Math Lesson Suggestion - Adaptable for all Building Kits.

When students are designing and building, they can also be challenged to understand and analyze some hypothetical costs of production. This example is based on a car kit by FOSS, but works for any kind of building.

First They will need a price list either real of hypothetical. This list can contain simple decimals, or more challenging ones, or it can be just whole numbers. It should cover all the materials, and options if there are choices of wheel type for example.

For Example, for the FOSS Next Generation Activity Sample we received at ISEA:

Item	Cost List A	Cost List B	Cost List C
Platform	10	10.50	10.89
Axle	1	1.50	1.45
Axle Sleeve	1	1.50	1.66
Red Wheel	5	5.00	5.00
Yellow Wheel	2	2.5	2.75
Narrow Popsicle Stick	6	6.50	6.75
Wide Popsicle Stick	8	8.00	8.34
Small Binder Clip	3	3.00	3.00
Scotch Tape (450 in)	10 cents/inch	15 cents/inch	12 cents/inch

Teaching Note:
Choice of Cost List
Either assign, or have students choose one of the cost lists.
They require increasing facility with decimals.

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Students record the components of their design on a sheet like this:

Item	Cost Per Item	Number Needed	Subtotal
Total Cost of materials for one Produced Unit.			

Record Question here, answer on separate page:

Questions should be chosen by the teacher, or by the student depending on the goals from a list like the one on the following page.

Some Options for Questions:

*If you made 5 cars like yours, how much would it cost?

*Whats the most expensive part of the car?

*If you had to cut costs by 10%, what changes would you have to / choose to make?

*How much would you sell your car for to make a 10% profit?

*Oops you forgot the labor costs. How long did you work on the car, and how much would you want to sell it for to compensate for your time?

*Just the cost of one component- like binder clips goes up by 10 times. How much does your total cost of materials change?

If you buy 100 parts in any category, the price is 30% cheaper. How can you make the cheapest per unit car possible. (remember left over materials have to be paid for anyway)