

# BUILD YOUR OWN SPACECRAFT

## School Age

### Supplies Needed:

- Various supplies found around house +  
for the different components below
- Scissors
- Glue

### What to do:

Your child will need to find the following components that they then can use to create their own spacecraft (zoom in on bottom picture to see what it could look like with all of the components: +



Container: to hold all of the gizmos together and keep its instruments safe. +



Power Source: to give your satellite electricity so that it can run all of its high-tech gizmos. +



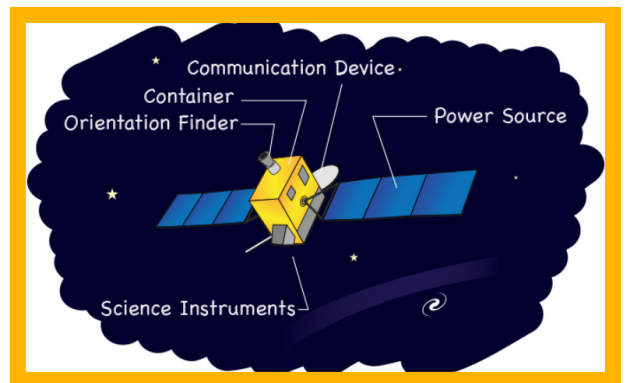
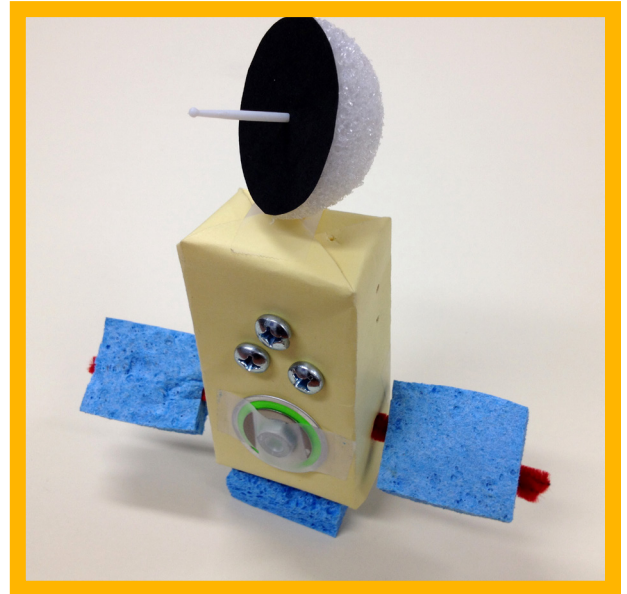
Scientific Instrument: to take pictures of far away galaxies or planets right here in our Solar System, measure chemicals in Earth's atmosphere, etc. +



Communication Device: to communicate with Earth. Antennas (shaped like dishes or poles and rods) are a good way to do this. +



Orientation Finder: Make sure you have something that lets your satellite know where it's pointed and which way is 'up.' +



[Click HERE for the original source and instructions](#)

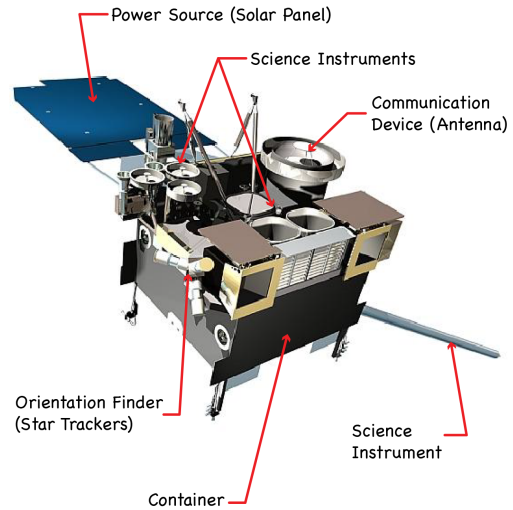
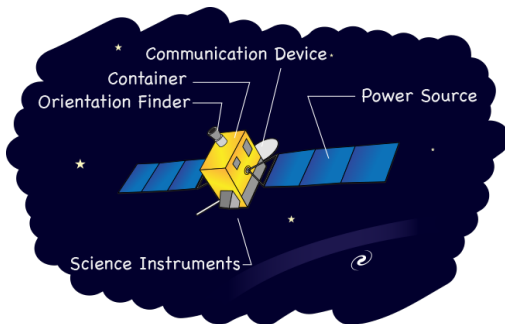




## Build Your Own Satellite!

How would you like to be the chief engineer for an important NASA mission? In this activity, you get to design the latest and greatest satellite. Your satellite could help study things happening on Earth, take pictures of planets in our solar system, keep an eye on our sun, or even find planets elsewhere in the universe!

You get to decide how to make your satellite—it's all up to you. While you are building your satellite, though, keep in mind that your satellite must have a couple of basic things:



**Container:** Your satellite needs some sort of container to hold all of the gizmos together and keep its instruments safe.



**Power source:** You will need something to give your satellite electricity so that it can run all of its high-tech gizmos. Solar panels or fancy batteries are two options.



**Scientific instruments:** This is the why you launched your satellite in the first place! Instruments can take pictures of far away galaxies or planets right here in our Solar System, measure chemicals in Earth's atmosphere, or keep a close eye on our Sun's activity. It's your decision!



**Communication device:** You will need some way to communicate with Earth. Antennas (shaped like dishes or poles and rods) are a good way to do this.



**Orientation finder:** Make sure you have something that lets your satellite know where it's pointed and which way is 'up.' Something that looks at the stars (a star tracker) or the sun (a sun tracker) would work.



## Here's the plan:

The idea is to make up your own satellite using whatever (safe) materials you feel like using. The only requirement is that it has the five basic things mentioned on the previous page.

Here are some ideas for what to use. They are just suggestions. Be creative and find new ways to build your satellite! You can also make your satellite edible, if you so desire!

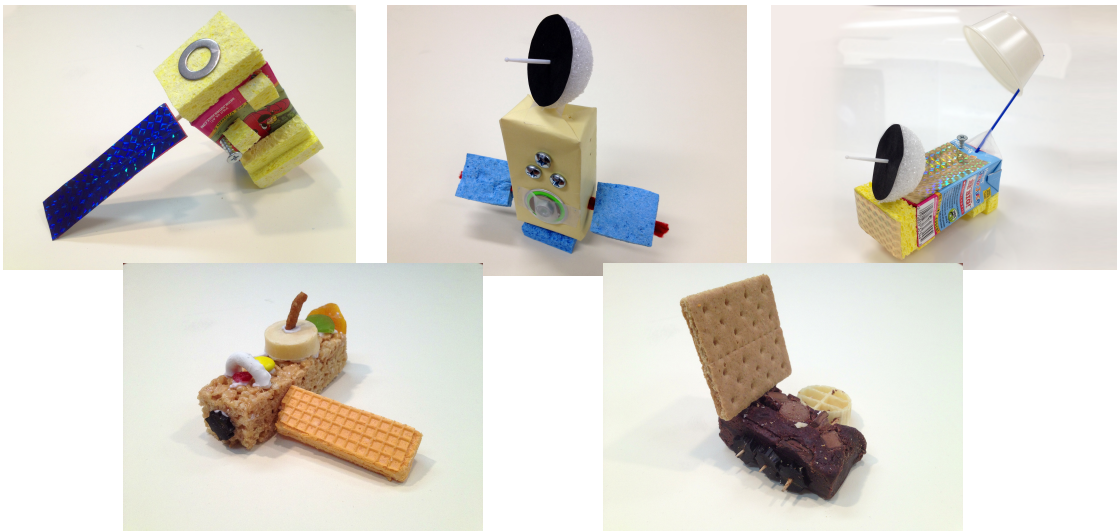
### Edible Ingredients:

- rice crispy treats
- sugar wafers
- graham crackers
- pretzels
- gummy worms/candy
- licorice twists
- frosting
- brownies
- toothpicks (don't eat these, just use them to keep the food together!)

### Non-Edible Materials:

- juice boxes or other small boxes
- toothpicks
- chopsticks
- plastic cups and bowls
- popsicle sticks
- straws
- screws, nuts, bolts, etc.
- paperclips
- construction paper
- balloons
- CDs or DVDs
- shiny paper
- rubber bands
- sponges
- velcro
- Elmer's glue
- tape

## Here are some examples to get you started:



Find this activity online and see more finished examples by visiting NASA's Space Place website: <http://spaceplace.nasa.gov/build-a-spacecraft>.  
Find more fun activities at <http://spaceplace.nasa.gov/menu/do>.