



GOAL GETTERS CHALLENGE

ACADEMIC FOCI
GRADES 6–8 (MIDDLE SCHOOL)

Critical Reading



Passage 1: Sickle Cell Disease

Sickle cell disease is an inherited blood disorder that affects the shape of red blood cells. Healthy red blood cells are round and flexible, allowing them to move easily through blood vessels to carry oxygen throughout the body. In people with sickle cell disease, red blood cells can become stiff and curved, similar in shape to a farm tool called a sickle. These misshapen cells can block blood flow and break down more quickly than healthy cells, which can cause pain, fatigue, and other complications. Sickle cell disease is most common among people of African, Mediterranean, Middle Eastern, and South Asian descent.

1. What is the main idea of this passage?

1. Explain why misshapen red blood cells can cause pain in the body.

1. What does the word "inherited" mean in the context of this passage?

1. According to the passage, which populations are most commonly affected by sickle cell disease?

1. Why might curved red blood cells break down faster than healthy ones?



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Passage 2: How Diabetes Affects the Body

Diabetes occurs when the body has trouble regulating blood sugar, or glucose. Normally, a hormone called insulin helps move glucose from the blood into cells, where it's used for energy. In people with diabetes, this process doesn't work properly, causing glucose to build up in the bloodstream. Over time, unmanaged high blood sugar can damage blood vessels, nerves, and organs. Regular exercise, balanced meals, and medical checkups can help people manage diabetes and stay healthy.

1. What is the main idea of this passage?

2. What role does insulin normally play in the body?

3. What happens when the body doesn't manage glucose properly?

4. Name two ways people can help manage diabetes.



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Science & Math

Biochemistry

1. What is the job of hemoglobin in red blood cells?

2. Explain one way proteins are important to the human body.

Organic Chemistry

1. Organic chemistry studies molecules built around which element?

2. What is a functional group in an organic molecule?

3. Carbon atoms can form chains and rings. Why is this ability important for building complex molecules like medicines?

Solving Equations

1. A pharmacy technician prepares doses of medication. Each dose contains **5 mg**, and **a bottle contains a total of 150 mg**. Write and **solve an equation for x , the number of doses in the bottle**.



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Solving Equations

2. A patient's resting heart rate is **72 bpm**. After a check-up, it is recorded as **15% higher** during light activity. What is **the new heart rate**? Round to the nearest whole number.

3. Solve for **x**: **$4x + 12 = 60$** . (This models a clinic ordering **x** boxes of supplies at **\$4 each**, plus a **\$12 delivery fee**, for **a total of \$60**.)



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Goal Getter Challenge

Record a short video explaining one answer from the Critical Reading section and one from the Science & Math section. Use correct science and math vocabulary, and try to explain your thinking with confidence, relying on understanding rather than reading from notes.

The first two students with **the best submissions will earn Sugarfire x Jordan Walker swag.**

Submission deadline: August 28th.