

Cornell Guided Notes

Human Anatomy & Physiology (Human Body Systems) | 2027-03-16

Name

Period

Date

Lesson

Lesson focus

Drug effects on signaling

Key words and questions

Prepared details and student notes

Essential question
What is today's target?

Analyze your reaction-time data and explain how drugs alter neural signaling with a CER.
Big idea: Drugs alter reaction time by changing neurotransmitter availability or receptor sensitivity at synapses; your experimental data provides a baseline to reason from.

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- reflex
- reaction time
- stimulus
- response
- myelin
- receptor
- effector

My notes, examples, and questions

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Cornell Notes - Continued

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Must-know ideas

What should I understand by the end?

- Depressants (alcohol, antihistamines, opioids, benzodiazepines) slow synaptic transmission by enhancing inhibition or blocking excitation, increasing reaction time.
- Stimulants (caffeine, amphetamines) accelerate synaptic transmission by increasing excitatory neurotransmitter release or blocking reuptake, decreasing reaction time.
- A data-based CER about drug effects must use the observed distraction-condition pattern as the analogy: if distraction slowed reaction by X ms, a depressant would be expected to slow it further and in a similar way.

My notes, examples, and questions

Process notes

What happens during class?

- 0-8: Intro: how depressants and stimulants alter synaptic transmission
- 8-25: Build bar graph: baseline vs distraction average reaction time
- 25-45: PLTW online analysis: drugs and synaptic signaling
- 45-55: Describe observed trend and predict direction of drug effect
- 55-75: Write CER: depressant or stimulant effect on reaction time, mechanism at synapse
- 75-80: Submit labeled graph and CER

My notes, examples, and questions

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Steps and evidence What do I do and turn in?

- Graph your reaction times by condition.
- Describe how the distraction or a drug would shift the results.
- Complete the PLTW online analysis on drugs and synaptic signaling.
- Write a CER claiming how a depressant or stimulant would change reaction time, using your data pattern as evidence.
- Submit your labeled graph and signaling CER.

Evidence: CER - Bar graph of baseline vs distraction average reaction time (labeled, with units) plus a CER explaining how a depressant or stimulant would alter the pattern via synaptic mechanism.

My notes, examples, and questions

Checks for understanding How do I know I got it?

- You can graph and interpret reaction-time differences.
- You can explain drug effects on signaling with a CER.

My notes, examples, and questions

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Cornell Notes - Continued

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Lab or safety notes
What must I handle carefully?

Supplies:

- Reaction-time ruler or reaction timer app
- Reflex hammer
- Stopwatch or timing device
- Data table sheet
- Lab notebook
- Patient case clue cards

My notes, examples, and questions

Summary

Today's lesson focused on Drug effects on signaling. The main target was: Analyze your reaction-time data and explain how drugs alter neural signaling with a CER. The evidence of learning is CER: Bar graph of baseline vs distraction average reaction time (labeled, with units) plus a CER explaining how a depressant or stimulant would alter the pattern via synaptic mechanism.. In my own words, the most important idea from today is:

My summary

My final question or connection