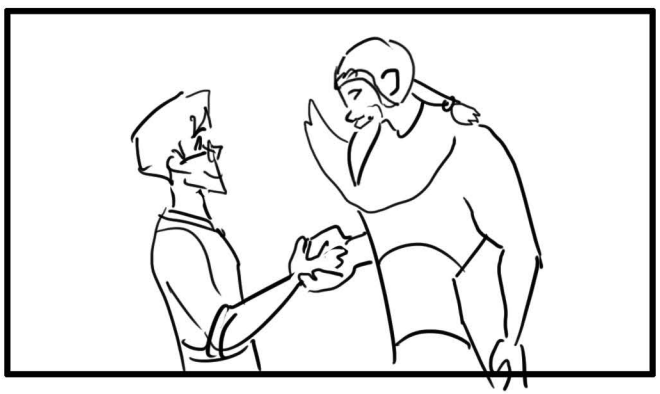
Sc 16 Panel 1

The alien is really impressed that you were able to come up with something that actually worked with people because the alien just thought they were too unreliable.

Sc 16 Panel 2

You show that if you're careful in how you design your study, that you can actually do a lot of different complicated designs and get really good data from people.

Sc 16 Panel 3



You just have to think more carefully when you're first setting up your study.

Sc Panel

Story Artist AJ Ogden