

*Dear Family,*

**In my class today** we built space rocket ships.

**Did You Know?**

- A rocket ship is a form of transportation. It can take a person into space. A rocket ship is powered by a rocket engine that uses fuel to create a powerful thrust. The thrust forces the rocket ship upward at a very fast speed. Other forms of transportation also are powered by rockets, such as some airplanes, missiles, and even some cars. Rocket ships are often cylinder shaped with pointy nose cones. The cylinder shape is smooth and even. This helps minimize air resistance, making the rocket ship more aerodynamic, which results in the need to carry much less fuel.
- Rockets can have many shapes. Most satellites and the lunar module are not shaped like cylinders. If a rocket can produce enough thrust and can be stabilized, it does not have to have a cylinder shape. Some rocket ships have tails with fins that help to stabilize the rocket and to keep it going in the right direction, but not all rockets have fins. Some have non-movable fins, which add stability to the rocket. Others have moveable fins, which allow for a certain amount of control. The shape and design of a rocket is determined by its purpose.

**Ask Your Child:**

- How is a rocket ship used for transportation?
- Where do rocket ships travel?
- What did you use to build your rocket ship?

**Activities To Do With Your Child:**

- Discuss how you could travel into space and to the Moon. Make a rocket ship together and take an imaginary space flight. Use materials you may have around your home such as cardboard tubes, boxes, oatmeal cartons, foam cups, paper scraps, and coffee filters.
- Discuss the shape of your rocket ship. What else does your rocket ship need in order to fly? What does the nose need to look like? Does it have to be a cone? What will help your rocket ship go straight? Test to see if the shape of your rocket ship affects the way the rocket ship moves. Does a cylinder-shaped rocket ship go faster than one that is shaped like a box? When you have finished making your rocket ship, prepare for launching.
- Try to dress like an astronaut. You could put on snow pants or jackets, bike helmets, and gloves. When you are ready, count down for lift off. Where will you go? Will you travel to the Moon or a planet like Mars?
- Discuss what you see on your trip with your child. Talk about what is in the sky and what you are passing on your imaginary trip. When you return to Earth, draw a picture together of your adventure and send it to school.

**Vocabulary To Use With Your Child:** rocket ship, engine, thrust, launch, outer space, lift-off