

DESMOND PUCKET

MAKES MONSTER MAGIC

MARK TATULLI



TEACHER'S GUIDE

Science Curriculum Connections



Andrews McMeel
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Desmond Pucket Makes Monster Magic

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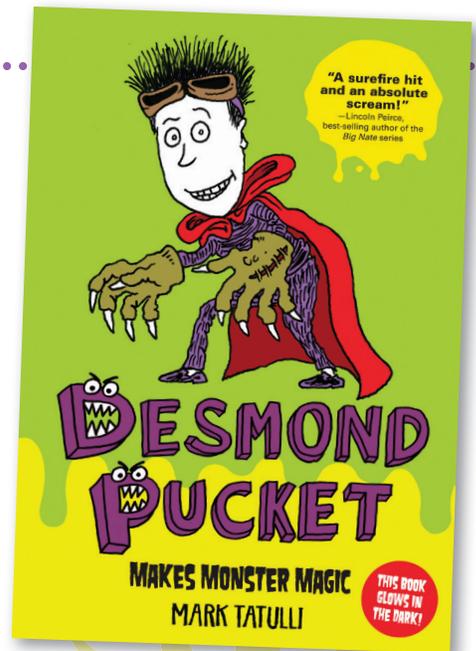
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GRADE LEVEL: 3–7

Overview

Desmond is an aspiring special effects wizard whose world is full of monster magic, including detailed drawings of custom-crafted wriggling worms, goblins that spring from toilets, and elaborate slumber party ghost scares. Enjoy Desmond's story with the class and then use this guide to have a frightfully good time completing some fun science lessons!

To begin, break the class into four groups and assign each group one of the projects below. Have them follow Desmond's instructions to complete the project, answer the questions, perform the experiment, and then write (or videotape) a report to present to the class that includes a demonstration.



Desmond's Easy-to-Make Fake Blood Recipe

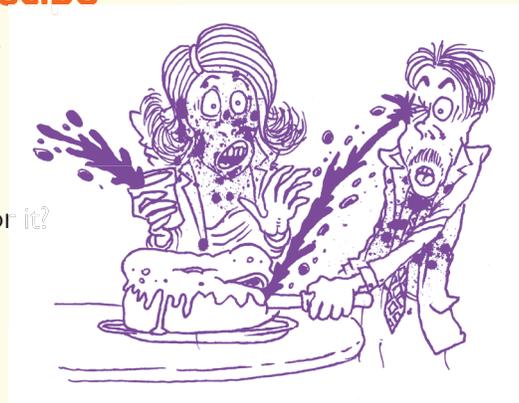
Make the fake blood as outlined on page 225, and try it out.

Find This Out:

- ✱ What is viscosity?
- ✱ What is corn syrup and what are some common uses for it?
- ✱ Why is blood red?

What Do You Think?

- ✱ Does Desmond's fake blood seem like real blood?
- ✱ Can you think of other liquids that could be used for blood effects?



Experiment: Viscosity

What's Needed: Bowl(s) and liquids (honey, ketchup, corn syrup, chocolate syrup, water, oil, soda), and a microwave and/or refrigerator if possible.

Viscosity is a measurement of how easily a fluid flows. The more viscous the fluid, the thicker it is. Have students experiment with 6 different liquids by pouring them into a bowl and then ranking them in order of viscosity. If possible, try heating and/or cooling the liquids to see if that changes the viscosity.

Experiment: Make Better Bubbles with Corn Syrup

What's Needed: Pitcher or bowl, water, dish soap, straws, and corn syrup.

Mix 6 cups of water with 1 cup of dish soap, stir, and use a straw or bubble wand to blow bubbles. Then add $\frac{1}{4}$ cup corn syrup, stir, and try blowing bubbles—they will last longer! You can't blow bubbles with plain water; the detergent relaxes the surface tension and makes the bubble elastic. The corn syrup mixes with the soap to make it thicker.

Just for Fun: Video Extension

www.stevespanglerscience.com/lab/experiments/twist-in-time-laminar-flow

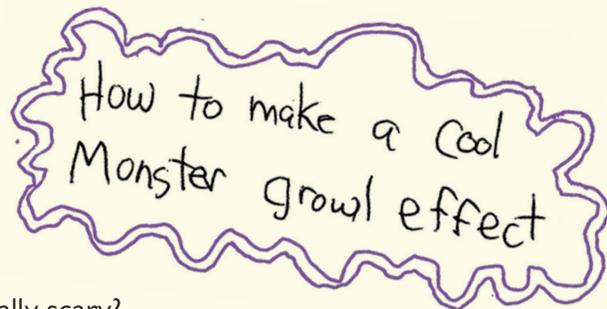
This SteveSpanglerScience.com video demonstrates laminar (nonturbulent flow of a viscous fluid) using corn syrup. Watch him mix three colored drops together and then reverse the process.

Desmond's Cool Monster Growl Effect

Make the monster growl as outlined on pages 226 and 227, and try it out.

Find This Out:

- * What are sound waves?
- * What is resonance?
- * What is amplitude?



What Do You Think?

- * Does Desmond's monster growl sound really scary?
- * Does the scariness depend on which voice is doing the growling?

Experiment: Monster Growl

What's Needed: Monster growl parts (as outlined on pages 226 and 227), a round cardboard oatmeal box, and a square milk carton.

What is it about the monster growl that creates the scary sound? Try building the monster growl using a round cardboard oatmeal box. Does the growl have the same effect? Now try using a square container. Does that change the sound? Instead of growling, try recording other sounds: talking, whispering, snapping fingers, humming, singing. Do any of these produce a scary effect?



Experiment: How Sound Waves Work

What's Needed: Rubber bands, metal spoons, and string.

Every time a sound is made, it produces a sound wave. As an example of this, you can take a rubber band and spread it tightly between your fingers and “thrum” it—this produces vibration/sound waves. Then, take 30 inches of string and tie the spoon at the midpoint. Wrap the ends of the strings around your index fingers, place the fingers in your ears, lean over, and “swing” the string so that it taps against a door. Repeat the swing, but harder. The sound happens because the spoon vibrated and caused sound waves to travel up the string into your ears. The loudness or quietness of the sound depends on the height of the sound wave.

Just for Fun: Video Extension

www.youtube.com/watch?v=93DFanOXzL8

Imagination Station Extreme Scientist Carl Nelson shows viewers how you can see sound waves by transmitting them through a flammable gas.

Desmond's Phantom Knocker and Desmond's Perfect Ghost

Make the knocker and perfect ghost as outlined on pages 228–231, and try them out.



Find This Out:

- * What is fear?
- * What does “paranormal” mean?
- * What is pseudoscience?

What Do You Think?

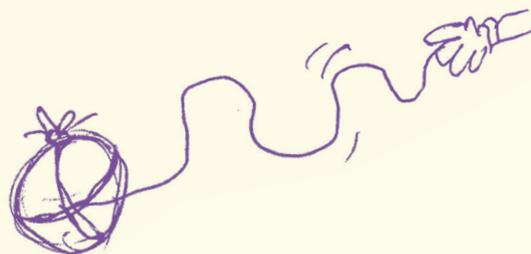
- * Why are people scared when they see or hear something that they can't identify?
- * Why do we often find it funny to scare someone?

Experiment: Fear Reaction

What's Needed: 6 shoe boxes, scissors, 3 “scary” objects (such as a rubber snake, a pipe cleaner spider, boiled rice, or other squishy food), and 3 “safe” objects (any ordinary household object).

Cut holes in the ends of the boxes and place an item inside. Have other students (who don't know what's inside the boxes) put their hands inside and feel the object. Watch and record their reactions. Here's what's happening:

- 1) the brain takes in the info that your hand is feeling;
- 2) the brain processes the info; and
- 3) the brain tells your body to act (laugh, exclaim, jump in shock, recoil).



Experiment: Dancing Ghost

What's Needed: Tissue paper, scissors, a balloon, and a head of hair.

One of the reasons that people are still fascinated with ghosts is that many people use fake photographs and other illusions to “prove” their existence. Here’s one small illusion you can do as an example. Cut out several small ghost shapes from the tissue paper (about 1.5 inches tall) and place them flat on a table. Blow up the balloon and tie it. Rub the balloon on your head for 10 seconds. Bring the balloon near the ghost and the static charge will make the ghost “dance.” Can you see how someone might do something like this in a bigger way, and even film it, for a prank?

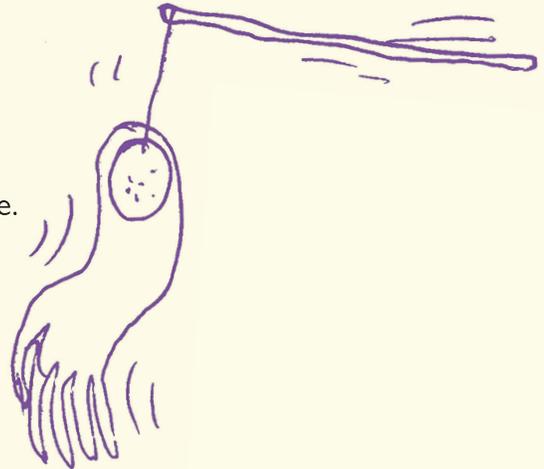
Just for Fun: Video Extension

www.youtube.com/watch?v=gFCKeJRaGms

Can a candle flame stay lit while underwater?

Or does it just appear to do so?

The So Cool School website takes a look at pseudoscience.



Desmond's Deadly Dolly Dessert

Make the deadly dolly dessert as outlined on pages 232 and 233.

Find This Out:

- * What is gelatin?
- * What are enzymes?
- * What is protein?



What Do You Think?

- * What are some other food items that could be used for creepy effects?
- * What other toys or items could you use instead of a doll to make a scary effect?

Experiment: Gelatin Strength and Flexibility

What's Needed: 6 packages of gelatin, hot water, 6 clear plastic cups, spoons, sugar, salt, and fresh and canned pineapple.

To see how different things might affect how solid gelatin gets, make up 6 batches of gelatin:

- 1) Make gelatin exactly as instructed.
- 2) Make gelatin using half the amount of water recommended.
- 3) Make gelatin using twice the amount of water recommended.
- 4) Make gelatin as instructed, then add 2 tablespoons of sugar.
- 5) Make gelatin as instructed, then add 2 tablespoons of salt.
- 6) Make gelatin as instructed, then add $\frac{1}{4}$ cup of fresh pineapple.
- 7) Make gelatin as instructed, then add $\frac{1}{4}$ cup of canned pineapple.

Refrigerate overnight. Then examine each cup and record whether or not the gelatin has set. Next, shake them all, watch them jiggle, and rank them in order of how easily they return to their original shape.

Experiment: Gelatin Can Replicate Human Mucus (Fake Snot!)

What's Needed: A package of gelatin, cup, hot water, corn syrup, a teaspoon, and a fork.

Mucus is made of sugars and protein, and you can use the same elements to make fake mucus. Fill half a cup with boiling water, add three teaspoons of gelatin, and let it soften. Stir with a fork and add $\frac{1}{4}$ cup of corn syrup. Stir again with the fork and you will see long strands that have formed. As it cools, slowly add more water. The strands are protein strands; these are the strands that make snot sticky and elastic. Yuk!



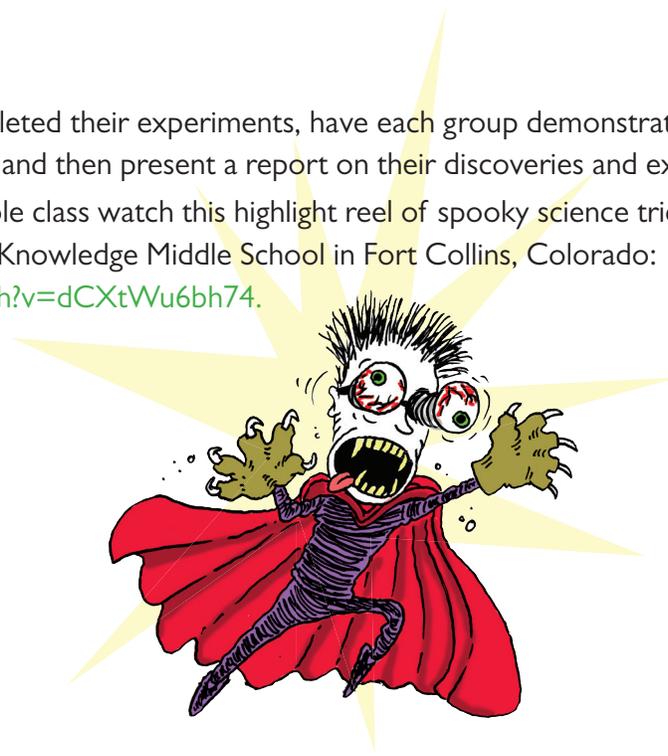
Just for Fun: Video Extension

www.youtube.com/watch?v=InhBqntL0f4

Jelly babies (which are kind of like gummy bears) are a popular candy in Britain and Australia that contains gelatin. Watch what happens when you heat up potassium chlorate and add the candy to it.

Class Wrap-up

- ✱ After everyone has completed their experiments, have each group demonstrate Desmond's tricks for the entire class, and then present a report on their discoveries and experiments.
- ✱ Just for fun, have the whole class watch this highlight reel of spooky science tricks put together by Kinard Core Knowledge Middle School in Fort Collins, Colorado:
www.youtube.com/watch?v=dCXtWu6bh74.



Video Note: All of the online videos in this guide were current and working as of June 2013, but please check them before you share them with the class.