Skynet Junior Scholars Professional Development Workshop Schedule

The SJS PD schedule shows the relevant Technological Pedagogical Content Knowledge (TPACK) elements of the various activities (TK = Technological Knowledge, CK = Content Knowledge, PK = Pedagogical Knowledge).

Activities	TPACK element
1. Welcome and Introductions	
• Discussion Forum: Welcome and Introductions	
• Respond to video with Neil deGrasse Tyson: What do you see when you look up?	
• Exploration: *First Light*	TK
• Go over workshop structure	
• Discuss *First Light Exploration (Skynet Live, Use multiple telescopes, Check Collaboration Observations, Imaging the Moon resource, Planet guidelines)*	TK, CK
• Activity: *Sizing Up the Moon (relate to how big is your image)*	CK
• Putting images into the Gallery	TK
• Earning your "Become a Skynet Junior Scholar" Badge	PK
• Weekly Survey	
2. Exploring the Skynet Telescope Website	
• Exploration: *Skynet Scavenger Hunt*	TK, CK
• Read article: *A Quest To Improve: Helping students learn how to pose investigable questions*. Science & Children, December 2010	PK
• Processing images using Afterglow (Histogram, Display tools, Align, Photometry)	TK, CK
• Activity: *Field of View*	CK
• Activity: *How Telescopes Focus Light*	CK
• Questions about Scavenger Hunt	TK, PK
• Introduce group project	
• Weekly survey (includes questions related to group project: topics of interest & availability for group check-ins)	
3. Exposure Time	
• Investigable Question Discussion (on the Forum)	PK
• Exploration: *Investigate Exposure Time*	TK, CK
• Begin group project (groups assigned at start of week)	TPACK
• Exploration: *Design Your Own Investigation*	TPACK
• Activity: *Pocket Solar System*	CK
• Questions about Exposure Time, relate time to aperture size	CK
• Check in on group project	TPACK
• Weekly Survey	
4. Filters	
• Exploration: *Investigate Filters*	
• Activity: *Fun with Filters*	CK
• Introduce mentor scientists: *Astronomer Guest Chat about Filters*	PK, CK
• Activity: *EM Spectrum War*	CK
• Introduce assignment for managing groups	PK, TK
• Leader roles and responsibilities	
▪ Permissions: account and research	

▪ Creating accounts • only code names, no name.name accounts for youth • passwords 8 characters or more ▪ Youth Pre-Survey Research ▪ Giving Time ▪ Introducing Explorations and Badge Checklist • Weekly Survey	
5. Guiding your youth through Skynet projects • Leader roles & responsibilities - assignment to get practice managing groups • Tips / techniques for working with youth • Have you earned your Become a Skynet Junior Scholar badge? • Checking the checklist for Leaders • Activity: *The Cosmos in Perspective* • Introduce Comets to Cosmology, Asteroids • Review roles & responsibilities, and working with youth ▪ Encouraging forum posts ▪ Checking student work - youth earning badges. ▪ Program Conclusions - post research survey for youth • Deactivating accounts • Youth who want to continue on their own ▪ Email astrosjs.staff that program is over so telescope time can be retrieved • Weekly Survey • Retrospective Leader Research Survey	PK, TK PK TK, CK CK CK PK, TK
6. Wrap-up • Overview of checklist / guide for using SJS • Webinar: presentation of group projects • Awarding Leader Badges! • Weekly Survey	TPACK