



Human Body Systems

Virtual Learning

9-12th PLTW[®] HBS

PLTW[®] 5.1.3 Hurts So Good (Physiology of Pain)

May 8, 2020



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Lesson: May 8, 2020

Objective/Learning Target:

Students will be able to describe the physiology of pain in the human body including how and why the body feels pain. (*Reference: PLTW[®] 5.1.3 Hurts So Good*)



Let's Get Started/Warm Up Activities:

Before we start our lesson today, watch the following videos:

- [Pain Management: What Happens in the Brain When I Feel Pain?](#)
- [Why Some People Don't Feel Pain](#)



Lesson/Activity:

Watch this video:

[SciShow: Why We Have Pain, & How We Kill It](#)

Activity #1: On a piece of paper or in your notebook, take 6-8 good notes over the video. Focus your notes on the following topics:

- A. Why do we have pain? Include the biological and evolutionary reasons behind why we experience pain.
- B. How do we have pain? Make sure to discuss the biochemical and anatomical reasons behind the sensations of pain.
- C. How do pain relievers help the pain go away? Discuss how pain relievers biochemically help you not feel pain.



Lesson/Activity continued:

Watch this video:

[What are Endorphins and Enkephalins?](#)

Activity #2: On a piece of paper or in your notebook, answer the questions below.

- A. When does the body produce endorphins?
- B. How do endorphins work in your body?
- C. What are enkephalins?

Activity #3:

Endorphins alter the communication of pain in the body. Using the information from Activity #2, explain how you believe this mechanism happens in the body.



Lesson/Activity Answer(s):

Activity #1 Answer(s):

Click [HERE](#) to view answers.

Activity #2 Answer(s):

Click [HERE](#) to view answers.

Activity #3 Answer(s):

Click [HERE](#) to view answers.



Practice:

Watch this video: [How to Manage a Stubbed Toe](#)

Practice: Every person in their lifetime will likely feel the pain of stubbed toe. The video above has information on how to treat/manage a stubbed toe.

Now that you know why and how we have pain, explain in 3-5 sentences what occurs in your body to allow you to feel the pain sensation when you stub your toe. Make sure to include the nervous, muscular and other body systems in your response.



Practice Answer(s):

Practice:

Question(s): Now that you know why and how we have pain, explain in 3-5 sentences what occurs in your body to allow you to feel the pain sensation when you stub your toe.

Answer(s): Answers will vary. Click on the following links for information to include in your answer: [Link 1](#) and [Link 2](#).



Additional Practice and/or Resources:

Learn More:

[HBS Unit 5.1 Flashcards](#)

Test your knowledge of lessons 5.1.1-5.1.3 by clicking on the link above.

[The Science of Pain: Pain is Weird](#)

Pain science reveals a volatile, misleading sensation that is often more than just a symptom, and sometimes worse than whatever started it!

[What is Fibromyalgia?](#)

Fibromyalgia is a common and chronic syndrome that causes bodily pain. Fibromyalgia expert, Dr. Barbara Bruce, explains the disease and its symptoms.