Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_

**Food Theory: How to SURVIVE Spicy Food! (Hot Ones Challenge)**

(Source: The Food Theorists, Oct 1 2020 <https://www.youtube.com/watch?v=v0So51Q6GLg&ab_channel=TheFoodTheorists>)

*Answer the following questions in full sentences, except where otherwise indicated. Disclaimer: The use of alcohol in the video was the choice of the video creators: do not drink alcohol if you are underage.*

1. **What is the purpose or research question of this episode? (2:10)**
2. **Fill in the blanks to summarize MatPat’s research about spiciness and spice chasers. (3:10)**

Spiciness is due to a chemical called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which attaches to \_\_\_\_\_\_\_\_\_\_\_\_\_ receptors on your tongue which detect spice, \_\_\_\_\_\_\_\_\_\_\_\_\_, and heat. You also have TRPV1 receptors all along your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tract. The more capsaicin a pepper has, the more TRPV1 it will activate, and the spicier the pepper will taste. The spiciness of peppers is measured using the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Scale using SHU (Scoville Heat Units). Bell Peppers have 0 SHUs; jalapenos have 800 SHUs; and the Moruga Scorpion pepper has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SHUs.

1. **What was the independent variable? How do you know?**
2. **What ‘versions’ of the independent variable did they try?** (Point form ok)
3. **What was the dependent variable? How do you know?**
4. **How did they ‘measure’ the dependent variable?**
5. **At 13:20, MatPat says this about the effectiveness of bread: “It’s not doing anything. It’s actually less effective than water, so I would say this is, like, D.”
Use this quote to explain why control groups are necessary in good scientific experiments.**
6. **How would you make this experiment better? Suggest at least two ways.**
* How to stay cool while eating hot wings by testing the best antidotes the internet has to offer?

Capsaicin, TRPV1, gastrointestinal, Scoville, 1.2million