Floating Logs – Grade 8 Student Responses

Response A (More than half of the larger log floats above the surface):
Student #1: I think that more than half of the larger log floats above the water surface because I know that the longer or wider they are, that the log won’t sink.
Student #2: I think more than half the larger logs floats above the water surface because a tree produces oxygen and I think that they would float better because they have or give off more oxygen and air doesn’t sink it floats really well.

Response B (Half of the larger log floats above the water surface.):
Student #3: If this log is twice the size of the other nothing change for the buoyancy.
Student #4: It’s the same as the smaller log. Half of the log is in water the other half is out of water. I guessed using things I’ve used before.
Student #5: I think the half of the larger log floats above the surface. I think this because if the smaller one floated like that and this one is twice as long and twice as wide it should be balanced. I just made an inference to figure this out.
Student #6: I think the answer is it will be halfway out of the water because the log is rolling. I have also seen pencils short and long that are all half way out when in water.
Student #7: I think that half of the bigger log will float because when they used to transport logs on water before we had vehicles to do it for them. Another reason I believe they both float the same is because the floating is to do with the depth of the water.
Student #8: The rule for this is mass even though log is heavier it will still stay the same because logs float it might be a little bit lower.
Student #9: It does not matter how long the log is if it is the same thing it will be the same result. I have done this before with other logs and sticks and stuff.
Student #10: Because of the size there is some sort of pull to the log so there’s no way more than half of it can be above water. On the other hand, the material wood of course, is light weight so there can’t be over half under water.
Student #11: Half of the larger log floats above because the log is still going to be the same as the other. The log is just the same shape only wider and longer. Just because your bigger doesn’t mean your worse or better, for example if you threw a 5 year old kid tied up in a deep pool it will sink, the same for an adult, you will sink if you don’t move. This is why I believe this answer.
Student #12: It is still a log no matter the size and the smaller log was half in the water and half out, this log should do the same thing. So if you put a log in the water that’s what it would do no matter how big or small the log is I think half would be in the water and half out. This is just a guess so maybe it’s right or maybe its wrong.
Student #13: I think that half of the larger log floats above the water surface because even thought the log is bigger than the other log its still a log. The logs may differ in size but that should have nothing to do with whether or not the log floats more or less above water. I’m guessing this answer, I though of the most logical answer I could think of.
Student #14: There will still be half of the log in the water because it is bigger because it is bigger in diameter so it has more area to be able to float half in the water.
Student #15: Even though the log is bigger it has more density which would cause it to be the same as the smaller one.
Student #16: I have chosen that half of the larger log floats above the water surface because it was twice as large as the first one and was wider also. Just like when your on ice, you spread yourself out and since the log is wider, it is kind of like it is spreading itself on the water so it wasn’t sink/fall through.

Response C (Less than half of the larger log floats above the surface):
Student #17: Because its heavier so it would make it go down more so the heavier it gets the more it goes down so its heavy.
Student #18: I think most of the log would be under water. I think that would happen because the bigger one is heavier and more dense.
Student #19: I think the bigger log will float less then half way above the surface because the log is heavier and heavier objects sink so obviously the heavier log will sink more than the lighter one.
Student #20: This is the rule of floating. Heavy things sink and light things float. So the larger log would sink more than the smaller log.
Student #21: Because the bigger log is most likely heavier and it will take up more space.
Student #22: I think it is less than half of the larger log floats above the water surface because it depends of how much the log weighs. Also how long the log is because if the log is long it will sink more than float.
Student #23: Well water can only hold so much weight. As the weight increase the object may sink for example a cinderblock may sink to the waters bottom. While a beach ball will barely go underwater. So the log will sink farther than the less dense one.
Student #24: I think that since it is twice the size it is twice the weight. So I think that would make the log sink twice as much and almost the whole log would be underwater.
Student #25: The bigger it is the more density it has. Although it is heavy it has a lot of density so it can float.
Student #26: I think that less than half would float above the water because a log that is twice as big as the other one is bound to weigh twice as much so less of it would be shown above the water.
Student #27: No matter the size of the log it will always float. The larger and heavier the log is determines how well it floats. There are many different types of logs that are different materials. Some float more than others. I think if a small log had half in and half out then a larger log would half less out of the water because of its size and weight.