

Page #3

Panel 1: Ashley runs towards Catalina and hugs her. Ashley says, "OMG!"

Panel 2: Chad runs towards Nick while saying out loud, "Nick!!!"

Panel 3: BOOM! Chad gets to Nick and finally hugs him.

Panel 4: Both guys fall on the sand, and the girls look at them with surprise. Nick is on the ground. He looks like he is in pain after the fall and says, "Hey Chad..." Chad is on his knees and says back to him, "I've missed you dude! Did you get taller?"

Panel 5: Kai comes closer and says, "Yo." Panel 6: Chad looks up

Page #4

Panel 1: Chad smiles and says, "Kai! I almost didn't recognize you!"

Panel 2: Kai takes a sip of his drink and replies, "It's the new hair-do! You like it?"

Panel 3: Catalina says to Kai, "Yeah! Your hair looks so luscious. What's the secret?"

Panel 4: Nick is still on the ground. Now on his knees, he says to Kai, "Man... might need some hair advice later."

Panel 5: Kai smiles, makes the peace

“Yes. Thank you again Sasha.”

Panel 3: Patrick is holding the drone control. He says *“Chris, drone is airborne.”*

Panel 4: On the boat- Patrick is sitting on the bow and Emily is driving the boat. Chris is standing up and says to Patrick *“Great! Let’s see what’s in store for us today.”*

Page #6

Panel 1: The drone is in the air surveying the beach.

Panel 2: Catalina is on her board and spots a drone in the air. She says, *“Huh? What’s that?”*

Panel 3: Ashley, Catalina, and Nick look at the drone and see the shark lab boat from afar. Catalina says, *“Who’s that?”* Nick says, *“It’s a drone,”* and Ashley says, *“I wonder what they’re doing…”*

Panel 4: Back on the boat, Patrick is controlling the drone and surveying the beach. Chris says, *“Let’s hope we’re lucky today”*. Emily says to the lifeguard, *“Sasha, any sightings this past week?”*

Panel 5: The lifeguard replies, *“There were some juvenile great white sightings on Tuesday.”* Chris replies from the boat, *“Nice! That’s promising news.”*

Panel 6: The lifeguard smiles and says, *“It’s so interesting what you all do. Working with sharks is so fascinating.”*

Page #7

Panel 1: The kids approach the Shark Lab boat. Chad says out loud, *“Shar- SHARKS?!”*

He is a little bit concerned. Catalina with a calmer voice says, *“Hello..”*

Panel 2: Dr. Lowe sees the kids and says to them, *“Hey kids! We are trying to tag juvenile white sharks that are out at the beach.”*

Panel 3: Nick is curious and asks, *“Tag? With what?”*

Panel 4: Emily is holding a pole spear on the boat. She answers Nick’s question by saying, *“We are trying to determine why sharks are hanging out at*

transmitter into the shark's back near the dorsal fin and it will hang off like an earring."

Page #8

Panel 1: The drone is still surveying the beach. From the drone you can see the beach, the wave-break and a lot of sharks near shore.

Panel 2: Dr. Chris Lowe explains acoustic telemetry to the kids. He says, *"Acoustic sound waves travel well through water, so if a tagged shark is within 500 yards of an underwater receiver, it will log the time, date, and ID number of the shark" - "Some of the transmitters even have water temperature and depth sensors on them, so we know how deep the shark is swimming and temperature of the water when transmitter pulses"*

Panel 3: All the kids are sitting on the boards looking at the Shark Lab work. They approach them and Catalina says, *"That's so cool"*. Nick says *"How can we know more about this?!"* Kai seconds him by saying, *"Yeah! How?!"*

Panel 4: Chris says from the boat, *"I'm Dr. Chris Lowe! This is Emily and Patrick. You all should come to the University Shark Lab tomorrow!"* Emily says, *"We can show you all the cool tech we have!"*

Panel 5: The lifeguard still on the jet-ski says, *"I have to head back to the tower. Stay safe out there and remember to let us know if you spot any sharks. No need to worry, it's their home and we're just visitors."*

Panel 6: The lifeguard heads back to shore. The Shark Lab boat continues their work. As they drive away, Dr. Chris Lowe says, *"C'ya tomorrow!"* Catalina waves and says, *"Yeah! Thank you!"*

Page #9

Panel 1: The next morning, the kids arrive at the university. They greet Dr. Lowe by saying, *"Good morning, Dr. Lowe."*

Panel 2: Chris sees the kids and welcomes them, *"Hello kids, welcome to the Shark Lab."*

Panel 3: Kai, Nick, Catalina, Ashley, and Chad enter the lab. They are all amazed and surprised. Catalina, Kai, and Chad say, *"Wow!"*, Ashley makes a sound *"EEEEK!"* and Nick is speechless.

Panel 4: The lab set up is amazing. The space has a lot of desks and tanks with live animals in them. The kids are so excited and say, *"This is awesome!"* *"Let's check it out!"*

Panel 5: Ashley, Catalina, and Nick run to check the big circular fish tank that is in the middle of the lab. Ashley says, *"I'm going to sketch this out."* Dr. Chris Lowe says to them, *"We study shark biology and their behavior."*

Panel 6: Inside the tank, there is a leopard shark and a stingray. While the kids admire the animals in the tank, Dr. Lowe continues his tour to the lab by saying, *"We do this to understand why they do what they do," "But that requires the use of special shark tech."*

Page #10

Panel 1: Dr. Chris Lowe shows the kids some old and new technology. First, he shows them an old underwater paper chart thermometer. Basically, an old PVC cylinder. Then he shows them the new technology and says, *"Look at how far* ~~*it's*~~ *30 Td* ~~*the*~~ *5* ~~*of*~~ *(1)362aW4*

Panel 5: Catalina answers excitedly *“Dr. Lowe said you could explain how the transmitters work.”*

Page #12

Panel 1: Darnell explains to the kids, *“Here at the Shark Lab we want to know where the sharks are going and what they are doing; but because they live in the ocean, that makes it a lot more challenging.”* Chad looks down at his phone in confusion and says to Darnell, *“Why not just put a GPS tracker on sharks like we have on our phones.”* Catalina rolls her eyes and Darnell chuckles, *“Ha-ha! I wish it were that simple.”*

Panel 2: Darnell continues his explanation to the kids. *“The challenge is the GPS uses radio signals sent from satellites in space around the earth, but those radio signals can't travel through seawater. So, if we put a GPS receiver on a shark, it wouldn't be able to detect the radio waves sent by the satellite.”*

Panel 3: Catalina considers the two types of transmitters Dr. Chris Lowe told them about, acoustic and satellite. She then asks Darnell, *“But don't you use a tag called a 'satellite transmitter' to follow sharks?”* Darnell seems pleased by this question and answers, *“Right you are! We use several types of satellite transmitters that we can out on the sharks to track them. But they are designed to only transmit when their antennas break the surface of the*

Panel 1: Nick grins and says, "*Cool! But how*

Panel 6: *"I see it! We just need to get a little closer,"* says Patrick, looking down at the silhouette of the shark in the water.

Page #20

Panel 1: Pole spear sounds "CLACK!" as Patrick shoots to tag the shark.

Panel 2: People on the boat scream "Wow!" Dr. Lowe says *"Nice! Let's make sure we record the sex of the shark."* Two other sharks swim near the boat.

Panel 3: Patrick says, *"Dr. Lowe! We have another shark! This one is about 5 ft long. Just a baby."*

Panel 4: Dr. Lowe replies, *"Let's try to catch that one with the net!"* Panel 5: Lauren says, *"Got it!"*

Panel 6: A strike net is suspended between the two boats which surround the shark to catch it. Dr. Lowe says *"Careful. Steady."* Someone on the boat screams *"It's coming!"*

Panel 7: The shark swims towards the net.

Page #21

Panel 1: Looking at the shark over the boat, Catalina screams *"Wow! Look at that!"* as Lauren holds the net where the shark is getting tagged.

Panel 2: As she manipulates the shark Lauren says, *"Catalina be careful with your hands."*

Panel 3: The shark lies calmly on its back.

Panel 4: Catalina says, *"Aren't you all afraid it can turn around and bite you?"* Elizabeth replies, *"Once you flip the shark on its back, it will kind of go to sleep."*

Panel 5: The shark has been brought onto the boat. As Dr. Lowe holds it down, he says, *"But we're still very careful and want the shark to remain calm."*

Panel 6: Chad says, *"Now that you've caught the shark, what are you going to do?"*

Panel 7: Dr. Lowe responds, *"We're going to surgically implant a transmitter in its body. This transmitter will last 10 years!"* A diagram shows how Dr. Lowe cuts through the shark skin, implants the transmitter in the shark cavity, and sutures the wound to help the shark heal. Dr. Lowe says, *"Then we're going to take a small tissue sample and blood, which we will take back to the lab and study it."*

Panel 8: Dr. Lowe continues to explain "*We're going to clamp this smart tag on*

Panel 6: Yamilla asks, “*Do you guys know how to ‘code’?*”

Panel 7: Ashley answers, “*I’m learning how to program in Python in school.*” Yamilla says, “*That’s great. I wish I learned that as early as you.*”

Page #24

Panel 1: Yamilla examines the data and says, “*Looking at the acceleration data and seeing some interesting patterns, but we don’t really know how to find all of them in this gigantic data set. I think we’re going to need some help.*” She continues, “*Dr. Lowe said he’s calling his friend Dr. Viany Leos-Barajas, who’s a mathematician really interested in sharks.*”

Panel

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Maybe develop a game? Maybe about a day in the life a shark?" Chad not super convinced begins, "That's so lame Who would want to play a game