

# MeTEOR Performance Task

## Fifth Grade

English Language Arts  
5 Second Rule



***Performance Task Item: 5 Second Rule- Keys to Staying Healthy***

**Part A:**

**Read “You Have Five Seconds to Eat that Chip that Fell to the Floor, Right?” and answer questions 1 – 4.**

1. According to the article, what is the “five second rule”? Have you ever heard of it?
2. Research both Anthony Hilton and Paul Dawson, as well as using evidence from the article, to complete the “Claim, Evidence, Reasoning” chart provided. You will use this chart later on in this performance task.
3. What is the main idea of this article? Using the main idea graphic organizer provided, complete it using information from the article.
4. What can you infer about different kinds of food and flooring based on the findings of Clarke and Hilton in the article?



8. What do you believe is the author’s purpose for writing this article? Was this purpose met? How?

## Part B:

**Watch “Mythbusters: 5 Second Rule” video**

<https://www.youtube.com/watch?v=FoONY-ip7hQ&t=12s> to help answer question 9.

9. Using the “Claim, Evidence, Reasoning” chart provided (same as from question 2), complete the chart section on “Mythbusters” using evidence from the video. After completing the chart, with a group, fill out the four part Venn Diagram. Write a summary of the differences and similarities of the researchers.
10. Interview 15 people and ask these three questions (a survey form has been provided):
  1. What is the “5 Second Rule?”
  2. Do you believe it is true or a myth?
  3. Where did you learn about the “5 Second Rule”? (parents, friends, grandparents, school, etc.)
  4. What other beliefs do you hold even if you don’t know the science behind it? (Wait 30 minutes after eating to go swimming, etc.)

After you’ve surveyed these people, compile your results and make a graph of your findings and present them to the group.

11. The first article you read discussed the difficulty in getting scientific information out to the public. Using the information from the articles and video, as well as your survey results and research, create a brochure that details whether the “5 Second Rule” is a truth or a myth and what are some things the public should know to stay healthy. Make the brochure creative, give facts and make it interesting to readers. A rubric has been provided to help guide you.

## ARTICLES/STUDENT MATERIALS

**“You Have Five Seconds to Eat that Chip that Fell to the Floor, Right?”**

Strawberries spilled out of their container on the sidewalk. Photo by: Rachel Glaves/Flickr

In the 1500s, Copernicus flipped over long-standing beliefs in the science world. He pointed out that the Earth revolved around the sun instead of the other way around. Today, scientists are flipping over another ancient belief system. It is the belief system surrounding a dropped slice of pepperoni pizza.

For a very long time, humans have worried about dropping food on the floor. They believed it was not safe to eat after being down there for five seconds. It is almost as if God gave us a stone tablet with the five-second rule.

Of course, there are still rebels who say that floors are just plain dirty. They think if food touches the floor at all it becomes gross. Then there are those who are happy to take their chances. Lately, scientists have been trying to figure out what really is the truth about this.

**Dropped Food Is A Germ Magnet**

Anthony Hilton is a university professor. He will speak at The Big Bang Fair in Birmingham, England. The fair is a large celebration of science for young people in Great Britain. He teaches about microscopic creatures such as bacteria or germs. He says that different foods can pick up different amounts of dirt from the floor in a few seconds. He uses sandwiches, potato chips, dry toast and cookies as examples.

The foods might lie on the floor for half an hour. Hilton says they would still be safe to eat. Candy, cooked pasta and doughnuts are different, though. They can get contaminated in just

a few seconds. Contaminated means they pick up harmful dirt. Dirt can contain germs. Hilton also found that tiled floors are dirtier than carpets.

### **Focus Is On Dirt**

In 2003, Jillian Clarke of the University of Illinois showed how well the five-second rule could attract attention from the news media. She did this by dropping gummy bears on the floor. She dropped some on rough tiles, and others on smooth tiles. She left them all on the floor for five seconds. The ones dropped on rough tiles picked up more bacteria than those on smooth tiles.

A few years later, Rutgers University said that the five-second rule was too simple to be correct. In 2007, Paul Dawson of Clemson University studied the subject too. He focused on how dirty the floor was. He said that is much more important than how long the food stays there.

Dawson also agreed that dropping food on carpet left it much cleaner than dropping it on tiles. There was 70 times more dirt stuck to the food when it was dropped on tiles than on carpet. In 2014, Aston University did a study. They dropped food on the floor. The study said the amount of dirt that stuck to it increased tremendously starting from three to 30 seconds after landing.

### **Are The Seconds Ticking Away?**

These facts might be fascinating to people who worry about germs. They might interest those who drop their toast on the floor often. The rest of us may not be so interested. Scientists and journalists are helping each other. The scientists want to get their somewhat boring facts out to a wider audience. The journalists want to make the dull-sounding facts more exciting for their readers.

What you never see in stories about the five-second rule is that it does not matter either way. Good food landing on a fairly clean floor has rarely hurt anyone. Hilton's study found that dropped food picked up only a tiny amount of the germs on a floor.

Is the five-second rule dead, then? The great religions have found something out. It takes more than a few scientific facts to end our deep desire to believe.

## “Study Says 5-second Rule Holds Some Truth, but Others Say Don't Do It”



Tyler, 7, (left) and Logan, 5, have lunch with mom Cindy Waddell at a Chick-Fil-A on April 3, 2013. Ricardo Ramirez Buxeda/Orlando Sentinel/MCT

Have you ever heard of the five-second rule? It's an old belief about dropping food on the floor and having five seconds to pick it up. The rule says that if you wait longer than five seconds, then you shouldn't eat it.

Recently, science students at Aston University in England tested the five-second rule. They claim to have found some truth to it.

They discovered that the faster you pick food up off the floor, the less likely it is to contain bacteria that could make you sick. Their study was released on the university's website on March 10.

Students worked with professor Anthony Hilton. They dropped toast, pasta, cookies and sticky candy on the floor and then left the food on the floor for three to 30 seconds.

Students then checked the transfer of two common bacteria, called E.coli and staph.

### **From Floor to Food**

Normally bacteria cannot be seen by the human eye. You need a microscope to see bacteria. It's a single-celled creature and is very tiny. Millions of bacteria could fit on the tip of a needle.

There are good bacteria and bad bacteria. Yogurt has good bacteria in it. Humans have bacteria in their guts to help break down food. All bacteria feed off the surroundings they live within.

In some cases, bacteria find a home in the human body. Bad bacteria can cause infections in the body like a sore throat, tooth cavities and pneumonia, which affects the lungs.



But the study in England found that bacteria do a pretty lousy job at moving from the floor to food. That is especially true when the food isn't given much time on the ground.

The type of surface mattered, too. The study found that bacteria were least likely to spread from carpet to food. The study also found that bacteria were most likely to move from tile floors to food.

But don't go picking fallen Fritos out of the rug just yet.

The study goes against an earlier one done by scientists at Clemson University in South Carolina. They studied a bacteria called Salmonella.

The scientists in South Carolina tested how fast Salmonella made its way from floors to bologna and bread. They discovered that it happened instantly.

### **Zero Better Than One**

The British study hasn't been published yet in a science magazine. That makes it impossible for other scientists to copy the study and find out if the results are right or wrong.

Jeffrey T. LeJeune is a food safety expert in Ohio. He says he would be very "cautious about the results" of the British study.

LeJeune said eating food off the floor is not a good idea. It goes against nearly all the advice for stopping illnesses caused by eating food.

Scientists also know from past studies that our floors are littered with nasty bacteria that can make us sick. Bacteria are even present in the homes of people who have been educated about proper cleaning.

Another problem with the British study is that it didn't test Norovirus. It is a virus that causes about half of illnesses from food, LeJeune said. Viruses are even smaller than bacteria. The flu is a type of virus. The British study doesn't look at how fast Norovirus gets transferred to food.

LeJeune's bottom line: Don't eat food off the floor. Ever.

It may be true that fewer bacteria get transferred to food in five seconds than in 10 seconds, "but waiting zero seconds is far better than waiting any seconds," he said. "I think one second is too long."

*CLAIM, REASON, EVIDENCE CHART for the 5 Second Rule*

Researcher	What do you know?	How do you know that?	Why do you know that?
	Claim	Reason(s)	Evidence
<i>Anthony Hilton</i>			
<i>Paul Dawson</i>			
<i>Jeffrey T. LeJeune</i>			
<i>MythBusters</i>			

## Main Idea Organizer for

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Main Idea:

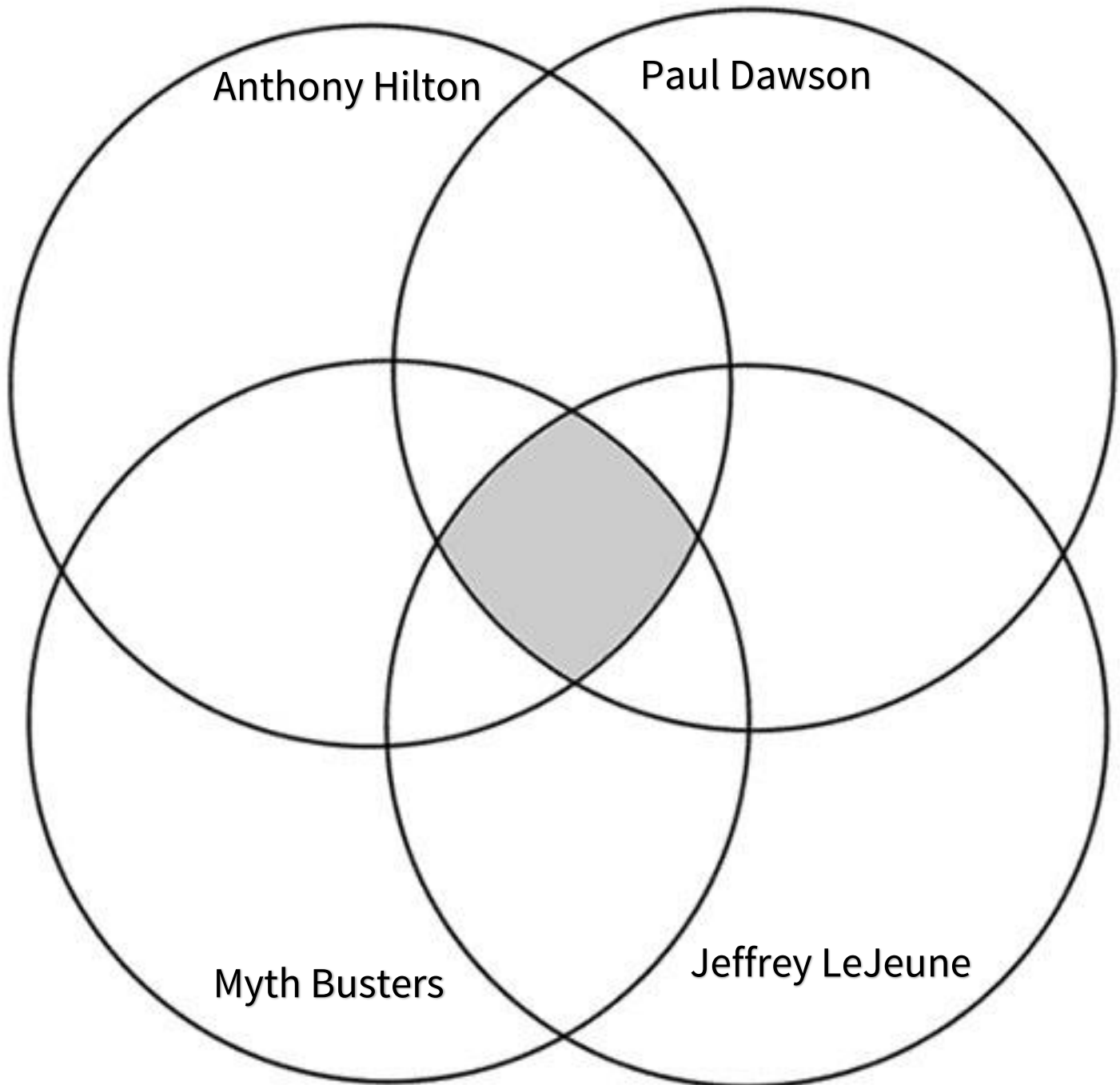
Detail:

Detail:

Detail:

Summary: (In your own words)

## Four Part Venn Diagram for "5 Second Rule"





### Brochure Rubric

	4	3	2	1
<b>Content</b>	Information is accurate, clear, and goes beyond content standards/surface understanding. Depth and breathe of content is evident.	Information is accurate, clear, and covers the content standards.	Information is usually accurate and clear. Information addresses some elements of the content standards but excludes others.	The information is inaccurate and may not address content standards.
<b>Mechanics</b>	Images are of high quality. The mock-up is detailed to the level of a professional designer. Final brochure is free from spelling errors.	Images are of good quality. Mock-up is detailed enough to show what the final brochure will look like. Final brochure is free from spelling errors.	Images are not consistently of good quality. The mockup is incomplete and confusing. Final brochure contains a few spelling errors.	Images are not consistently of quality and there is no mock-up. Final brochure contains numerous spelling errors.
<b>Creative Thinking</b>	Includes original ideas or insights, looks at the topic in new and unusual ways. Adds to the design by creating new and unique fold styles and/or layouts.	Includes an original idea or insight. Creativity is evident in the layout of the brochure.	Creativity is evident in the layout of the brochure but no original ideas or insights are evident.	No original Ideas or insights

**0 means no evidence or missing**



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