



Teacher's Guide for:
Gigantic Bubbles

Note: All activities in this document should be performed with adult supervision. Likewise, common sense and care are essential to the conduct of any and all activities, whether described in this document or otherwise. Parents or guardians should supervise children. Rock-it Science assumes no responsibility for any injuries or damages arising from any activities.

NOTE: This is the transcript of a lesson that was videotaped during an actual Rock-it Science class with real students, not actors. The students' brainstorming comments are included on the video, but are not transcribed here because they're not part of the lesson presentation.

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Gigantic Bubbles
A Rock-it Science Lesson
Filmed July, 2009

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Experiment Recap: "Gigantic Bubbles"

- Show students how to wet their hands in bubble solution, blow bubbles with their hands, and manipulate the bubbles.
- Pass out plastic tubs and add bubble solution about, one inch deep.
- Students practice blowing bubbles with their hands.



- Then show them how to make a "trampoline" with two straws and a piece of string.
- Students construct their trampoline and practice making gigantic bubbles with it.



Equipment List: "Gigantic Bubbles"

Items needed for Instructor:

- Clear Plastic Bucket
- Bubble Solution, about 5 gal. (mix ahead)
- Dawn dish soap, blue
- Water, about 5 gal
- Plastic pitchers
- Miracle Bubbles or glycerine (optional)

Items needed for Students:

Consumables (per student):

- 2 Large Plastic Drinking Straws
- String, about 4 ft.

Other:

- Plastic dishpans, 1 per 2 students

Prep Work:

- **Mix Bubble Solution:**
One gallon of water with 4 ounces of blue Dawn dishwashing detergent. We use distilled water or drinking water, NOT tap water. This makes bubbles that can stretch the most but don't last particularly long. To increase life, we add about 1/2 cup of Miracle Bubbles or 1/4 cup glycerine.



Use plastic pitcher to pour bubble solution into plastic dishpans..



Threading string through plastic straws.

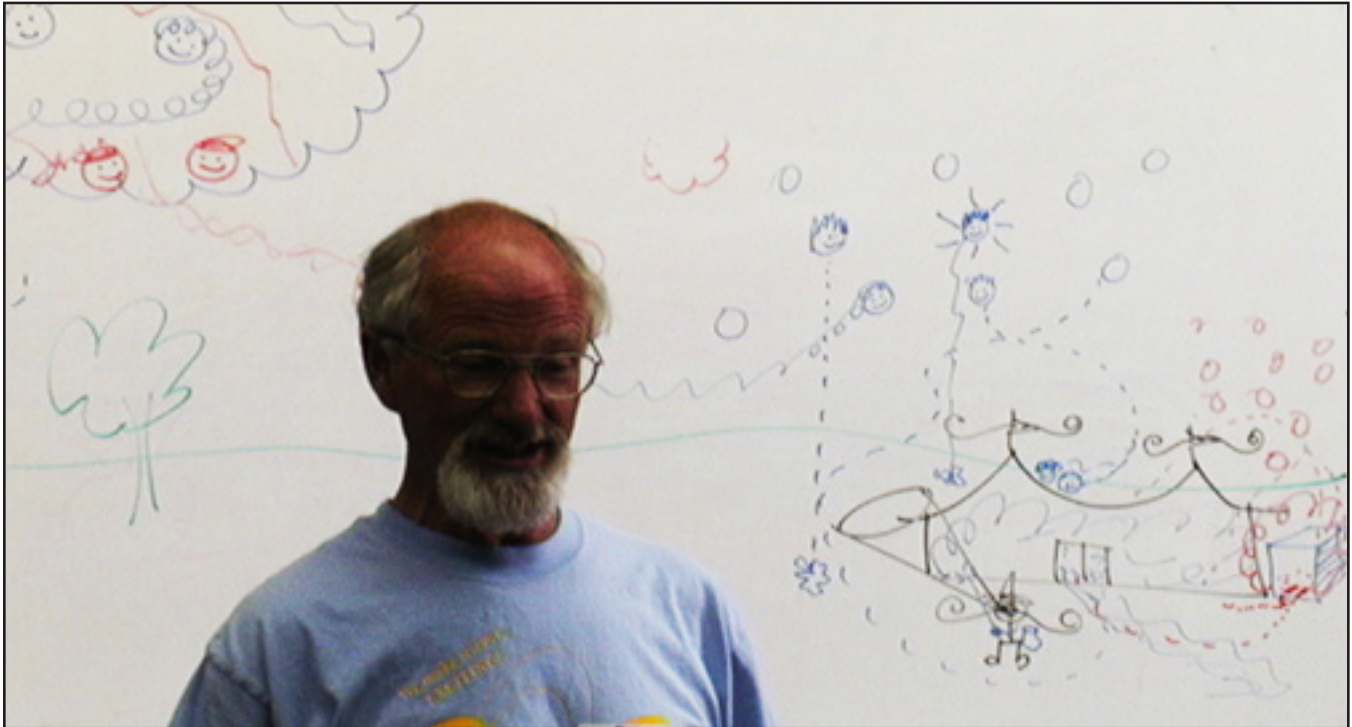
Story Recap: "Jack & Jill and the Bubble People"



Part 1:

- Jack and Jill are bubbles, living in a big cloud of bubbles.
- Some of the bubbles wear baseball caps and sing Row, Row, Row Your Boat continuously.
- The bubbles that don't wear caps start to rebel, and they start singing Home on the Range.
- The two groups get into a fight, and the baseball cap bubbles call on Jack and Jill to stop it.
- The rebel bubbles refuse to stop.
- The baseball cap bubbles blow the rebel bubbles out of the cloud, along with Jack & Jill.
- At first, the rebel bubbles are happy to be on their own, but then they start fighting among themselves and separating again, until they all end up as individual bubbles, floating freely.
- The rebel bubbles are all happy until some of them start popping, and they realize their skins are starting to dry out.
- Evil Mister Fred has seen all this, and he erects a circus tent and fills it with fog.
- He invites the bubbles to come into the tent, where they can stay cool and moist and live forever.
- Jack & Jill stay outside and watch through a hole in the top of the tent.
- They see Evil Mister Fred sneaking around in the fog, popping the bubbles and collecting their drops of soap in a jar.
- He has a truck labeled "Elixer of Life" where he's going to keep the soap and then sell it.

Story Quick Recap (cont.)



Ending:

- Jack called the Acme Store of Everything and ordered two sticks of dynamite.
- They put the dynamite in the back of the truck, with the fuses sticking out.
- They stood outside the circus tent and whispered through the fabric, pretending to be the ghosts of the bubbles Evil Mister Fred had killed.
- Evil Mister Fred said, "Who's doing that? Where are you?" Jack said, "In the truck."
- Evil Mister Fred saw the dynamite, but thought it was fake.
- The bubbles who had been popped all said, "Please don't explode us."
- Evil Mister Fred said, "I can't. It's not real." He lit a cigar and threw it onto the dynamite.
- The dynamite exploded, and Evil Mister Fred flew clear over the horizon, leaving behind only little pieces of burning mustache.
- The popped bubbles turned into real bubbles and went back to join the main bubble cloud in the sky.

Transcript: (No Introduction -- Lesson begins with the story)

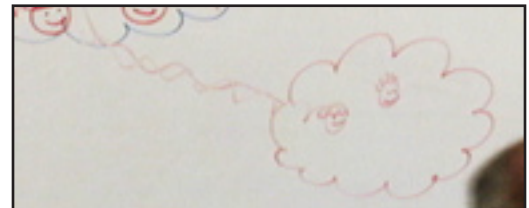
Story: "Jack & Jill and the Bubble People"

Once upon a time, there was a whole cloud of bubbles floating in the sky, like that. One of the bubbles had short hair, and one of the bubbles had long hair. One of the bubbles had a long beard and glasses, like that. Some of the bubbles were wearing baseball caps, backwards, like that. And the bubbles that weren't wearing baseball caps were all singing a silly song. They were singing Row, Row, Row Your Boat -- "Row, row, row your boat, gently down the stream, merrily, merrily, merrily, merrily, life is but a dream" -- over and over and over and over and over, and they never stopped, just doing Row, Row, Row Your Boat. And the guys with the red hats got tired of this, and they started singing Home, Home on the Range -- where the buffalo roam, stuff like that. And the guys singing Row, Row, Row Your Boat didn't like that. And they started to fight. And they were pushing each other around and bobbling all around. And finally, the guys that were Row, Row, Row Your Boat guys sent Jack and Jill down there to tell them to stop.



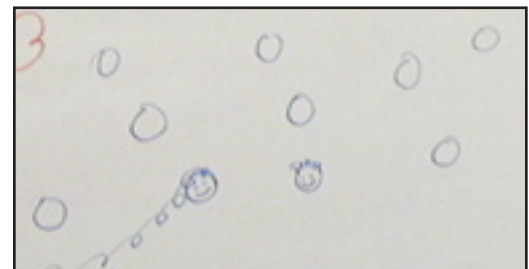
Jack and Jill in the Bubble Cloud

So Jack and Jill went down to the other bubbles and said, "What are you guys doing? You're singing the wrong song. You're messing everybody up. Just stop." And they said, "Nope! We're not stopping, and that's final." And Jack and Jill went up to the other guys, and they said, "Well, they don't want to stop. They don't like our song. And then the blue guys said, "Well, go back and tell them that if they don't stop, they're going to be in deep trouble." So Jack and Jill went back down. While they were down there, the blue guys said, "We'll fix this. On the count of three: one, two, three!" And they all went, "Foompah!" And when they went "foompah," all these rebel bubbles down here, including Jack and Jill, got shoved away from their cloud, and now they're in their own cloud, with Jack and Jill in there. Jack and Jill said, "Hey, that wasn't very nice! They foompahed us out along with everybody else! Oh, well."



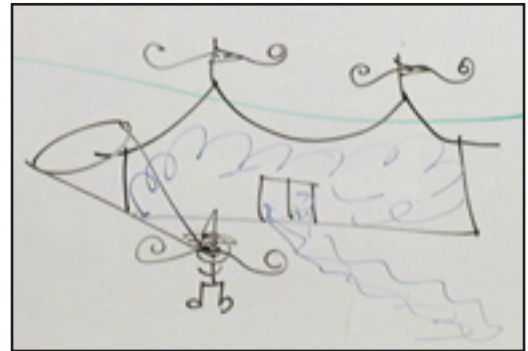
Rebel Bubbles got pushed out in a small cloud.

And the rebel bubbles said, "Yeah, this is great! Now we're separated from those guys, and we can sing our song as loud as we want." And they started singing Home, Home on the Range as loud as they could. And then, some of the rebel bubbles said, "I don't like that song. I want to sing a song about Santa Claus." And they started singing some silly song about Santa Claus. And pretty soon, they got bumped out and formed their own cloud. Well, as time went on, these rebel bubbles kept fighting and fighting and fighting, and separating themselves out, until every bubble was floating by itself. There they are, floating through the air, all by themselves. And Jack and Jill are amongst them. They said, "Finally, at last, we're free! We can go anywhere we want, do anything we want, sing any song we like, and we don't have to worry about anybody else."



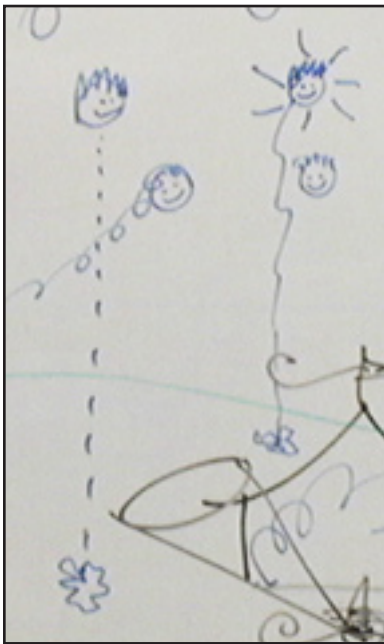
They ended up as individual bubbles.

But Evil Mister Fred happened to see this going on. He said, "Hmmm. This looks like an opportunity." So he called the the Acme Store of Everything and he ordered a great big circus tent. It had flags with mustaches on them, and some doors. And Evil Mister Fred stood outside and said, "Yep, that looks pretty good. I like that tent. We just need one other thing." And he called the the Acme Store of Everything and he ordered a great big fog machine. And he filled the whole tent full of fog. There was so much fog, it was rolling out the front door, like the dry ice fog we had yesterday. And then he got a big megaphone so he could yell really loud.



Evil Mister Fred's Circus Tent

While he was getting all that set up, Jill was talking to one of her bubble buddies. Here's a bubble buddy up here. Her name was Edna. And Jill was talking with Edna. She said, "Edna! How's it going?" Edna says, "Well, pretty good. I've just been feeling tired lately. Don't know what it's all about." All of a

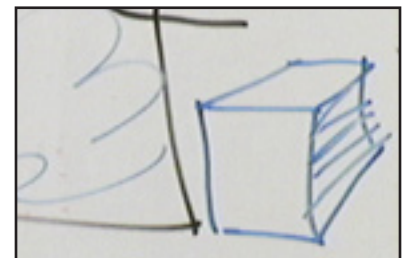


Some Bubbles started popping.

sudden, pffff! -- Edna popped. And Jill looked around and said, "Whoa! Edna! Where'd you go?" There was no Edna. And a little tiny drop of soap stuff fell to the ground and went splat. And Jill said, "Jack! Did you see that? Edna was here, now -- Edna's gone." And Jack said, "That can't be. You don't just disappear." And Jack was talking to George over here. Next thing you know, George popped -- zheeeew, splat! And Jack said, "Whoa! Something bad's happening. George just disappeared, too!" And Jill said, "Oh, no, we're drying out! We're popping. We're aging too fast. We've got to do something."

Well, Evil Mister Fred's down there, and he says, "Hello, bubbles! Come on down to my resort. Live forever. Come inside my tent. The nice, cool, wet fog will keep your bubble skin all perfectly bubbly, and you'll never pop -- guaranteed!" And the rebel bubbles said, "Yeah, that's for us. We could do this." So the rebel bubbles all drifted down and went into Evil Mister Fred's tent. And sure enough, it was cool and moist in there, and their bubble skins didn't pop. They were having the time of their life in there.

Jack and Jill, on the other hand, said, "I don't trust that Evil Mister Fred." They drifted down to a spot near the roof where there was a hole in the tent. And they could see through. And Jack said, "Well, it does look good in there. It's nice and cool. And the bubbles inside are having fun." And then they saw a shadowy figure walking through the fog. It looked kind of like Evil Mister Fred. And he had a bottle in one hand and a long pin in the other hand. And he was sneaking up on the bubbles when nobody was near, and he would pop them and catch the bubble soap in the glass. And Jack and Jill said, "Why, that Evil Mister Fred! He's popping them! And he's keeping their poor little dead bodies in jars. What is he doing?" And then they drifted around the outside of



Truck outside tent.

the tent, and there was a big truck. And on the side of the truck it said, "Evil Mister Fred's Elixir of Life. Drink one drop of this every day and you'll never die." And Jack and Jill said, "He's killing our friends and selling them to keep somebody alive. This is terrible. We've got to stop him." If you were Jack and Jill, what would you do? We're going to do some experiments and we're going to find out.

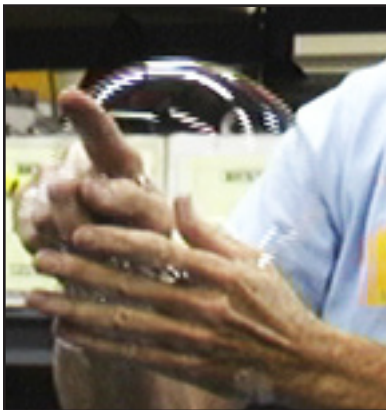
Imagination and Brainstorming Time

[Students make suggestions] (THERE ARE NO WRONG ANSWERS! Whatever they say, you should reply: "That's a good idea," "They might do that," etc. After brainstorming, proceed with the experiments, then finish the story.)

We'll leave this To Be Continued . . .

Experiment: *Gigantic Bubbles*

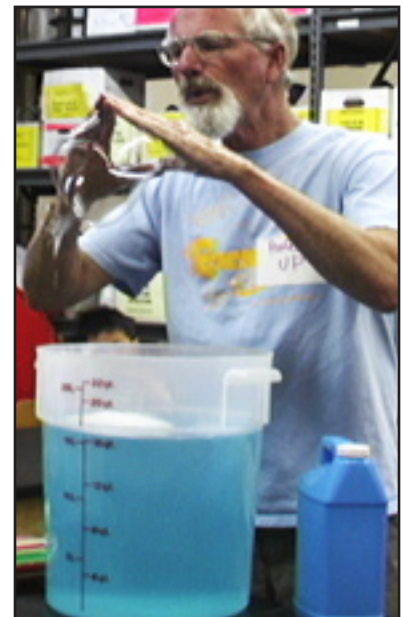
Well, this is kind of a simple experiment. For our experiment, we need some soap. Unfortunately, I didn't take the time to make dirty water. This is made out of clean water and clean soap. And you can do stuff with soap, straws, scissors, and string. *[Instructor puts his hands in the soapy water.]* Now I've got soapy hands. If I rub them together, I make bubbles on my soapy hands. So if I go like this, we can make fairly good size bubbles. Now I've got a bubble stuck on my hands. Notice it popped a little fast, so I'm going to add some bubble juice to it so it'll last longer. We'll stir it around. It's Dawn soap. Let's see if that helped. Now I've got a bubble that'll go wonka, wonka, wonka *[compresses and expands large bubble in his hands]*. We can stretch it apart, we can try to put it back together, and it doesn't like to go back together. We can put our fingers inside the bubble and stick them out the other side.



Push finger through bubble.

If you want to, you can stick your hand in, make a fist, and then open your fist and blow. If I close it fast enough, we should be able to get it to not pop. There it goes -- I got one. I'd like to get it off my hand, though. It's stuck on my fingers. If you want to make bubbles with your hands, you make a fist and then open a little tiny hole -- you don't want to open it all the way -- and blow. You can capture a bubble in your hands. Your hands always have to be soapy for it to work. And then we'll stretch it apart and we have two bubbles.

Now I've got a bubble there, and a bubble there. You notice how I squeeze my fingertips together to make the bubble become long? Watch. See, it's like an octopus? Okay, then I lift my hand up and put my fingers and my thumb together like that? And you can go sideways if you want.



Instructor blows a bubble with his hands.

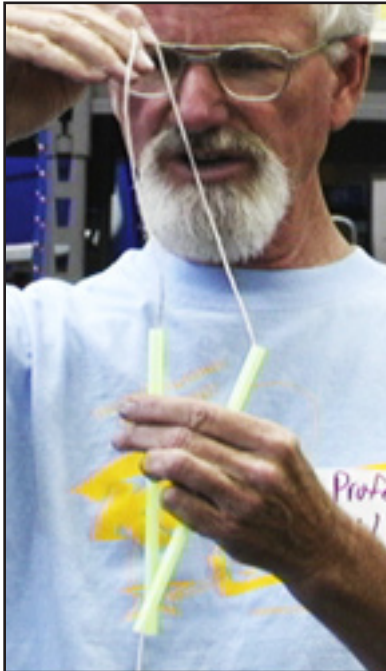


Squeeze fingertips to make bubble get longer.

Let's see, maybe [assistants] can pass around tubs, maybe one for every two people. *[Assistants pass out tubs, then add bubble solution.]* Stand up and push your chairs way back. If the table's too tall, put your tub on the floor. *[Students practice blowing bubbles with their hands.]*



Student blows a Bubble with his hand.



Threading String through Straws.

Are you ready for bigger bubbles? I'll show you a way to make bigger bubbles. *[Picks up a pair of straws and a length of string.]* You dangle the string through one of the straws, and then you dangle the string through the other straw. It works better if you don't dip the string in the soap first. Dry strings go through easily. And then you've got two snake heads. See the snake heads. Pinch the two heads together. And then you take the poor snake necks, and you put a twist in their necks. And you grab the twist, and you can let go of their heads. Now the snakes have a twist in their necks. And then you shove their heads through the twist and pull tight, and you've got a trampoline. Does it look like a trampoline? When you get your trampoline, dip it in the soapy stuff, pull



Snakes with a twist.



Bottom String defies gravity.

it out, and you have some film on it, and you'll notice the bottom string defies gravity. It goes up.

You could make a trampoline go boingy, boingy, boingy, boingy, boingy. Or you can lift it up slowly *[creates giant bubble]*. Or you can dip it in, drain it a little bit, and carefully so you don't fall down, go in a circle and make a long elephant trunk. If you want to do that, shake your hands off, and we'll give you straws and string. *[Assistants pass out straws and string, and students make their "trampolines" and practice making giant bubbles.]*



Making a giant bubble with straws and string.

Time's up -- go rinse your hands off in the bathroom.



End of Story

**** DO NOT * present this part of the lesson until after the experiments!***

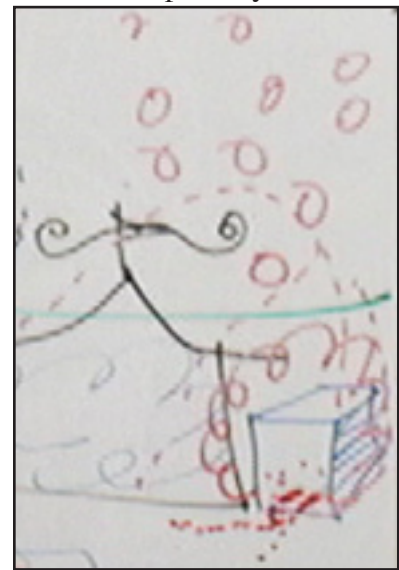
Jack and Jill were bubbles. And they saw that Evil Mister Fred was popping all their friends and catching the bubble juice in bottles marked, "The Elixer of Life." And he was selling the bottles for a hundred thousand dollars each. And they said, "Aw, that Evil Mister Fred. He's really rotten. We've got to stop him." And they thought, "Man, what are we going to do?" And they saw a truck outside with all the bottles of bubble juice in it. And Jack said, "You think we should try this?" And Jill said, "Yeah, we've got to try it. Somebody's got to do it." So Jack said, "Okay, let's call the Acme Store of Everything." And he ordered two sticks of dynamite. And Jill said, "Boy, I've never used this stuff before. What does it do?" Jack said, "Well, hopefully it'll do some good, but you never know."



Two sticks of Dynamite.

And Jack and Jill put the dynamite in the truck with all the bottles of bubble juice. Two sticks of dynamite, with their fuses sticking out. And they came to the outside of the tent. And they said through the cloth, "Evil Mister Fred, this is the ghost of all the bubbles you've killed. Wa-ha-ha-ha-ha! We're escaping from your truck, and there's nothing you can do to stop us." And Evil Mister Fred heard the voice and said, "What? Who's doing this? Where?" And they said, "In the truck, dummy!" And Evil Mister Fred said, "Okay!"

So he ran out of the tent and into the truck. And Jack and Jill were supposed to blow up the dynamite at that point. But Evil Mister Fred saw it first and said, "A trap! Dynamite on the floor. Well!" And he picked it up and he said, "Wait a minute. This isn't real dynamite. This is fake. What are they doing here?" And he was smoking a cigar. He says, "Ah -- I don't need this!" So he lit the fuse on what he thought was the fake dynamite. And he says, "There's nobody here at all. What's going on?" And then all the little bubble jars said, "Please don't explode us." And Evil Mister Fred said, "I can't. It's fake." And he threw it on the floor, and it went KA-BOOOMMM!! Huge explosion. Evil Mister Fred blew up everything in the truck. The explosion was so big that all the soap bubbles (which were just juice then) turned into real bubbles back in the sky. And Evil Mister Fred's hat flew clear over the horizon. And little pieces of his mustache fell here and there. And all the bubbles said, "I'm out of here. I'm going back to the main bubble cloud. This is not good." So they all went back to the main bubble cloud. And they all lived happily ever after, except Evil Mister Fred.



Explosion turned the bubble juice back into real bubbles.

Now, that's it for today. Walk carefully when you leave so that you don't slip and fall and die.

End of Lesson

If you have questions about this lesson, please ask them through the [online Teacher Support Forum](#) on our web site.