



Dark Skies Rangers Student Symposium

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Symposium originally referred to a drinking party (the Greek verb *sympotein* means "to drink together") but has since come to refer to any **academic conference**, or a style of university class characterized by an openly discursive format, rather than a lecture and question–answer format.

GOAL: Students will plan, conduct and film a Symposium to educate and inform others on artificial light pollution (LP), its existence and the dangers it can pose to the local economy, the professional and semi- professional workforce, wildlife and the effects it can have on the community in general. They will also put forth possible solutions and ways to mitigate the consequences this has in a “doable framework”. Each student will be responsible for conducting their own research, presenting the information and engage in ways to distribute this information to their community using the internet.

Objective: Students will

- Use appropriate resources to research on a topic
- Present information in a logical, scientific and understandable way
- Design graphics that will truthfully represent their information
- Use credible evidence to support their talk/findings
- Communicate information using polished presentation skills
- Employ the use of technology to inform others.

Grade Range: MS and HS

Time : 1 day -intro,
3 to 5 days research,
1 day- practice,
1 class session for taping symposium

STANDARDS:

Middle School: (7th / 8th Grade)

Strand 1 Concept 4 PO 1,3,5

Strand 2 Concept 2 PO 1,2,3-

Strand 3 Concept 2 PO 1,2,4-

High School:

Strand 1 Concept 4 PO 1,2,3,4

Strand 2 Concept 1 PO 1,3- Concept 2 PO 1

Strand 3 Concept 1 PO 1,5- Concept 2 PO 3

Materials: Computer access, flip camera or video camera. (Most kids have these!)

Cautionary note:

YOU AS TEACHER DO NOT HAVE TO KNOW HOW TO DO ALL THESE THINGS...THE STUDENTS WILL KNOW OR FIND OUT AS THEY GO! DO NOT STOP YOURSELF- THIS IS A LEARNING EXPERIENCE FOR EVERYBODY.

This activity is not a debate. It is designed as an information session designed to gather information and inform an audience who has little to no knowledge on the incidence and effects of light pollution. Students are responsible for being local “experts” and delivering information that will hopefully change behavior. They will be assessed using a rubric given to them before they begin the activity. They will also be given role cards designating their responsibilities and what group(s) they are participating in.

Activity:

HOOK:

Teacher will show 2 to 3 chosen takes from You Tube or Teacher Tube to class of other students presenting finding their research. They will then engage their classes in a discussion asking students –“Do you think we can do the same thing? You have been studyingwhy not inform others what you have found out...?”

Integration: Technology- use of recorders and production.

LA- written presentations. Science- local environmental issues. Soc St- history of local community, maps. Communication- presentation skills, graphics. Math- graphs, demographics, change over time.

TITLE: Symposium on the Effects of Artificial Light on Our (Local) Environment

Activity:

This is meant to be an activity involving the entire class. There will be numerous ways to involve students within the 3(?) main teams

Part1

Information team Every student will be involved with researching and graded separately.

Part 2

Production team, Students will choose which team they want to join and be

Presentation team. graded with different rubrics.

Introduction of activity:

1. Show Teacher tube (You-Tube) selections to entire class and involve class in discussion on how they envision creating such an info video.

2. In table groups, 4 students (with a “recorder’ and “reporter”) have students generate ideas on following prompts involved in creating a video. Possible prompts....

- Who would be the intended audience?

- What info do you consider important for other to know/understand?
- What would you like to see happen (if anything) as a result of others gaining this information?
- How long (time wise) would people be willing to take to learn what you have to tell them?
- What are some ways you could use to deliver your info?

Have “reporters” inform entire class of their group’s ideas. Find any commonalities/outstanding ideas and have class come to consensus on possibilities.

3. Brainstorm and then prioritize content of the video.

Group students and have them individually fill out prompt sheet then have the group merge all ideas and prioritize. Share with the class and come to a consensus.

(Each class’s emphasis might be different and that’s OK. Be willing to accept this plus it probably will change-evolve during the activity. This is a starting point.

4. The above 2 group discussions could be done in 1 class period. Do not get bogged down here, keep the activities going at a fairly quick pace (set time limits). The students will be expanding these ideas in their Research teams. Explain to them they have created a brief outline on which to refer to if (and when) they complain if they need more time. What this is is really practice and review. You also want them to become excited about producing an informational video.

Part 1 - Overview/ Information gathering

The class will be producing videos educating the public on the existence and/or prevalence of LP in the community. To do this in a realistic way different members of the community have to be consulted to see if they perceive LP as a problem and if so how big of a problem it is. Each student will be picking out a **role card**. They are to interview this community person and represent them in subsequent activities.

This “interview” can be done very informally, on the phone at school etc. You might have to discuss ideas on how to approach people, ways to record thoughts etc. (Hint: you may want to color code these cards and laminate them so they can be used multiple times. There will be two cards for each role (at least) and it will be easier (and quieter) for students to find each other by color. Hand out *Information Team Rubric* and review it with students so they understand how they will be assessed and their responsibilities. Ideally the interview would be a weekend HW activity but doesn’t have to be.

5. **Information team**

Teacher randomly distributes role cards—one each to each student. These cards designate a specific role that represents a community member. Students meet with others having the same role. This is referred to as their **Information team** and will not change. On the back of the card will be prompts to focus their discussion around. They are given a time limit to discuss concerns surrounding artificial lighting. This part is also in place to involve students with community members. It is hoped that they will be directly getting info from these sources either by phone or talking with them directly.

Each group's responsibility is to come up with five questions they will ask their community member concerning how they depend on artificial light, how their job is affected by such light and if they are concerned with the amount of light (too much/ too little/sufficient) that is available to them at night. Circulate and question the depth and breath of the questions they are coming up with.

Possible ROLES: (Can be added to/deleted as needed) *Attachment provided*

- *Homeowner in a residential neighborhood in a high crime area
- *Homeowner in a residential neighborhood in a low crime rent area
- *Rural area homeowner
- *Retail storeowner
- *Fire fighter
- *Parks and Rec. coordinator
- *Policeperson
- * **Community activist
- *(This person will be on the panel and represent the Communities concerns- all the above un-highlighted will be combined into a single person)

- **Astronomer
- **Wildlife biologist
- **City council member
- **Inventor/lighting technician/ engineer
- ** Electric Company (TEP) liaison

**All the above highlighted will be on the presentation panel

Prompts on * cards;

- Is the artificial lighting in the neighborhood you are connected with adequate for you to feel safe/ conduct your duties?
- Draw the typical light fixtures (city provided and residential/commercial) used now.
- What are your suggestions to improve the existing situation?

Prompts on ** cards;

- How is artificial night lighting a problem or perceived problem for your group /community?
- What could possibly be done to help lessen this problem?
- How would this possibly help you do your job in a better way?

.....

Class comes together in role groups (community activist in 1 large group) to organize information they collected. On large paper they prioritize their thoughts and concerns. Information is shared and thoughts are discussed. This is the bridge to Part 2. Students have outlined the concerns and needs. Now it is time to develop a video to inform and address all aspects surrounding the issue of LP and propose some actions.

Part 2 Overview--Conducting and filming the Symposium

Class is divided into numerous (depending on student numbers) groups of Presentation (6 students) and Production (4 students) Teams. (Numbers are a suggestion) Students are given rubrics and review them so they understand their responsibilities before they are asked to sign up for a role. Members of the Presentation **Team** will practice their roles while members of the **Production Team** organize how, when and where they will be filming.

6. Ask students to sign up for a specific role in a group that consists of a Presentation team (6 students) and a Production team (4 students). There will be a several groups depending on size of class. Teachers can add or delete roles and adjust team size so every student will have an important contribution to make. Grade here for participation.

Important: Make signs for each student that they will wear so you as well as others know what their role is. A suggestion is to color code these for each group.

Presentation Team

- Astronomer
- Wildlife Biologist
- Electric Company (TEP) liaison
- Inventor/lighting engineer
- Community Activist
- City Council Member

Production Team

- Camera person
- Director (directs production of symposium)
- Editor-downloads and edits production, up loads to teacher tube (with teacher assistance).
- Moderator- Intros Symposium and all presenters. Conclude segment and develops credits to be entered on screen.

Classes will have more than 1 group filming at a time so arrangements will have to be made for groups to film in other rooms. All students who have the same role but are in different groups can meet through out this part to help one another. In fact, that would be preferable to a student working alone.

7. Separate classroom into Group areas. Have each group meet with their two teams and develop a 3 to 4 day schedule with specific tasks each person is responsible for. The presenters will have 3 to 4 mins. to give their talk. This outline has to be handed into teacher and approved BEFORE any Home group member can leave their group area to meet with any other person from another group.

Student responsibilities on **Presentation** team'

- Meet with team so all know what their general roll is and the overall GOAL of educating those who are not as knowledgeable of issues surrounding LP.
- Create a polished presentation of the issues their role entails
- How does the problem affect others as well as them?
- Propose possible solutions that will help everyone in the future.

Student's responsibilities on **Production team**;

- Meet and work out how the team will work together
- Devise a production schedule that the presenters will have to follow.
- Come up with a seating arrangement, how will graphics be displayed while filming?
- Time frame for each and signals etc.

8. Once a group has their outline reviewed by the teacher, each team member has 2 to 3 days to complete their written task. Each presenter will write up their talk with an accompanying graphic they will be using to highlight their talk. Each production member will write up their schedule/plan or be coming proficient with the camera and downloading procedures.

All videos will be presented to the classes and the most polished (could be more than 1) will be put "on-line" at Teacher Tube/U-tube site. (Other possibilities discussed.)

9. Students will have 2 to 3 days to assemble their presentation, which includes one day to practice and one day to film. The schedule will be posted when each group's sheets have been OK'd by the teacher.

10. Filming day will be one class period. The following day the class will review the presentations and select the one from their class that is the most factual, well presented and filmed. All classes will screen the best from each class and make decision for downloading.

Assessment:

Rubrics*

2 rubrics; one on Information gathering and one for either Presentation or Production will assess each student.

*Rubrics are attached or can be generated at RUBISTAR