**AUTHOR:**

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Jack has big plans to create a spectacular car - a car with bright colors, a pool, a couch, and an instant snack bar with good things to eat. Join Jack and his dad as they go for a ride.

Ages: 3 to 8 years**ATOS Reading Level:**

3.6

Lexile: AD720L**ISBN:** 9780142408254**Copyright:** 2005

If I Built a Car

What do you like best about Jack's car?

Topics: STEM, engineering, comparisons, Venn diagrams

Activities To Do Together:

Before you read the book *If I Built a Car*, ask your child:

- What they wish cars could do that they don't do already? Would they want a car that could fly or drive underwater?
- If there is something they'd like to invent or an existing invention they'd like to improve. What would it be? What would it do? Tell your child about something you'd like to invent or improve.

As you read *If I Built a Car* with your child:

- Notice the expressions on Jack's face, his father's face, and the faces of the other people in the story. What may these people be thinking and feeling? Why do you think so?
- Ask your child whether they think the cars of the future will look like the car that Jack wanted to build. Why or why not?

When you are done reading *If I Built a Car*:

- Encourage your child to make a Venn diagram with two overlapping circles. In one circle ask them to list the features of Jack's car. This might include things like has "special jet engines that don't make a sound" or has "an instant snack bar." In the other circle, ask your child to list the features of a car they'd like to build. In the space where the two circles overlap, ask your child to write the special features that Jack's car and their car would have in common.
- The story mentions several places: Alaska, Nebraska, Bermuda, Belize, the Florida Keys, and Peru. Encourage your child to locate these places on the map and sort them by locations that are part of the United States and not part of the United States. With your child, figure out which of these places is most distant from where you live. Ask your child how they would travel to each of these places and how long they think it would take to get to Peru, Alaska, and the Florida Keys.
- Ask your child about a car they'd like to drive in the future. What special features would it have? Encourage them to draw the car and explain what makes it special.

Questions for Mathematical Thinking:

1. The first pages of *If I Built a Car* show a variety of different car designs. Why do you think Jack drew so many car designs? How do you think this influenced Jack's final design?
2. On the title page of the book it shows Jack and his father driving in a red and brown station wagon. What do you notice about the shadow of the car? Why do you think the shadow has the shape that it does?
3. What types of things does Jack do as he designs his spectacular car?
4. What types of special features do you think a car would need in order to cruise on a lake? What special features would a car need in order to drive under water?
5. If you were designing a car to use in the future, what would you consider when creating it?
6. What characteristics do you think inventors have in common? Why do you think that?

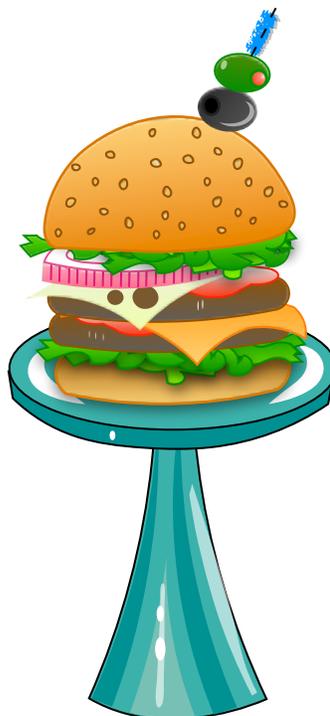
Early Math Project Resources:

[A Design for the Future](#) (English)

[Waterproof Car](#) (English)

**Spanish Versions Coming Soon!

Follow this [link](#) for additional online resources.

**Vocabulary**

Math words found in the story: analyze, four, front, inside, over, round, small, three, through, two, up, wide

Related math words: blueprint, inventor, prototype, scientist, Venn diagram

Words to build reading

comprehension: absorb, accents, appear, belle, burble, catamaran, chrome, collision, concoction, constantly, contemplate, cruising, fender, flush, impressed, instantly, keen, panic, Plexiglass, polymer gel, refine, retractable, reveal, skimming, sleek, snap, spectacular, submerge, toast, tweak, urge, waterproof, zeppelin

Spanish Title: Si yo diseñara un auto

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Related Books: *If I Built a House* by Chris Van Dusen; *Ada Twist, Scientist* by Andrea Beaty; *Rosie Revere, Engineer* by Andrea Beaty; *The Most Magnificent Thing* by Ashley Spires

This link to the [World Catalog](#) will help you find *If I Built a Car* in the public library.

Math Connections: Use the book *If I Built a Car* to talk with your child about innovation, invention, and what it means to be an inventor. In the story, Jack imagines ways that he would build a spectacular car. He considers features that would be included on his ideal car, like the ability to fly, to navigate underwater, and to cruise. He also includes luxuries like a snack bar, a couch, an autopilot, and even a swimming pool. Talk about how those types of creative ideas can lead to great innovations and inventions.

What careers require people to invent and create new products? Ask your child what they think an inventor is and what they do. Then look up the definition. Talk about how people invent things in their daily lives. Talk about your favorite inventions. What inventions make your life easier?

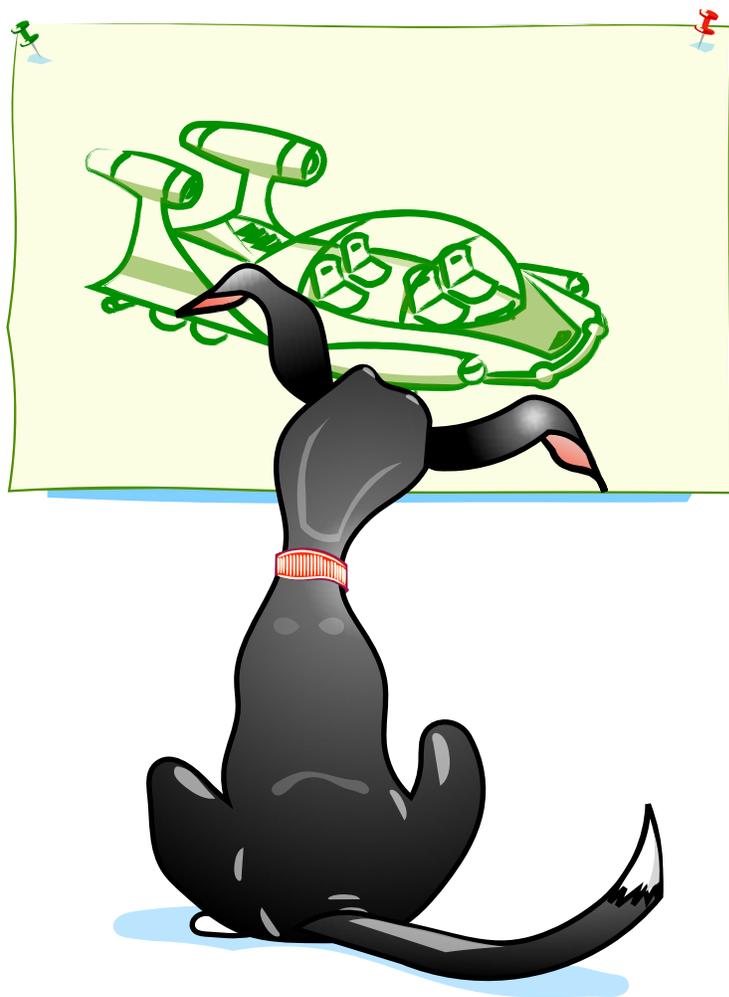
This book can help spark many conversations about creating products and developing ideas. Your child may enjoy thinking about ways to “improve” a vehicle, solve a challenging problem, or develop a new product that would make life easier and more enjoyable. Talk about the ideas they come up with. Discuss what types of inventions might be useful in the future. This might start conversations about renewable energy, alternate sources of energy, improving communications and technology, reusing and recycling a variety of household objects, etc. Think about how life may look differently in the future, how people may live differently, what computers will be able to do in ten years, and the types of jobs, inventions, and innovations that you predict may be important in the future.

The book *If I Built a Car* can also be used to make comparisons. Consider making a Venn diagram with two overlapping circles. In the first circle, describe the vehicle Jack’s dad drives. In the second circle, describe the vehicle that Jack would like to design. In the space where the two circles overlap, describe the common features of both vehicles.

Your child may enjoy planning and designing an innovative object as well. While the car that Jack envisioned would be an ambitious undertaking, point out that many of the useful inventions that we rely upon are much simpler and were easier to build. Encourage your child to begin with an attainable goal and see what improvements they can make with a little creativity, imagination, and problem solving. It might be a new pot to keep houseplants healthier and happier. It could be a bicycle that stores energy while it is being ridden and makes the energy available to assist the rider when pumping up hills. Suggest that your child do some research before they begin planning. Point out that Jack made quite a few drawings of his

DISCOVERING THE MATH: BOOK GUIDE

spectacular car. Your child may want to do the same. Add some math and science to the endeavor by encouraging your child to see how they can incorporate recycled objects into the project, figure out exactly what materials they'll need to build their invention, and calculate how much the invention will cost to produce.



Age Level	Related Preschool Foundations and CA State Standards
Preschool/ TK	Algebra and Functions 1.0 Children begin to sort and classify objects in their everyday environment Geometry 2.1 Identify positions of objects and people in space, such as in/on/ under, up/down, inside/outside, beside/ between, and in front/behind. Mathematical Reasoning 1.0 Children use mathematical thinking to solve problems that arise in their everyday environment
Kindergarten	Measurement and Data K.MD 1 Describe and compare measurable attributes Standards for Math Practice 1 Make sense of problems and persevere in solving them
Grade 1	Standards for Math Practice 1 Make sense of problems and persevere in solving them
Grade 2	Standards for Math Practice 1 Make sense of problems and persevere in solving them
Grade 3	Standards for Math Practice 1 Make sense of problems and persevere in solving them