Kade Sanders

From: Nate Dean [redacted]
Sent: Monday, February 6, 2023 3:46 PM
To: Andrea Baerwald
Subject: Re: Chat GPT

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Hi Andrea,

I've done some initial reading and exploring with Chat GPT, but I haven't done a deep dive on it yet. I'll have to look at it in more detail to see if my initial impressions are accurate.

I've read some articles and listened to some discussions with researchers in related fields who've raised major concerns about using Chat GPT for things like lesson planning or certain kinds of communication. From what I've heard (as a crowd-trained bot) it can be prone to factual errors or biases in its generated responses and even its creators have expressed concern that it's convincing enough that the problematic responses are often hard to spot. It also lacks common sense or knowledge of best-practices in context.

For lesson planning at least, it seems like an educator would need to have a pretty high level of both content and pedagogical knowledge to be capable of double checking everything Chat GPT generates for accuracy and appropriateness... In which case, I'm not sure that someone with that level of proficiency is really going to want or need its help with planning. The people who'd need the most help with planning are the ones who probably wouldn't catch any problematic stuff the bot generates.

I can see value in using it for time-consuming administrative tasks like responding to parent emails (as long as the teacher still went back over it and made adjustments as needed before sending). I could also see it being good for generating scenarios or prompts for students to read and analyze (as long as they're being checked with a fine toothed comb by a content expert). But I have some ethical/philosophical concerns with encouraging anyone to use it for things like letters of recommendation or student feedback, which are supposed to represent deeply individualized experiences and impressions.

I'll let you know what conclusion I come to after I dig into it more. That said, my gut-feeling is that it's a really awesome piece of tech that will undoubtedly change how many fields work--but it still needs some time to mature before I'd feel comfortable encouraging educators (especially novice ones) to use it for anything important. I really do appreciate you thinking of ways to connect more teachers with tech that can streamline their busywork though. The idea of using ChatGPT for education has been on my list of things I wanted to look into more deeply anyway, so I don't mind the excuse.

Best wishes,

Nate Dean, EdS
Idaho Science Coach
Regions 1 & 2 (Virtual) / Region 3 / Online
Cell: [redacted]

On Sun, Feb 5, 2023 at 6:49 PM Andrea Baerwald <abaerwald@sde.idaho.gov> wrote:

Have you played around with Chat GPT at all? This thing is AMAZING and can be used in so many ways for teachers. Writing letters to parents, writing letters of recommendations for students, and giving unit and lesson ideas, phenomena ideas etc. I've been playing around with it a little tonight. You would still need to know what the standard is really asking of you and what is truly meant by phenomena and how to use it but this could be totally cool as a jumping off point. It might be cool to do this as a virtual PLC one month to show teachers how to use it to make their lives easier.
create a unit for Evaluate models that demonstrate how changes in an environment may result in the evolution of a population of a given species; the emergence of new species over generations; or the extinction of other species due to the processes of genetic drift, gene flow, mutation, and natural selection.

Here's a possible outline for a unit on evolution:

I. Introduction to Evolution A. Definition of Evolution B. Mechanisms of Evolution: Genetic Drift, Gene Flow, Mutation, and Natural Selection C. Importance of Evolution in Understanding Biology

II. Changes in the Environment and Evolution A. Environmental Changes and their Impacts on Populations B. Example: Galapagos Finch Beak Evolution C. Importance of Adaptation in Surviving Environmental Changes

III. Emergence of New Species A. Definition of a Species B. Mechanisms of Speciation: Allopatric, Sympatric, and Parapatric C. Example: Darwin's Finches in the Galapagos Islands

IV. Extinction of Species A. Causes of Extinction: Natural and Human-Induced B. Historical Extinctions: Dinosaurs, Passenger Pigeons, etc. C. Current Extinction Crisis and Conservation Efforts

V. Conclusion A. Summary of Key Points B. Importance of Evolution in Biology and Society C. Encouragement to Explore Further

Note: This is a general outline and can be modified as per the curriculum and grade level.

Emphasis is on determining cause and effect relationships for how changes to the environment such as drought, flood, fire, deforestation, overfishing, application of fertilizers and pesticides, and the rate of change of the environment affect the distribution or disappearance of traits in species.

Here's a revised outline to reflect the emphasis on cause and effect relationships:

I. Introduction to Evolution A. Definition of Evolution B. Mechanisms of Evolution: Genetic Drift, Gene Flow, Mutation, and Natural Selection C. Importance of Evolution in Understanding Biology

II. Changes in the Environment and Evolution A. Environmental Changes and their Impacts on Populations B. Determining Cause and Effect Relationships: Drought, Flood, Fire, Deforestation, Overfishing, Application of Fertilizers and Pesticides, and Rate of Change of the Environment C. Example: Galapagos Finch Beak Evolution and its Relationship to Changes in the Environment D. Importance of Adaptation in Surviving Environmental Changes

III. Emergence of New Species A. Definition of a Species B. Mechanisms of Speciation: Allopatric, Sympatric, and Parapatric C. Example: Darwin's Finches in

network error

the Galapagos Islands and the Influence of Environmental Changes D. Importance of Environmental Changes in the Emergence of New Species

IV. Extinction of Species A. Causes of Extinction: Natural and Human-Induced B. Historical Extinctions: Dinosaurs, Passenger Pigeons, etc. and their Relationship to Environmental Changes C. Current Extinction Crisis and its Relationship to Human Activities and Environmental Changes D. Importance of Understanding the Cause and Effect Relationships in Species Extinction and Conservation Efforts

V. Conclusion A. Summary of Key Points B. Importance of Evolution in Biology and Society C. Encouragement to Explore Further and Connect the Dots between Environmental Changes, Evolution, and Extinction

Note: This is a general outline and can be modified as per the curriculum and grade level.

This is for a high school class

Here's a revised outline tailored for a high school class:

I. Introduction to Evolution A. Definition of Evolution B. Mechanisms of Evolution: Genetic Drift, Gene Flow, Mutation, and Natural Selection C. Importance of Evolution in Understanding Biology

II. Changes in the Environment and Evolution A. Environmental Changes and their Impacts on Populations B. Determining Cause and Effect Relationships: Drought, Flood, Fire, Deforestation, Overfishing, Application of Fertilizers and Pesticides, and Rate of Change of the Environment C. Importance of Adaptation in Surviving Environmental Changes D. In-Class Activity: Analyze Real-World Examples of Environmental Changes and their Effects on Populations of Species

III. Emergence of New Species A. Definition of a Species B. Mechanisms of Speciation: Allopatric, Sympatric, and Parapatric C. Importance of Environmental Changes in the Emergence of New Species D. Group Activity: Investigate and Present a Real-World Example of a New Species Emergence

IV. Extinction of Species A. Causes of Extinction: Natural and Human-Induced B. Historical Extinctions: Dinosaurs, Passenger Pigeons, etc. and their Relationship to Environmental Changes C. Current Extinction Crisis and its Relationship to Human Activities and Environmental Changes D. Importance of Understanding the Cause and Effect Relationships in Species Extinction and Conservation Efforts E. Research Project: Investigate a Species Threatened with Extinction and Develop a Conservation Plan

V. Conclusion A. Summary of Key Points B. Importance of Evolution in Biology and Society C. Encouragement to Explore Further and Connect the Dots between Environmental Changes, Evolution, and Extinction D. Reflection on the Importance of Studying Evolution and its Connections to Environmental Science and Conservation Biology.

Note: This is a general outline and can be modified as per the curriculum, grade level, and classroom setting.

what would be a good anchoring phenomena for this unit?

An anchoring phenomena refers to a real-world context or phenomenon that can be used to engage students in exploring and explaining scientific concepts. For the unit on Evaluating Models that demonstrate how changes in the environment may result in evolution, the emergence of new species, or the extinction of species, a good anchoring phenomena could be:

1. Darwin's Finches in the Galapagos Islands: This iconic example showcases how changes in the environment can lead to the evolution of new species over time through the mechanisms of natural selection, genetic drift, gene flow, and mutation.
2. Peppered Moths and Industrial Pollution: This is a classic example of natural selection in action as the coloration of peppered moths changed in response to increased levels of industrial pollution.
3. The Panda's Thumb and the Evolution of Tools: This example showcases the evolution of adaptations and their relationship to environmental changes. Students can explore how species have evolved to use tools in different environments to improve their chances of survival.
4. The Koala and Eucalyptus: This example highlights the interdependent relationship between species and their environments and how changes in the environment can lead to the extinction of one species while promoting the survival of another.

These anchoring phenomena provide real-world examples of how changes in the environment can lead to evolution, the emergence of new species, or the extinction of species and can be used to engage students in exploring and explaining these complex scientific concepts.

Andrea Baerwald
Science and ISAS Coordinator - Content & Curriculum
Idaho State Department of Education
208-332-6890 - abaerwald@sde.idaho.gov

"Supporting Schools and Students to Achieve"

Notice: The information contained in this e-mail from the Idaho Department of Education may be privileged, confidential, or otherwise protected from disclosure. Persons who share such information with unauthorized individuals may face penalties under state and federal law. If you are not the intended recipient, please be aware that any disclosure, copying, distribution, or use of the contents of this information is prohibited. If you have received this electronic transmission in error, please immediately notify the sender and delete the copy you received.