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Dear Jax,

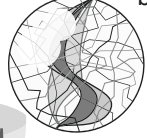
What makes the snap, crackle, pop sounds in Rice Krispies™ cereal?

Janet Sternbach
 Wilmington, North Carolina

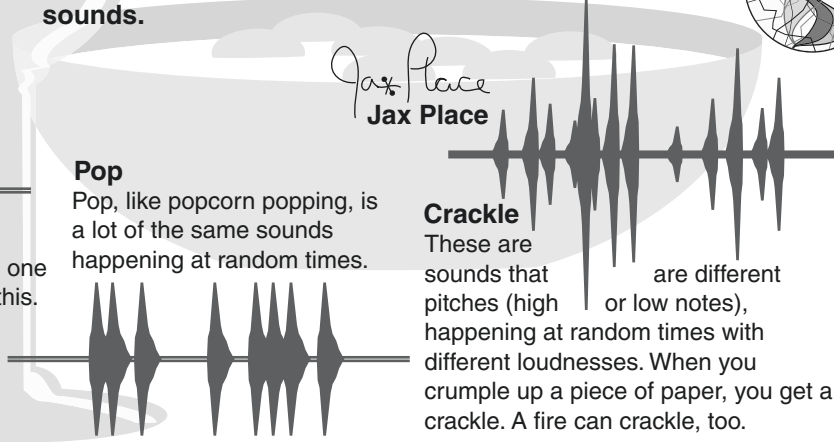
Beakman or Jax
 P.O. Box 30177
 Kansas City, MO 64112
 Questions, name & address

For asking today's question, Janet wins the new DVD, *The Best of Beakman's World*.

Dear Janet,
 Puffed rice cereal is made by toasting rice kernels. They cook from steam inside the rice, puffing them up. Puffing is another way of saying the rice expands, gets much bigger, with the same amount of stuff filling a much larger area. Parts of the stretched-out grain of rice become thin and delicate, like a fine crystal goblet. When these thin walls crack, we get those sounds.



Jax Place
 Jax Place



Rice Grain

Puffed-Up Rice

Thin Delicate Walls

Snap

If we chart the *snap* sound, like a pencil snapping in two, we get one sudden loud sound, like this.

Pop

Pop, like popcorn popping, is a lot of the same sounds happening at random times.

Crackle

These are sounds that are different pitches (high or low notes), happening at random times with different loudnesses. When you crumple up a piece of paper, you get a crackle. A fire can crackle, too.

Experiment #1

WHAT YOU NEED: Permission and help from a grown-up in your family - marbles - frying pan - shallow bowl of ice water

WHAT TO DO:

First find the marbles. Games used to be played with marbles. Marbles are now usually used for arranging flowers or making things pretty. Put the bowl near the stove while your grown-up heats up a few marbles, rolling them around in a frying pan. When the marbles get warm, your grown-up should dump them into the bowl. Listen to the crackle sound they make. Throw the cracked marbles away. They can be sharp and dangerous.

SO WHAT:

You put the marbles in *thermal distress* - different parts of the marbles were at different temperatures and they cracked. Cold milk does the same thing to the thin walls of puffed rice cereals, and they crack and crackle.

P.S. from Beakman: Snap, Crackle, Pop is a snappy and very old advertising slogan. But the sound that comes from these cereals is really a crackle, which is like a combination of a snap and a pop.