

Marshmallow Cannons

Story: Jack & Jill and the Magic Marshmallows

- A group of marshmallow trees grew along a tall cliff near the ocean.
- Each tree grew marshmallows of a different color and each had a different flavor. Brown = chocolate, blue = blueberry, yellow = banana, etc.
- There were lots of caves in the cliff, and they were all connected to each other.
- Jack & Jill were walking along the base of the cliff with their Kick-meets.
- Kick-meets are sad creatures with a target on their stomach. They're only happy when they're being kicked around, chewed up, blown up, etc. They always come right back afterwards and resume their normal shape.
- Jill can talk to animals, so she whistles for shark to swim close by. Then they kick the Kick-mee's into the shark's mouth. The shark chews them, but they're rubbery, so he spits them out again and they re-form.
- There were waves crashing against huge pointy rocks, so Jack and Jill kicked the Kick-meets into the water so the waves would smash them against the rocks That was fun.
- Then Jack and Jill shoved the Kick-meets into the caves, and it was a tight fit. When a wave came along it would push the Kick-mee farther into the cave and it would get stuck tighter. Then a really big wave would come, and Kick-mee would get shot out of the cave like a cannon shot.
- Inside one cave was box of dynamite. A Kick-mee swallowed a stick of it, and when the wave came, the Kick-mee exploded.
- Evil Mister Fred was flying over on his flying vacuum cleaner, and he heard the Kick-meets laughing.
- He order a monster from the Acme Store of Everything. It looked like a bunny, but it also had snakes growing out of its head. If you looked directly at it, you would turn to stone.
- The minions dug a hole down into the caves and dropped the monster in.
- When the Kick-meets went into the cave, they didn't come out again because they were turned to stone.
- Jack and Jill asked a little ant to find out what was happening to their Kick-meets, and it told them about the monster.
- The ant said there was an old story about this kind of

monster. It said if you eat a certain magic marshmallow from the marshmallow trees, you'll turn back into your normal form.

- Jack and Jill couldn't tell which marshmallows were magic, so they started harvesting all of them and just shoving them into the caves, hoping they would touch the Kick-meets and transform them. But it wasn't working, and Jack was eating most of the marshmallows himself.

End of Story

- Jack accidentally ate one of the magic marshmallows and he started to glow really bright.
- Then he started to float, and he could flap his arms and fly really fast.
- He grabbed a bunch of the magic marshmallows and flew down into the caves to give them to the Kick-meets while Jill waited outside.
- While Jack was still in the cave, a tidal wave came along, and Jill ran into one of the caves.
- The tidal wave all the openings of the caves at the same time, and all the air in the caves got blasted out.
- Jack, Jill, the Kick-meets, and a bunch of marshmallows got blasted upward.
- Some of the Kick-meets were still stone, and they hit Evil Mister Fred and knocked him off his vacuum cleaner. The tidal wave washed him clear to China.
- As the Kick-meets came back down, the marshmallows were hitting them, and they turned back into Kick-meets.

Experiment

- Mini-marshmallows fit perfectly into half-inch pvc pipe. Teacher puts one in and blows it out through the pipe.
- Teacher then assembles a U-shaped pipe using two elbow connectors. When the marshmallow is blown through the pipe, it follows the curvature and hits the teacher in the forehead.
- Then the teacher replaces one of the elbows with a T-connector. Will the marshmallow still go the same way?
- Students need to wear goggles at all times during the experiment, even if they wear glasses.
- Don't shoot marshmallows at other people.
- Don't shoot anything other than marshmallows.
- After you shoot your marshmallow, you can pick it up and shoot it again, but don't eat it.

- Students start out with a single tube and a marshmallow. During the course of the experiment, the teacher will give them an additional piece every couple of minutes, including elbows, T-connectors, short pipes, longer pipes, and corks.
- Students assemble the pieces any way they like and see where the marshmallow goes.
- After the experiment, the students return all the pieces except for one 6-inch pvc pipe, which they get to take home.

The teacher then does a demo with a cannon made from larger pieces of pvc pipe and an air compressor. This shoots full-size marshmallows.

- Students position themselves at the opposite end of the parking lot and try to catch the marshmallows.
- After the experiment, everyone goes around and picks up the marshmallows from the ground and throws them away.