What You Will Discover
It’s racing season! Get your Beaver Buggy or Kub Kar ready to race by finding out how to make your vehicle faster and more efficient.

The Adventure
Find out more about what makes a vehicle efficient. Then, take what you’ve discovered and apply it to your Beaver Buggy or Kub Kar. Test out your modified vehicle and see whether or not you’ve successfully improved your vehicle. Don’t forget that some races have special rules, so make sure to follow those rules when modifying your vehicle!
Plan
• How will you build your vehicle?
• How will you find out about improving vehicle efficiency?
• How will you test your vehicle?
• What rules do you need to be aware of when making your vehicle?

Do
#ScoutsDoStuff: Take slow-motion videos of your races before and after modifying your vehicle to see how its speed changed—and find out once and for all who has the fastest vehicle!

Review
• Were you able to make your vehicle go faster?
  Why or why not?
• What would you do differently if you were to try this again?
• What would you will include in future vehicle designs?

Safety Note
How can you stay safe while working on your vehicle?

Try this
Keep it Simple
While building your vehicle, try moving the weight around to see what changes. Is your vehicle faster if the weight is at the front, the back or in the middle?

Take it Further
What forces are acting on your vehicle as it goes down the track? What kinds of things can you think about in your design in order to reduce the effect of these forces and make your vehicle go faster? Test out some methods and see what helps your speed.