

Supporting Caretakers 8th Grade Science

Kate Adams NCAI



Deep Hope:

My Deep Hope is that we are filled with curiosity as we investigate God's world and are inspired to become caretakers of creation.



Long Term Learning Targets:

I can...investigate ways we can use science to bring Restoration to people suffering from genetic disorders

o I can... step out and provide support for someone caring for an individual with special needs.



Curricular Outcomes:

NGSS MS LS3-1 Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism



Habit(s) of Learning:

Curious Thinking - did a QFT to develop questions to investigate during the unit

Gracious Communicating - asked questions and LISTENED to someone who is a caretaker for someone with special needs (empathize, valued)



See God's Story:

Creation	Fall	Redemption	Restoration
perfect - meiosis, DNA replication,	Nondisjunction occurs, DNA mutates, proteins aren't made properly and people suffer.	Jesus is the healer; God is the great physician	Science can be used to help treat people with disease (cystic fibrosis) WE can value all people as Image Reflectors, support those who continually provide support to others (Community Building)



Storyline:

WE ARE Curious Caretakers

Through this FLEx students were able to curiously learn more about genetics and reach out and be a caretaker...for a caretaker!





Throughlines:

Order Discoverers

- Students learn the details of meiosis, DNA replication, and Protein synthesis.

Image Reflectors

- We value all people as made in God's image, even those with special needs (Down Syndrome) or sickness (Cystic Fibrosis)

Community Builders

 Students plan a respite day, and sit and listen to people who are caretakers



Formational Learning Experience:

Real needs: rest, relationships, empathy, support, care, feeling seen

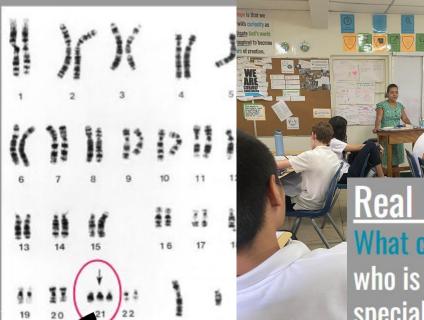
Real people: parents of individuals with special needs

Real work: ask questions, listen empathetically, provide respite, prayer, and food for caretakers





What does it look like to be a caretaker to someone born with an extra chromosome 21?



Real People / Real Needs

What could we do to support someone who is a caretaker for an individual with special needs (like Down's Syndrome?)

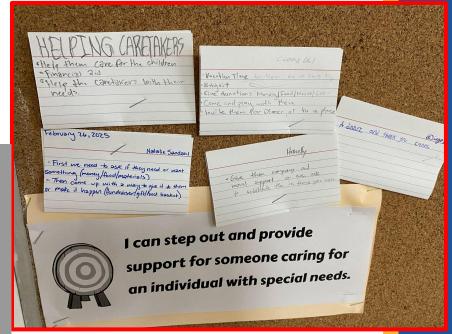
INVITE



Reflection:

 In what ways can caretaking be fulfilling / rewarding / growing?

 Does it sound like caretaking is easy or hard? Why?





NURTURE

Students learned about the cause of Down Syndrome through studying meiosis and reproduction and the cause of Cystic Fibrosis by studying protein synthesis

Students shared stories of their experiences of people with Down Syndrome

Students applied this to other situations & people (transfer task)

Students reflected on what they used to think about illness/disability and what they now know



EMPOWER

- Students sent emails to adults who could come speak
- Students provided ideas of what we could do and where we could go
- Students each had different jobs/roles to fulfill

- Organize / run a drive (raise \$) for supplies
 - a) Team Leader: Paulina and Jose Raul
 - Lucas, Zech, Caleb (Kristen, David, Natalie, Vivian, Sabina)
- 2) Listening to people tell their stories
 - a) Team Leader: Cristiana
 - i) Kristen, Larry, David, Natalie, (Lucas, JR)
- 3) Setup / Clean up for food and activities
 - a) Team Leader: Diego
 - i) Yisak, Danielle, Lily
- 4) Serve Food
 - a) Team Leader: Vivian and Hanelly
 - i) Emely, Sabina

The Roles

- 5) Provide Respite (activities with kids)
 - a) <u>Team Leader</u>: Belen and Janieth
 - i) Noel, Hassan, Mariapaula (Zech)
- 6) Other:
 - a) Paulina and Caleb Pray + Notes
 - b) Jaxsen Floater

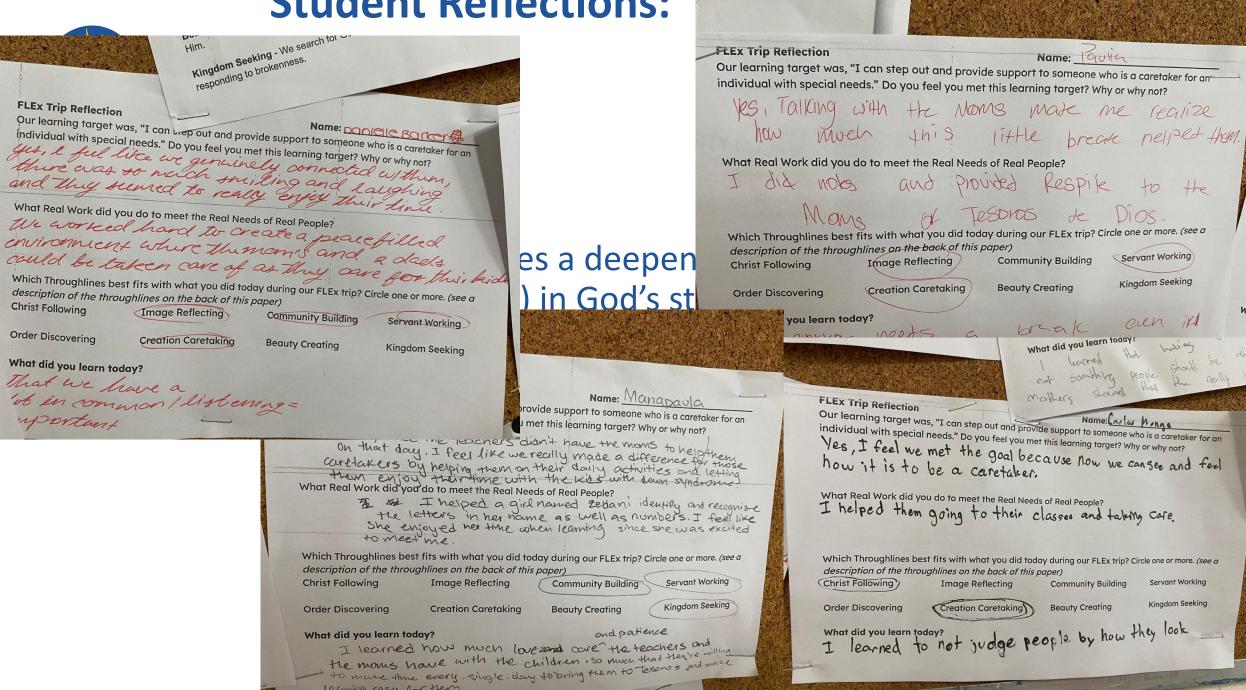
Preparations

Brainstorm!

- WHAT will you do?
- WHO will be responsible for things?
- WHEN will you do it?
- HOW will it be helpful, encouraging, and effective?
- What RESEARCH/RESOURCES do you need?
- What QUESTIONS do you need answered?

Student Reflections:

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Teacher Reflections:

Students were definitely motivated to learn about meiosis with the introductory activity with the karyotype. They did a great job with the science, and also an amazing job planning the FLEx. I had team leaders, we raised the money, and the day went smoothly. Students really stepped up to the plate and did well!



Additional Information to tell the story:

- Sent thank you cards to visitors
- I have found that assigning 'team leaders' for various aspects of the FLEx to help plan has been really helpful for my students.
- We got asked back to do it a second time with different people!

