**Student Worksheet: Technically tasty**

**Directions**: Read the online *Science News* article “[Squirty gels bring the taste of cake and coffee to virtual reality](https://www.sciencenews.org/article/squirty-gels-taste-virtual-reality-vr).” Then answer the following questions as directed by your teacher.

**Before Reading**

1. How would you define virtual reality? What purposes does it have or could you imagine it having?

2. List the 5 traditional senses. Consider how virtual-reality (VR) technology has expanded the sensory experience of video games. (Even if you have not experienced VR, consider how you have seen it portrayed.) Does modern VR technology create sensory experiences for all 5 senses or only some of them? Briefly explain your answer.

**During Reading**

1. What does the e-Taste system detect in foodstuffs that allows it to mimic flavors?

2. List the five basic tastes and the edible chemicals that are associated with them.

3. Explain how e-Taste provides a tasting experience for one of the 5 basic tastes.

4. The first stage of experimentation described in this story involves a sour taste. Write down a scientific question that this stage of experimentation worked to address.

5. What flavors did researchers seek to mimic in the second experimentation stage?

6. Write down a scientific question researchers worked to answer in the second experimentation stage. Summarize the findings of this experiment in one sentence.

7. How are our senses of taste and smell similar in the way they operate?

8. What are some next steps that researchers are planning to test using their VR-taste technology?

**After Reading**

1. Researchers found that some complex tastes were easier than others for their subjects to recognize. Give one example from the article of an easier-to-identify complex taste. Then, give one example of a taste that testers struggled to identify. Consider the extent to which our other senses — not just taste — allow us to identify certain foods. Why do you think some tastes were easier to identify and some were more of a challenge?

2. This article emphasizes the potential entertainment value of the e-Taste system. But what other applications of this technology does the story mention? Consider other ways this technology could provide benefits to people. Describe one potential application not mentioned in this story.