

Project SPECTRA!

Group work

Stations

Area 1: Engineering

- Station 1
 - ★ Building a Fancy Spectrograph
 - ★ A spectral mystery
- Station 2
 - ★ Engineering MS
- Station 3
 - ★ Engineering HS



Area 2: Computer Interactives

- Station 4
 - ★ Goldilocks and the 3 Planets
- Station 5
 - ★ Features of the Sun
- Station 6
 - ★ Using Spectral Data: Saturn and Titan

Engineering

- What could this be used for?
- What are the limitations of my design?
- What is the design process?
- How could I improve my design?
- How do we gain information about objects in space?
- What is the difference between a space based and ground based missions? Advantages to each?

Computer interactives

- How do we gain information about objects in space?
- What types of tools and measurements are necessary?
- How do we make inferences when looking at data?
- What are the limitations of data collection?
- What are the limitations of the tools used?

What to do

- Assign a “teacher” in your group
- Assign a recorder of ideas
- Do activity and focus on essential questions
- Create a poster/presentation of your findings
 - Synopsis
 - What was good/bad about activity
 - Modifications for classroom?
 - Ties to scientific thinking?
 - Modifications to improve scientific thinking?

Poster/ presentations

- Assign 2 people to stand at poster
- Other 2 will peruse other posters
- Switch off with poster duty one time
- Do not take more than 20 minutes to go around the room
 - I will tell you when 20 minutes have passed



Today's Challenge SOH CAH TOA

The Grating equation:
 $\sin \theta = n\lambda / d$

In this case, $n = 1$

$d =$ distance between "grooves"
 1000 grooves per 1mm
 $d = 1\text{mm} / 1000$

Solve for θ .

$\tan \theta = x / a$

Solve for x .
