

# Weaving a Strong Oral Health Message into a 3D Action Computer Game.

*Attack of the S. mutans!* - a new take on promoting oral health that transforms brushing from a daily chore to an intense battle against swarming bacteria and biofilm communities.

Join Dentisha in her workshop of gizmos and inventions as she opens a portal on the microscopic world inside her own mouth. At magnification 1000x, visitors walk on the surface of her tooth's enamel crystal, which she discovers is under intense attack from lactic acid raining from above. Players fight to stop the acid and save Dentisha's teeth from decay, and help in her search for the acid source.

*With its debut at the Pacific Science Center in Seattle, Washington in Spring of 2010, Attack of the S. mutans! was created by Firsthand Technology and the University of Washington, with funding from the National Institutes of Health.*

## Traveling Exhibit Details

- 1500 to 2000+ sq. ft. - flexible, reconfigurable design
- Scalable game component includes a large 3D screen inside a 5-player game pod
- Exhibit environment themed to Dentisha's workshop
- Engaging interactive technology, including high-quality 3D projections, position trackers & augmented reality
- Bilingual: English and Spanish

## Contact

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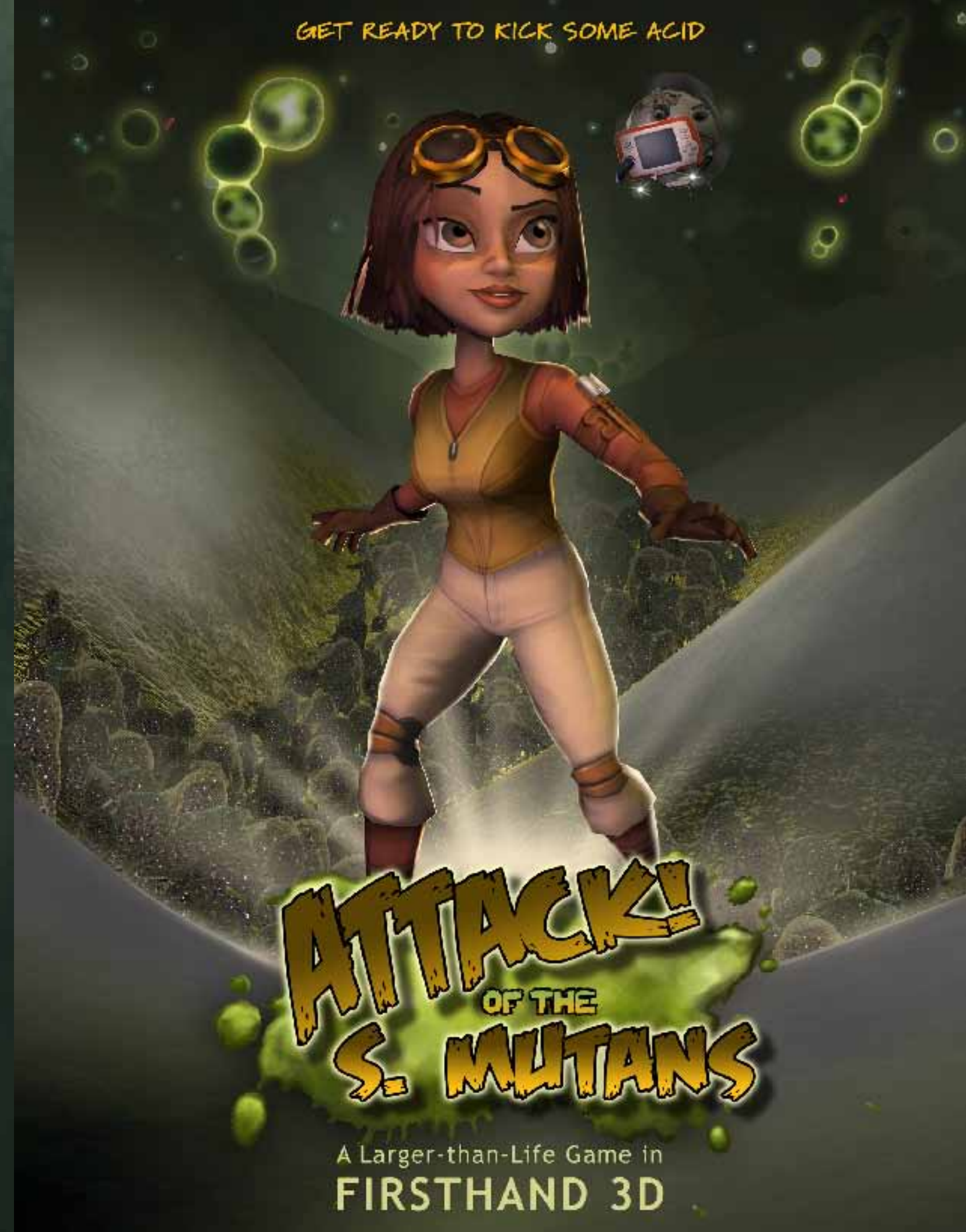
[www.attackofthemutans.com](http://www.attackofthemutans.com)  
[www.firsthand.com](http://www.firsthand.com)

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Created with funding from the National Institute of Dental and Craniofacial Research and the National Center on Minority Health and Health Disparities. Grant 1R44DE019043-01A1.

GET READY TO KICK SOME ACID



**ATTACK!**  
OF THE  
**S. MUTANS**

A Larger-than-Life Game in  
**FIRSTHAND 3D**



## Welcome to My Workshop!

I'm Dentisha. Lately I'm really interested in things about teeth. The more I learn, the more I want to know. I've been busy in here building some new gadgets and discovered a whole world that I never even knew existed. It's all about bacteria. This stuff is **ALIVE** and it's doubling in size every hour!

These S. mutans (*Streptococcus mutans*) are amazing. Totally gross, but amazing. They feed on sugar in our mouths, then poop out acid right on our teeth. That is where cavities come from. I've got some experiments going you'll want to try out. And while you're here, I could really use your help getting rid of these S. mutans!

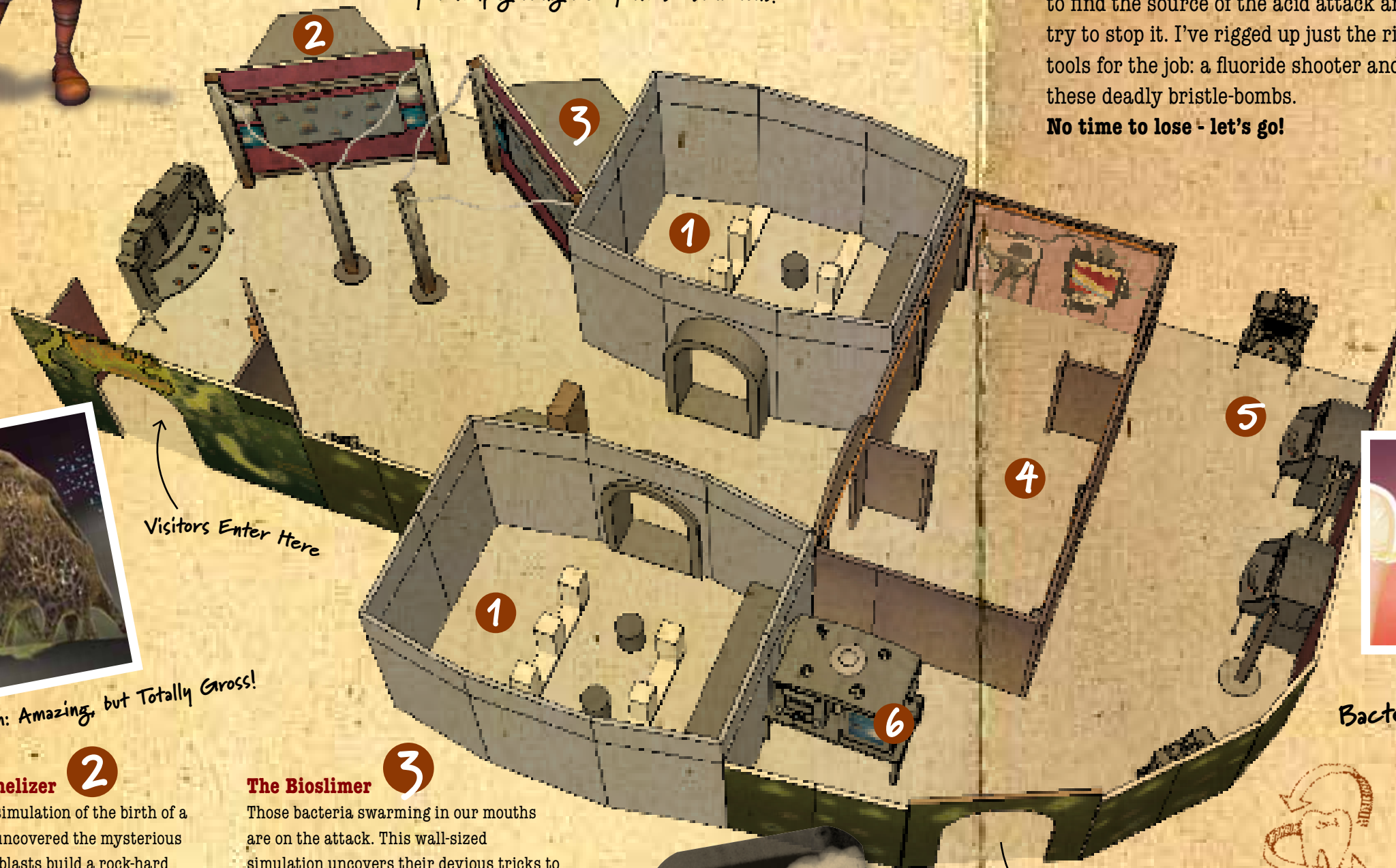
# Attack of the S. mutans! 3D Game

I just got my latest device working - the Transfractal Resonator - that opens a portal on the microscopic world. Through the portal I can see swarms of S. mutans bacteria and towering biofilm (a.k.a plaque) alive on the surface of my teeth, dumping gobs of acid everywhere! I need your help to find the source of the acid attack and try to stop it. I've rigged up just the right tools for the job: a fluoride shooter and these deadly bristle-bombs.

**No time to lose - let's go!**



Attack of the S. mutans! is a multi-level adventure game in stereo Firsthand 3D for a team of five players per pod. Lab equipment includes polarized "safety" 3D goggles and hand-held game controllers that keep the play intuitive, dynamic and engaging.

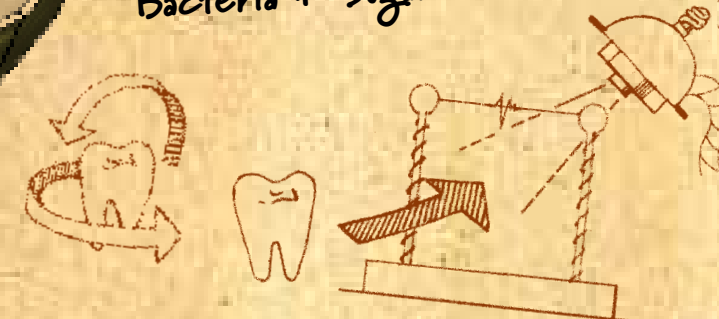


Biofilm: Amazing, but Totally Gross!

Visitors Enter Here



Bacteria + Sugar = Acid



Mission Accomplished

### The Enamelizer **2**

A full-wall simulation of the birth of a tooth. I've uncovered the mysterious way ameloblasts build a rock-hard crystal covering our teeth, called enamel. Enamel is precious as our bodies can't heal it like skin or other bones, so we need to take great care of it.

### The Bioslimer **3**

Those bacteria swarming in our mouths are on the attack. This wall-sized simulation uncovers their devious tricks to communicate and cooperate as they build fortresses of slimy plaque.

### Hall of Excuses **4**

There are countless excuses for not taking care of our teeth even though we all know better. I've been out observing and collecting those excuses and brought it all together with animated lenticular panels that show the real health consequences of all those excuses.

### Decay Detection **5**

My Xray gadget uncovers all those places where bacteria hide and cavities grow. I challenge you to see how many cavities you can find. Grab a tooth, put it in and see what lies below the surface.

### Keep Your Teeth **6**

Run the course of a virtual 3D labyrinth - but take care not to fall into cavities on the way. Fluoride powerups shrink the holes and lower your risk. Play smart and the final payoff is huge - you get to keep your teeth your whole life!