

# SYSTEMS THINKERS IN STEM

## A CONVERSATION WITH:



Which systems thinking skills do you use?

- #: RHUWH:RHD3DUW
- HDUSSRUWHERUWWHUP
- HUHHRRURURSD
- RHDRSSRUWWWRHHDHWH
- DHHDEWHUDSSUHDWR
- RHHHDWUHHDHWRWHU
- IHHDUWRHSHHRI
- HTSPHWWHDERUHDD
- DWHSUSDEHWPE
- RHHWURH
- HSHUHHDWRWIUDHWH
- RWUEWRWURR
- #: HWI5HDWRS
- RWHRRHHPD
- RHUDSSWHDDUHDEWWDR
- DDURHHUWRDD
- HWDHDIHWPDDSHW
- RIRHWWWDHPDIHUHW
- WRHHRSHPHHWHUDSH
- RUHHRPSPDH
- SHRSHWHHEDURWR
- RUPDUHRUHD
- PDUHWUHDWRUDI
- HSDUWPHWWDRPSRUWDWWDW
- ERWHRDPHDDH
- WDHHDWRHURD
- RUPWRRHUWRH
- DDHWHRHRHWD
- RDUHDPSRUWDSDUWRI
- DDHHDHWD
- DHSWDEHDPDHU

#15: Respond to Changes Over Time  
Science research and education involve constant evaluation of data and feedback which informs improvements in approaches greater relevance. We introduce new camp themes as new topics become relevant and new activities as new equipment and reagents become available. We monitor the level of science and lab experience of students and adjust our instructions and materials to match the student abilities and provide individual paired and group learning as appropriate for each unique group of students.

What is your role within the STEM community?

RUDHDWHDDWERWHPPHUDPISIRURRHHWWDUHHDW

RUHHRPPWRHHUHUWDPSSRRUIWRPWHRUSRUDWHERWHRPPW

ERWHRPSDHDUHUWDPSSRRUIWRPWHRUSRUDWHERWHRPPW

SURPRWHHHDWREMDWHHIDU  DSUHHW  DWRURS

DPDWHHHHDWWDHSDWHURIRDWRIRU:RPHHH

- What complex problem do you address in your work?  
HRURDUHHWHEHRIHHWHUDHSDWHHW
- SURHDHIIHWRPPDWHHWRHWW:HWUSUHSUUIRU
- DPSRUHHRSRURSPDRRHHWHDHDERWHHWURH
- WHPWRWHHWISURHHDHWDHWPWRWUEWHWRWUHRDWR
- DDUHDRIHEDIRUPDWRHRHUHUUHWUHDRI
- UHHDUDDHWDWDPDHHHWDUHHDWWRDWHWDDW
- PSRUWDWHRUDHHWWWREHRPHURHPRHEDUWHUHDWR
- DDUHHUSDWVWHDWDRPPDWHHPPRUHWD
- SUHHWIDWVWHWHDHUTHWRDDUWHSHDUH
- DHWHPHWRIHURDWR

- What elements do you need to consider when addressing this problem?  
HUWDWHWHHEDURDEHSHUHHDHRSUHRH
- DUHHUPSRUWDWIRUHRSDPSSURUDPRUSRUDWVWHDWHWWHD
- DHDUWUDWHHUUHWDRTUEDHHRDSUPDU
- RD:HSDPSWHPHWWDUHWHDHDSRUIHWRH
- 2UDDHHDURPHWRHURDWR  RUHHWDHDDHWWD
- IHHEDWRPWVWHDHWRDMWRUWHWHDWVHRRRWHW
- WURVHWWRHHWWHUHUHHDWRSDDUHUHU
- PSRUWDWVRRWDWHDWRDRSHRURWRPDRSSRUWWHD
- DUHHUEHRWHWHUHRWVDEWHDWDDSSUHDWHRHHD
- RWUEWHWRHHRPHUSURWDWVWHDWVWHDWVWHDWVWHDWVWHDW
- DVHHWISURHUURUPDWRHRURSRSHWREWHU
- RHHHRDUWDH

- How did you get where you are today?  
SUHWHDUHHUSDWDEHHDWHUUI:BRIDPDSHRSHWHUHW
- HUHDUWHDDRWRHUUHHHPWRP2UHR
- WDVHUUWR:WUWRD3HHWWRPW
- RUHURUHDWHERVWUDWVWVSHUHRSPHWRPSDH
- HDVWHDUHHUWRPHUWRPEHHWWRRPSDUHWURPHDW
- RHPVHEDUHDWRUHRDRHUHH
- WUHSUHHUUHDUHDWIRDWRIRUPIVWRHHDWR
- D3URUDPDDHUURUHH2WUHDW:5IRUHHUHUHWDP
- 3URUDPRUDWRUIRU3522DWRUHRPPWRH

- What advice do you have for becoming a systems thinker?  
As scientists we find ourselves becoming specialists in very narrow fields of science but you can't forget the context of your work. You need to continually remind yourself of the big picture so your work and interests fit into the larger fields of science and society. Consciously look for the causes and effects of your work. Look for applications of your interests in many areas including fields that are not usually associated with it.