

Integrated Science

Mrs. Buswell

Ms. Skalak

A Medical Mystery

Place yourself in the role of a family doctor. Your practice is located in a small town in Virginia just outside of Shenandoah National Park. You begin noticing that a group of patients reports similar symptoms, which you are having difficulty diagnosing. Your patients are:

- **Andre**, a young boy who attends fifth grade at the local elementary school
- **Jessica**, a homemaker and mother of three children who moved to the town several years ago
- **Maria**, a college senior who has attended the local university since freshman year
- Rita, a retired grandmother and local resident who has lived in the town all of her life
- **Brian**, an electrician who has also lived in the town his entire life.
- **Marcus**, an attorney who was born in town and went away to school, but has returned to establish his law practice.

They describe their symptoms in the following way:

1. Psychological disturbances

Andre has angry fits and outbursts at school. Jessica describes her inability to sleep at night, even when she is exhausted. Maria complains of short term memory loss before her exams. Rita says she feels sleepy most of the day. Brian complains that he feels like a robot and does things automatically without really thinking. Marcus has been noticing that he suffers from low self esteem and loss of self-control.

2. Oral Cavity problems

All of the patients complain of the following symptoms: inflammation of the mouth, ulcerated gums and other areas in the mouth, loose teeth, darkening of gums, taste of metal, and bleeding of gums.

3. Digestive tract problems

Marcus and Rita have been experiencing cramps. Brian and Andre have suffered diarrhea. Jessica does not experience any of these symptoms.

4. Cardiovascular problems

Andre has been complaining of pressure in his chest. Maria and Marcus are both very active and exercise regularly. When monitoring their heart rate during workouts they notice their pulse seems very weak. Brian has been experiencing

chest pains, but has no history of heart disease in his family. Rita has been experiencing dizziness due to changes in her blood pressure.

5. **Respiratory problems**

All patients have been experiencing weakness and problems with breathing as well as persistent coughing

6. **Neurological Problems**

Jessica has been experiencing headaches and vertigo. So have Maria and Brian. Rita, Marcus and Andre have complains of tinnitus (ringing in their ears) and trembling in their eyelids and feet.

Describe and document your approach to this medical mystery. Include answers to the following questions:

1. What do you **ALREADY** know?
2. What do you **NEED** to know?
3. How can you find it out? (**RESOURCES**)

Work in groups of three for the next 30 minutes. When you are finished, you should have a summary of your answers (1 for the group) and be prepared to discuss your answers with the class.