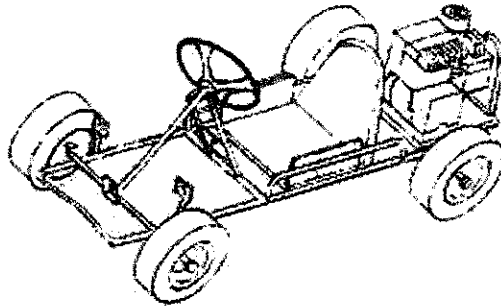


The Go-Kart



Michael and Sam had been neighbors for as long as they could remember, but they only just started loving go-karts a few months before. Sam's dad took the boys to the go-kart track for the first time as soon as school let out for the summer, and since then, they had been obsessed with getting their own go-kart. It would be a few years before Michael and Sam got their driver's licenses, and this seemed like the next-best thing. They would fantasize about go-karting down their block and into the main street, competing with taxis, speeding bikes, and other cars for room on the road. In these dreams they would wear old-fashioned brown helmets and vintage airplane goggles, like in old video footage of the people who got to drive the first-ever cars.

One evening, Sam was talking about it—again—over dinner. "Wouldn't it be great? We'd be low to the ground so we could even drive under big trucks! We'd go so fast, we'd be like a blur in all of the traffic. Can I get a go-kart for Christmas?"

Sam's mom rolled her eyes and set down a helping of spaghetti and meatballs on his plate. "I don't think so," she said. "Why don't you and Michael just build one?"

After dinner, Sam went over to Michael's house. "My mom had the best idea," Sam said. "We should build our own go-kart!"

Michael was also excited by the idea. His uncle John worked at an auto repair shop, and the boys called him right away to ask if he had any spare parts he would give them, and if he could help them: they had no idea how to build a car. John was thrilled that Michael and Sam were interested, and promised to talk the boys through it later in the week.

That weekend, John came by Michael's apartment with a bunch of different auto parts that they could use for a go-kart, like a steering wheel, brakes, and an ignition pedal, as well as a large poster board.

"The first thing we need to do is draw how you want the go-kart to look," John said. He laid the poster board flat on Michael's kitchen table and looked at the boys expectantly.

Michael and Sam both agreed that they wanted the go-kart to be extremely fast, but other than that, they had no idea how it should look. John showed them a few drawings. They decided that a four-wheeler would be the best, with a long nose and an open top.

John wrote a list of materials that they would need. "You can get this stuff at a hardware store," he said. "Let me know when you have everything, and you can come out to the shop to build it."

A few weeks later, the boys showed up at John's auto shop with a cart full of materials to build the go-kart. They had bought most of the hardware with chore money, but had found some of it at a scrap yard by their school. They had tubing, plywood planks, bearings, bolts, and chains. John told them he would provide the frame, petrol tank, driving shaft, engine, and seat—all the objects they could get from an auto body shop. Michael, Sam, and John took over a corner of the shop and began to build.

Soon they had a prototype go-kart. "Let me try it first," Sam begged, grinning at Michael. He jumped into the shiny new go-kart and revved the engine. He pressed his foot down on the pedal, expecting the go-kart to shoot forward out of the garage and into the parking lot. Instead, it crept like a snail towards the open garage door.

"Woah!" Sam said. "This is way too slow." Sam stopped the kart and got out.

Michael nodded and said, "Yeah, I agree. Uncle John, how do we make it go faster?"

There were a few problems that the boys could fix, Uncle John said. First, the engine that Michael and Sam had chosen—the biggest one—took up a lot of space and was very heavy, so

it probably dragged the go-kart down. Second, the design they had chosen was not ideal for fast vehicles. Lastly, John said with a smile, it looked like Sam had forgotten to turn off the emergency brake.

So the three guys got back to work. They scoured the auto repair shop for a smaller engine, and found one in a small lawnmower that had been taken for disposal into the garage. They had fun taking the lawnmower apart to get to the small, powerful engine inside. The second problem was much more difficult to fix. Would they have to redesign the entire go-kart?

Together, they drew some other sample sketches that might make the go-kart less bottom-heavy, and even considered taking away one of the wheels so that it would be a three-wheel go-kart. Michael thought it would be a good idea to get lighter materials all around and keep their original design, but John didn't think that would work. Michael, Sam, and John needed to think about ways to maximize the go-kart for its speed: what aspects of their original design were unnecessary? The three of them came to the conclusion that it was probably the long nose. It looked cool, but ultimately, what was more important to Michael and Sam?

They had welded the nose to the frame, and used a grinder to break the metal away from the go-kart. When they were finally done, Michael stepped into the go-kart and put on the helmet he and Sam had found at a used-clothing store. He snapped on a pair of swimming goggles, revved the engine, and made sure to take the emergency brake off. All of a sudden, he sped out into the parking lot, and Sam ran after him with a big smile.

Name: _____ Date: _____

1. What do Michael and Sam build?

- A) a fast car
- B) a big truck
- C) a go-kart
- D) an engine

2. What problem do Michael and Sam face with their first go-kart prototype?

- A) It is too slow.
- B) It is too fast.
- C) It is too small.
- D) It breaks apart easily.

3. The second time Michael and Sam test their go-kart, they are satisfied with its speed.

Which sentence supports this idea?

- A) "Sam pressed his foot down on the pedal, expecting the go-kart to shoot forward out of the garage and into the parking lot."
- B) "Michael, Sam, and John needed to think about ways to maximize the go-kart for its speed: what aspects of their original design were unnecessary?"
- C) "Michael snapped on a pair of swimming goggles, revved the engine, and made sure to take the emergency break off."
- D) "All of a sudden, Michael sped out into the parking lot, and Sam ran after him with a big smile."

4. Why might using a small engine instead of a large engine have increased the go-kart's speed?

- A) The small engine was built for a go-kart, but the large engine was built for a lawnmower.
- B) The small engine was easier for Sam and Michael to carry and work with than the large engine.
- C) The small engine used more fuel than the large engine did.
- D) The small engine did not weigh the go-kart down as much as the large engine did.

5. This passage is mainly about

- A) how visiting a go-kart track can change someone’s life
- B) a mother who gives her son a piece of great advice
- C) building a go-kart and then rebuilding it to make it faster
- D) an uncle who lets his nephew and his nephew’s friend play in his auto repair shop

6. Read the following sentence: “That weekend, John came by Michael’s apartment with a bunch of different **auto** parts that they could use for a go-kart, like a steering wheel, brakes, and an ignition pedal, as well as a large poster board.”

What does the word “**auto**” mean in the sentence above?

- A) car
- B) metal
- C) cheap
- D) simple

7. Choose the answer that best completes the sentence below.

The go-kart moves slowly _____ Michael and Sam rebuild it.

- A) after
- B) before
- C) when
- D) since

8. What does John say is the first thing that he, Michael, and Sam need to do in order to make the go-kart?

9. Why did Michael and Sam ultimately decide to shorten the nose of the go-kart?

10. If Michael and Sam were to make another go-kart, what might they do differently than what they did the first time? Support your answer with details from the story.
