

Voyager: Water Rocket Safety Guide



To ensure safety while building and launching your water rocket, follow these detailed safety guidelines:

1. Work Area Safety

- Work in a well-lit, well-ventilated area, especially when using adhesives, epoxy resin, or power tools.
- Keep your work surface clear of unnecessary clutter to avoid accidents.
- Use a stable, flat surface for construction to prevent the rocket from rolling or tipping.

2. Personal Protective Equipment (PPE)

- Always wear safety glasses or goggles when cutting, drilling, or using adhesives.
- Wear gloves when handling hot glue, epoxy, or cutting tools.
- Wear a dust mask if sanding or filing plastic materials.

3. Tool and Material Handling

- Use all tools according to the manufacturer's instructions.
- When using a hot glue gun, place it on a heat-resistant mat and unplug when not in use.
- Be cautious with super glue—avoid skin contact and do not touch eyes.
- Allow all adhesives and epoxies to fully cure before proceeding with the build.

4. Electrical Components (If Applicable)

- Handle Micro:bits and altimeters with dry hands and avoid exposure to moisture.
- Use foam or soft material to cushion electronics inside the nose cone to prevent damage during landing.
- Do not power electronic components until they are properly secured.

5. Water Rocket Launch Safety

- Only launch in large, open outdoor areas free of trees, power lines, and buildings.
- Ensure the launch zone is at least 10 meters away from spectators, and create a safe perimeter using cones or markers.
- Use a stable, purpose-built launchpad with a secure release mechanism.
- Always point the rocket upright and never at people or animals.
- Use a manual or foot pump with a pressure gauge to avoid over-pressurizing the rocket (maximum recommended is ~60 psi).

6. Weather Conditions

- Avoid launching in strong wind, rain, or during storms.
- Do not launch during high humidity if using electronics, as moisture can cause malfunction.

7. Post-Launch Procedure

- Wait at least 30 seconds before approaching a misfired rocket.
- Inspect the rocket for cracks, leaks, or weakened materials before reuse.
- Do not attempt to retrieve rockets that are stuck on rooftops, in trees, or near electrical wires—seek adult or professional help.

8. Supervision and Responsibility

- Children should be supervised by adults at all times during the building and launching process.
- Ensure all participants understand the safety rules and follow instructions carefully.
- Have a first aid kit on hand during launch activities.

Extra Tips:

- Paint your rocket for improved visibility and style.
- Add a small parachute in the nose cone for a safer descent.
- Keep a notebook to record your rocket's performance and modifications.

Stay creative and have fun, but always prioritize safety!