

Turn Off the Lights!

Scientific Detectives Cross Examine Light Pollution

Student Information Page 5A



Background:

Light pollution, which refers to the over illumination of the night sky caused by artificial light, is a world-wide epidemic with far reaching consequences. Astronomers at the forefront of this issue express concern over the rapidly disappearing night sky, but warn that the effects are more widespread than a few missing stars. It is reported that the U.S. alone wastes billions of dollars annually in energy costs illuminating the night sky. Light pollution is also reeking havoc on many wildlife species that rely on natural cycles of light and darkness for migration and mating patterns. Further investigations into this problem have also begun to draw strong correlations between nighttime lighting and certain forms of cancer.

Being a Scientific Detective:

In this activity, you will become a scientific detective, learning as much as you can about the suspect—light pollution. What causes light pollution? What organisms or activities are affected, both positively and negatively, by light pollution? Start with the Activity Resources supplied at the end of this section.



As a thorough science detective, you need to understand light pollution as best you can before you can investigate the “incident”. What incident? Well, that is up to you! As you learn more about light pollution through your research, you will discover issues that interest you. Perhaps it will be the impact light pollution has on plants, or animals, or astronomers, or circadian rhythms! Once you have identified an incident, share it with your shift officer (your teacher), who will need to approve your investigation. Your shift officer can also provide you with helpful suggestions as you start your investigation.

Use the tools provided to help you keep track of your research. In your own words, summarize your discoveries and look for connections that can link the suspect to the investigation. After you have completed your research, the shift officer will pair you up with a partner. Together, you will need to present your findings to your peers. Be creative and accurate with your presentation. Your peers are also scientific detectives and will certainly ask questions! Good luck!



Activity Resources:

http://www.harcourtschool.com/newsbreak/night_sky.html

http://www.sciencenetlinks.com/sci_update.cfm?DocID=170

<http://darksky.org>

<http://www.starrynightlights.com/>

<http://www.pha.jhu.edu/~atolea/second/page1.html>

<http://news.nationalgeographic.com/news/pf/42741575.html>

<http://laps.noaa.gov/albers/slides/ast/places.html>

http://science.nasa.gov/headlines/y2001/ast01nov_1.htm

<http://www.lightfromabove.org/>

http://www.ctio.noao.edu/light_pollution/iau50/LP_working_group.htm



LESSON 5
ACTIVITY 5A

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Date: _____

Detective: _____

Source Information: _____

Summary: _____



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Relationship to Incident being Investigated:

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Date: _____

Detective: _____

Source Information: _____

Summary: _____



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Relationship to Incident being Investigated:

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Incident: _____ Partners: _____ & _____

Due Date: _____ Presentation Format: _____

Task	Responsible Detective
	