Minutes - November 6, 2017 Kangaroo Valley Public School P&C

Meeting Open

- Open: 3:30pm
- Present: Vicki Barger, Andrew Smee, Bruce Martin, Bec Comber, Jonathan Steele, Shelly Shine, Nicole Poelzl, Belinda Stewart.
- Apologies: Dee Kelly.

Follow Up

- **Year 3/4 Camp subsidy -** 4th December. We agreed to pay $15 per child.
- **Last Day of School** - Friday 15th December. Vicki contacted Juliet Dingle about a Ranger guided bush walk. She enthusiastically offered to assist with a guided bush walks, radio-tracking game, predator-prey game with reversible masks. Belinda suggested Pioneer Museum or Chakola as the venue. Vicki spoke to Simon Shine (school bus driver) about driving the school to the venue. Belinda knows Juliet and will talk to her about her ideas for the location.
- **Wombat Refuge with Lyn Obern** - We talked about wombat education and how the kids can contribute. Andrew was reminded about contacting Lyn to see how the school can be involved.

Treasurer's Report

- Dee was not present.

Principal's Report

- Principal position is open and will close next week. We will know the new principal by early December.
- Currently at 73 kids for next year. 4 classes requires 78.

Canteen

- Nothing to report.

Discussion

- **Fete / Rocket Day** Saturday 7 April 2018.
  Andrew mentioned that we may be able to get a STEM Grant for the idea of having rockets as part of the curriculum. Vicki suggested that we could get “I’m a Rocket Scientist T-Shirts”. Vicki and Bruce researched some different types of rockets that the kids could make.
  Alka-Seltzer Rockets
  https://youtu.be/z4645B03AC4
  Water Rockets
  https://spaceflightsystems.grc.nasa.gov/education/rocket/BottleRocket/about.htm
  Adult Model Rockets
  https://www.onestoprchobbies.com.au/Estes-Rockets
  New South Wales Aeronautical Velocity Challenge
  https://www.facebook.com/AeronauticalVelocityChallenge
- **Environment Group** - Belinda talked about tree planting with the school and the possibility of a n arboretum in the next to the service station that the kids could be involved in. Belinda also mentioned the idea of camping at Brush Tailed Rock Wallaby Breeding Sanctuary in West of Gosford.
- **Year 6 Book Voucher** - Andrew asked about P & C will be providing these at the end of the year and we agreed to provide them.
- **New Committee** - Vicki and Bruce prepared a letter for parents about being involved in the P & C.

Meeting close and date of next meeting

- Closed: 4:10pm. Next meeting: Tuesday 5 December 2017 at 6:30pm.

This letter appeared in the KVPS Newsletter on November 8, 2017.

To Parents

The current P & C have been together for two years now and the Committee have been volunteering for the school for many more years before. Next year we will need new Committee members. The Committee members are all working parents and have found that the P & C commitment is easily manageable.

The P & C currently fund some extra teaching hours for our librarian to run a reading program. This program has been run for many years and the reading level for all our students is something to be proud of. We also recently purchased some new readers for the School, that are more engaging for our students.

We help fund excursions, musical events, external courses (eg coding), sport, kitchen garden program, Mathletics and items; like House Flags, gazebo's and playground equipment.

The P & C meet once per month with the Prinicpal, we currently meet on the first Monday of each month at 3:30pm during term (only 2-3 meetings per term). The time and day is flexible according to the availability of the Committee. It is a great opportunity to hear what the teachers are doing and be involved and informed about your child's school. Being part of the Committee allows parents to give feedback to the school and the Principal. Currently the Stage 1 students are under represented at the meetings.

There are many fundraising opportunities and the Kangaroo Valley Community are very supportive of our School. Our bank balance is fairly healthy and the current Committee are feeling positive and ready to hand over. Fundraising has been achieved over the last few years through Easter Raffles, Melbourne Cup Lunch, Arts in the Valley Café, FISST Athletics Canteen, KV Public Canteen, Curry Kitchen at the KV Pub, Bike Rally morning tea and few more. Other past years have done a Country Fair, Billy Cart races, Trivia night and other events that are run by parents outside the Committee (eg family movie at the Hall) and Golf Day.

So it is up to you how you raise money and you can make it work for you. Being part of the P & C Committee is a rewarding experience and directly benefits our children.

The next and final meeting for this will be on Tuesday Dec 5 at 6:30pm, all welcome.

Vicki Barger
P & C President

ExpeRimental —
Bringing Science Home

More info about —
Fizzy bottle rockets

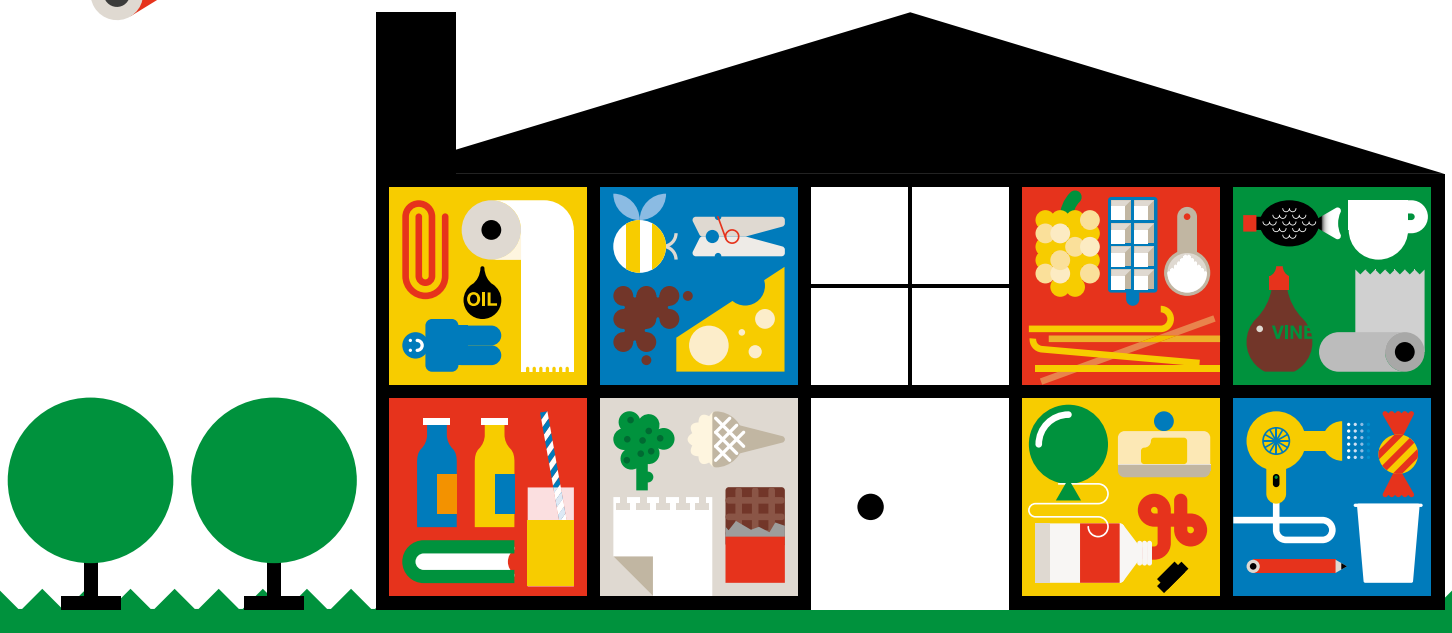
Fizzy bottle rockets

The activity

Make a self-propelled rocket from a juice bottle.

ExpeRiment with the 'fuel' for the rocket.

Learn how a chemical reaction which produces gas can be used to propel a rocket.



ExpeRimental —
Bringing Science Home

More info about— Fizzy bottle rockets

What you'll need

- Small (500ml or less) drinks bottle with a sports cap lid which pops open (see left. The 200ml and 300ml Fruit Shoot bottles worked particularly well).
- Fizzy headache or vitamin tablets (Alka Seltzer or Berocca type tablets).
- Mug or glass or jar that allows upside-down bottle to fit inside, with lid touching bottom.
- Warm water from the hot tap.

Take great care if using tablets with paracetamol or other medicines in them. They should not be consumed by children. The activity can also be done with fizzy vitamin tablets.

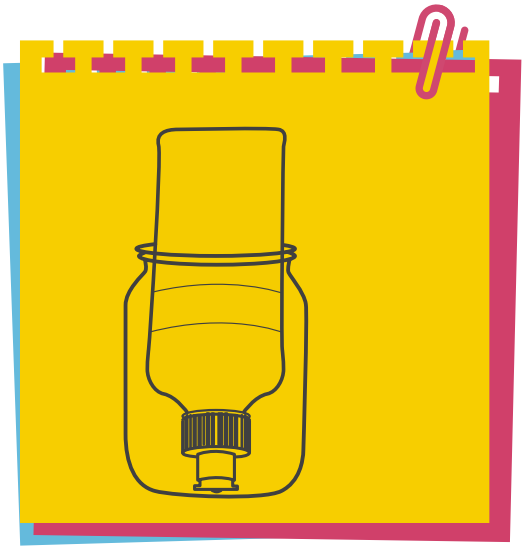
What to do

Show children what happens when you drop a tablet into a glass of cold water. Explain that the bubbles are made because the tablet and the water react to make carbon dioxide gas. If using headache tablets, explain that the liquid is not for drinking.

Repeat this with a glass of much warmer water – you should see a difference in the way the tablet reacts with the water.

Unscrew the lid of your bottle and make sure pop up lid is firmly pressed down.

Half-fill the bottle with warm water.



Break two fizzy tablets in half and drop them into the bottle.

Quickly screw lid back on firmly, give bottle a quick shake and and place upside down in mug or glass or jar (left).

Stand back and wait.

Allow at least three minutes to pass before checking rocket. If it has not launched, try again with slightly warmer water.

You can experiment with the temperature of the water to get your perfect fuel mixture.

ExpeRimental —
Bringing Science Home

More info about—
Fizzy bottle rockets

Questions to ask children

When tablet is put in glass of water:

What do you think is in the bubbles?

Where do you think the bubbles are coming from?

What do you think would happen if we used more than one tablet? Why?

What do you think would happen if we used warm water? Why?

Before making rocket:

What do you think will happen if we put some tablets and water in this bottle and close the lid? Why?

What things could we change to make the rocket go higher?

The science

Fizzy headache/vitamin tablets contain a chemical which reacts with water to produce carbon dioxide gas. This gas builds up inside the bottle until the pressure is enough to pop the lid. When the lid pops, it pushes down on the bottom of the glass, which results in an upwards push on the bottle, a bit like the way you can jump up in the air by pushing down on the ground. Once in the air, the liquid coming out of the bottle pushes it along in the same way as the gases coming out of a real rocket propel it upwards.

One of the things you can investigate with this activity is how the temperature of the water affects the reaction. You should find that the hotter the water, the more vigorously the tablets produce a gas.

This is because, in hot water, the particles of chemicals from the tablet and the water molecules have more energy and move more quickly. This means they collide with each other more often, which results in more chemical reactions in a given time.

Being safe

The fizzy headache tablets contain medicine which should not be consumed by children. Seek medical advice if you child accidentally eats a tablet or drinks the liquid from the rockets.

ExpeRimental —
Bringing Science Home

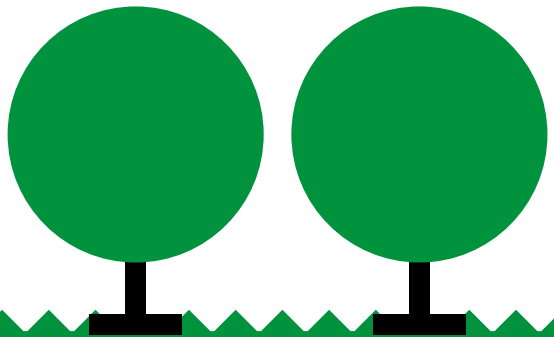
More info about — Fizzy bottle rockets

Going further

Experiment with different sizes of bottle and different combinations of water and tablets to find out what combination gives you the highest flying rocket. Does it matter how many tablets you use? What about if you break the tablets into smaller pieces? How does the temperature of the water affect things?

Watch a flame powered bottle rocket: http://bit.ly/FlamingBottleRockets

Learn more about propulsion by building a balloon powered car: http://bit.ly/BalloonCars



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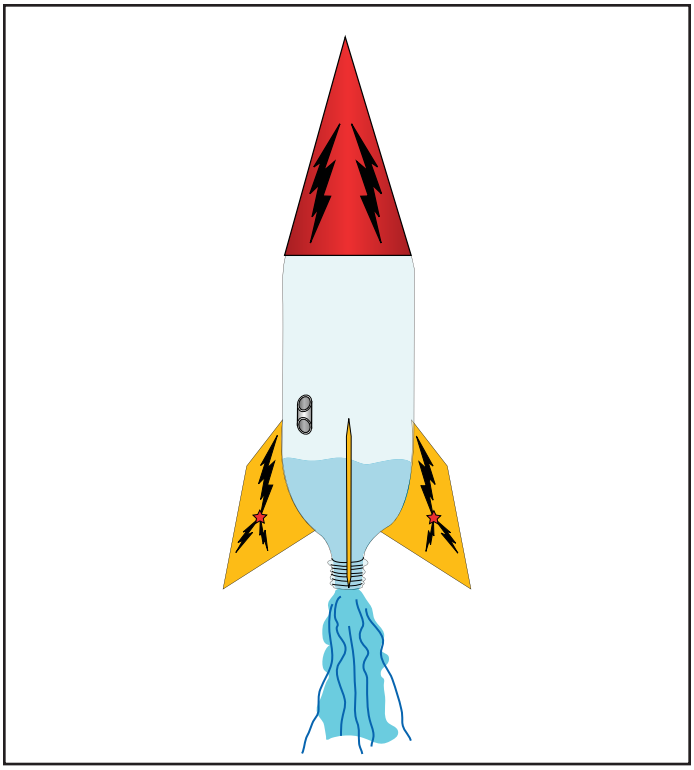


Rocket Activity

Water Rocket Construction

Objective

Student teams will construct water rockets and successfully launch them.

Description

Using plastic soft drink bottles, cardboard or Styrofoam food trays, tape, and glue, small teams of students design and construct rockets. A simple assembly stand assists them in gluing fins on their rockets, and a nose cone is mounted on the top. A small lump of modeling clay is inserted into the nose cone to enhance the rocket's stability in flight. The rocket is launched with a special launcher. The plans for the launcher are found in the Water Rocket Launcher activity.

National Science Content Standards

Physical Science
- Position and motion of objects
- Motions and forces

Science and Technology
- Abilities of technological design

National Mathematics Content Standards
- Geometry
- Measurement

National Mathematics Process Standards
- Connections

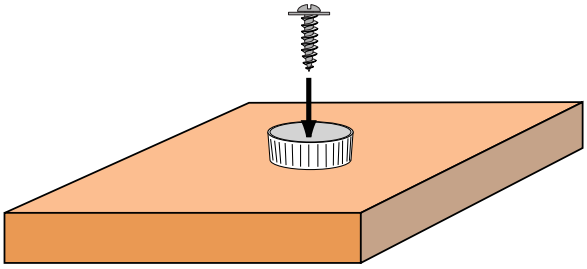
Materials

2-liter soft drink bottle (1 per team)
Styrofoam food trays
Posterboard, cardboard
Masking tape
Low-temperature glue guns and glue
1- to 2-inch piece of 1/2" PVC pipe
4X4X1-inch board (per team) and small screw and washer
4 ounces of clay
Eye protection
Plastic grocery sacks or thin fabric scraps
String
Sandpaper or emery boards
Art supplies
Water rocket launcher (see page 109)
Bicycle pump or small compressor

Management

Begin collecting 2-liter soft drink bottles a few weeks before the activity. Save the caps, too. Rinse the bottles and remove the labels. There will be some glue adhesive remaining on the bottle. Goo remover can be used to clean it off, but it tends to smear the surface.

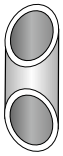
Construct assembly stands out of small blocks of wood. Attach a bottle cap to the middle of each board with a small screw and a washer through the cap. When students begin constructing their rockets, they screw the bottle neck into the cap, and the board below will hold the rocket upright for gluing. The blocks also make a convenient way of storing the rockets upright when not being worked on.



Make mounting stands by screwing the plastic bottle caps to a board. Use a washer for added strength.

Pre-cut the PVC segments. The cuts can be slanted to streamline them. A saw or PVC cutter is used for cutting. The segments act as launch lugs to guide the rocket up the launch rod during the first moments of the rocket's skyward climb.

Be sure to use low-temperature glue guns. High-temperature guns will melt the plastic bottle. A small dish of ice water in a central location is helpful for students who get hot glue on their fingers. Immersing the fingers will immediately chill the glue. Do not put bowls of water near the guns themselves because the guns use electricity for heating, and shorting could occur if they get wet.



Launch lug with slanted cuts.

Special Note The activity entitled *Project X-51* (see page 118) lays out an entire process for constructing water rockets through launch and reporting. Student teams form rocket companies and compete for government contracts. The procedures that follow here should be used for the construction phase of *Project X-51*.

Background

A water rocket is a chamber, usually a 2-liter soft drink bottle, partially filled with water. Air is forced inside with a pump. When the rocket is released, the pressurized air forces water out the nozzle (pour spout). The bottle launches itself in the opposite direction. The bottle usually has a nose cone for streamlining and fins for stability.

Water rockets are easily capable of 100-meter-high flights, but advanced hobbyists have combined bottles and staged bottles for flights over 300 meters high.

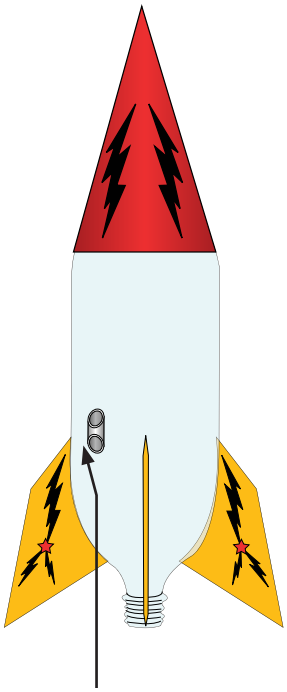
Water bottle rockets are ideal for teaching Newton's laws of motion. The launch of the rocket easily demonstrates Newton's third law. Students can see the water shooting out of the nozzle (action) and see the rocket streak into the sky (reaction). Students can also experiment with different pressure levels inside the chamber and different amounts of water. The rocket will not fly very high if it is filled only with air. The air will quickly rush out during the launch, but its mass is very low. Consequently, the thrust produced is also low (Newton's second law). By placing water in the bottle, the air has to force the water out first before it can leave the bottle. The water increases the mass expelled by the rocket, thereby increasing the thrust.

Like all rockets, the flight performance of water bottle rockets is strongly influenced by the rocket's design and the care taken in its construction. Beveling the leading and trailing edges of fins allows them to slice through the air more cleanly. Straight-mounted fins produce little friction or drag with the air. A small amount of ballast weight inside the nose cone helps balance the rocket. This moves the center of mass of the rocket forward while still leaving a large fin surface area at the rear. In flight, the

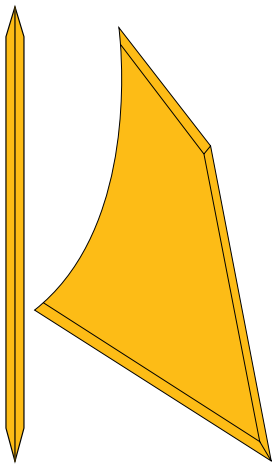
rocket design acts like a weather vane, with the nose cone pointed up and the fins down.

Procedure

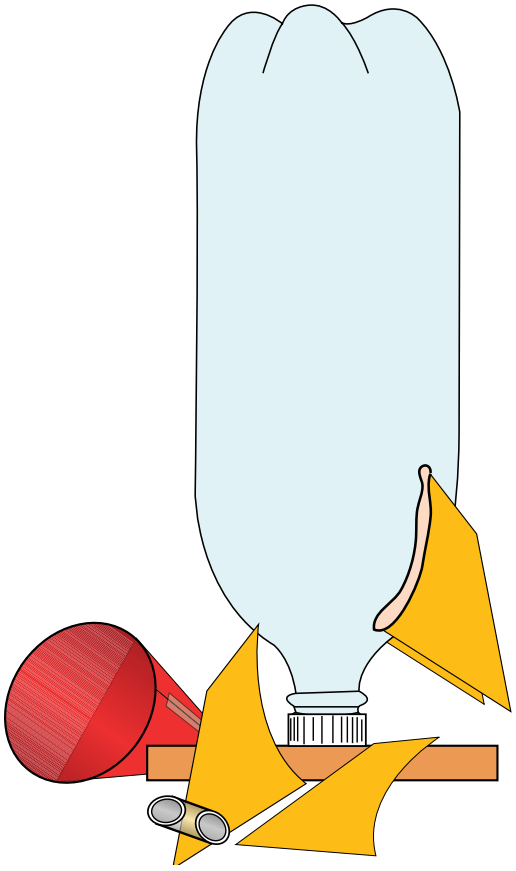
1. Set up a supply station with materials such as Styrofoam food trays, posterboard, tape, sandpaper, and art supplies.
2. Set up a gluing station with several heated low-temperature glue guns and extra glue sticks.
3. Divide students into teams for constructing rockets. If using *Project X-51*, describe the project to them and explain its objectives. Discuss construction techniques for their rockets. Give each team an assembly stand and a 2-liter soft drink bottle. *Project X-51* requires teams to keep track of the materials they used. Even if they are not doing the project, it is still good for teams to account for the materials used.
4. Show teams how to use the glue guns and point out the cold water dish in case glue gets on fingers. Students should wear Eye protection when gluing.
5. Describe how fins can be smoothed with sandpaper to slice through the air with little drag.
6. Remind teams to add clay to the inside of their nose cones.
7. Have teams glue launch lugs to the side of the rocket midway up the body of the rocket and position it midway between two fins.
8. Challenge teams to think up a way to add a parachute to their rockets for soft landings. Plastic grocery bags or lightweight fabric scraps can be cut to make parachutes and strings can be used to attach them. The nose cone must remain in place until the rocket reaches the top of its flight; then it should open and release the parachute.



Launch Lug



Trim fin edges with sandpaper to give them knife-blade shapes to slice through the air.



The Assembly Stand supports the rocket while it is being constructed.

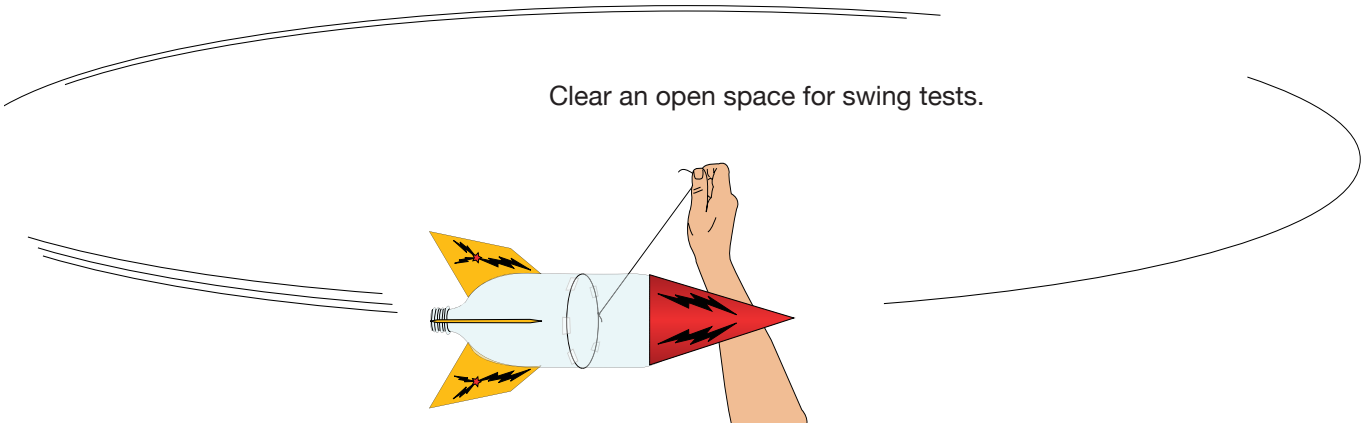
9. When the rockets have been completed, have teams qualify their rockets for flight by conducting string tests. Using several feet of string, tie the rocket around the middle so that it balances. Because of the nose cone weight, the balance point will be towards the nose. When the rocket hangs level, a small piece of tape should be temporarily fixed to the string and bottle to keep the string from slipping. The rocket is then twirled in a circle. If the rocket tumbles while circling, it is not stable and needs more nose cone weight, bigger fins, or a combination of both. If the rocket circles with the nose always pointed forward, it is stable and ready for flight. (More information about string tests will be found in the instructions for *Project X-51*.)

Assessment

- Inspect each team's rocket for the construction skill employed. Fins should be vertical and securely attached. The rocket should be stable.
- Observe the flights and note how the recovery system designed by teams worked.

Extensions

- Conduct a space art show to feature decorating schemes of team rockets. Have students draw artist's conceptions of their rockets in flight. (See The Art of Spaceflight on page 146). To view artist's conceptions of NASA's new Constellation program, see pages 13-17.



10. Review launch procedures with the teams. The instructions are outlined in the activity for constructing a water rocket launcher (see page 109). Conduct an inspection the day before the launch to ensure that rocket fins are securely attached.
11. Set up a tracking station for measuring the altitudes achieved by the rockets. Follow all safety procedures and instructions when launching the team rockets.

Estes

Estes is world renowned as a leading manufacturer of innovative hobby products for the *model rocket* industry. Designed by modelers for modelers, Estes want to ensure that every consumer experience with an Estes product is enjoyable from the moment you open the package to the everyday use of the products. *Estes Rockets* make model rockets for any skill levels

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