Nine Steps to Better Connections with Parents

Scott Reed, NBCT
Physics Teacher at Niles North High School

Teachers can encourage students and their families to have ongoing conversations that foster academic and skill-building experiences at home.

The following is a list of nine parent-centered strategies (followed by accompanying Attachments) that I have been using and improving for the past years to better establish connections between parents, students, and myself. This list of nine was inspired by my National Board process, and these strategies have become an integral component of my school year ever since (see the standards at http://www.nbpts.org/userfiles/File/aya_science_standards.pdf , specifically standard XII for my source of inspiration). These strategies are used with my junior/senior physics classrooms at all academic levels. Generally my students' parents are interested in becoming involved in their child's academic lives when invited, and the parents monitor the progress of their children regularly using a web-based grade book system.

Please note that I do not believe that this is the set formula for connecting with parents; instead, it is what has worked very well in my classroom. In fact, the strategies are continually being reconsidered, refreshed, and renewed every year. In sharing this resource, I hope that you might find at least one additional strategy that can be used in your classroom, or hopefully you might at least be able to tweak something that you already do so that you can strengthen your relationships with your students and their parents.

1. Survey at beginning of year (Attachment – Parent Information Card)

The parent survey is handed out the first day of the school year and is collected by the third day of school. During the first week of school, I assign very little homework which gives me the time to read each parent survey along with the corresponding student survey on five consecutive nights. This rereading of the students' and parents' responses helps me to better remember and apply what was shared.

The parent survey (used in conjunction with a student survey) empowers me to better understand the specific needs and strengths of my students. The perspective of the parents is very valuable, especially with regards to discerning the goals of the parents for their children and the accommodations that the students require to be most successful. Knowing the parents' specific goals helps me approach conversations with them about student performance in class, and it consistently is an excellent starting point at parent conferences. The accommodations listed on the survey are always helpful, are often very specific, and they reflect the strategies that the parents know are most useful. The specific responses of each survey help me to better know my students early in the year (i.e. first few days) and help me design instruction to address the needs of all of my students from the beginning of the school year.

Ideally I would like to annually reply to each survey with a phone call. On the most productive years, I contact the parents of approximately half of my students. The parents who raised questions on the survey are called/emailed first. This communication gives them an opportunity to get their question answered and shows them that I sincerely care about their concern. As time allows, parents who put a lot of effort into the survey are also contacted – this might seem counterintuitive to contact those who already contributed a lot, but this allows me to really solidify twenty to thirty channels of communication within the first week.

2. Assignments that involve parental input (Attachment – Take It Home - Inertia)

At least three times a semester, students are assigned work that requires parent input. These assignments require the parents to either write what their child teaches them about the physics concept that is explored together (see attachment **Take It Home – Inertia** for an example) or place the parents in a position of teaching their child about a concept of which they have more experience than their child (i.e. the "two second rule" of driving).

The day after one of these assignments consistently yields excellent discussion within the classroom. This is especially true when the "Take it Home" assignment requires parents and children to work toward a final task together.

The student/parent responses are turned in by email from a parent's account to which I reply. The immediacy of the submissions and response has huge benefits for the students in learning the specific content in addition to all of the benefits from the collaboration the students have with their parents. An additional benefit is that after the first assignment, each of the parents has my email address, and I have a collection of parent email addresses, which are especially useful if they were not included on the initial survey.

3. Phone calls for best and worst quizzes and tests

Ideally the parents of all students would receive a phone call once every three weeks. The reality of this lofty goal is that it cannot be achieved with all of the time spent on all of the other responsibilities of teachers. A compromise that works well in my weekly routine is to, at a minimum, contact the parents of the top three and lowest three grades on a quiz or test. On the tests, I do my best to contact the parents of students who have achieved As and Fs as well as 10% higher than current grade and 10% lower than current grade. During weeks that I have more time, more parents are contacted.

What has proven helpful over the years is that the "positive" calls are received with much gratitude, and the following day many students thank me as well, for they were encouraged at home. The "negative" calls are still positive, because we talk about ways for students to improve. We share strategies that were helpful in the past, and I listen to parental concerns about the future of their child. It is this intervention that allows the parents and me to have solid communication about academic growth and gives parents an opportunity to voice their concerns and/or happiness for their child's progress.

4. Letter to the Parents (Attachment – Dear Mr. and Mrs. Parent)

A month after the beginning of school, a letter is sent to the parents that summarizes the upcoming year, encourages them to come to parent-teacher conferences, and invites them to attend the various family nights and physics events.

5. A Parent Conference for each student's parent (Attachment – Parent Pre-Conference Form)

In addition to meeting with the parents who sign up and attend the two school-district scheduled parent conferences, all other non-attending parents are contacted by email/phone, so that all parents have the opportunity to reschedule a parent conference at a later date. Prior to the conference, the students and parents are given an opportunity to share with me their joys and concerns by way of a Google Documents Form so that all issues, both good and bad, can be better addressed in the five minute conference. Sometimes an additional phone conference is scheduled prior to the conference to make better use of the scheduled five minute conference. In the cases where it appears that a five minute conference will not be enough, other accommodations for a longer meeting time are made as well. In all cases the pre-conference survey empowers me to be proactive instead of reactive during parent-teacher conferences.

6. Parental contributions on project work

Project assignments are good opportunities for parents and their children to cooperate on all aspects of the assignment. Many students in the past have shared that the project work was the first time in many years that they have worked with their mom or dad on a project. In fact, one year when I ran out of time and cancelled the fourth quarter project, a student of mine asked me for a project assignment and rubric anyway because she said that she had so much fun ("like old times") working with her dad on the other projects of the course. On each of my project descriptions, I encourage the parents to share in the experience without taking the management and control of all aspects of the project away from their child. Appropriate and encouraged parental support includes assistance in gathering tools and materials, and can even manifest itself in sharing in the design and construction phases as well. Building the project together is often the perfect time for a parent to teach their child important life skills, such as cutting wood to size, selecting and safely using the proper adhesives, or crocheting a net.

Although there is no way of knowing to what level this collaboration occurs, students usually share with me their positive (and negative) experiences with their parents. These are confirmed by conversations throughout the year with their parents at parent conferences and during the physics nights where the student designs are highlighted.

In order to better model how the parents can be involved (but not too involved) in their child's work, I host a "make and take" workshop for students and their parents prior to the first project. Collectively we design and build a basic egg drop device (one that will protect an egg when dropped three stories). After testing out the basic designs, we discuss modifications which can be used on their actual projects.

7. Fall *Phamily Physics Phun* Night (Attachments – Station 7: Hammer and Feather and Talkin' Physics)

This night is an opportunity for the parents to explore 25 different stations (see attachment **Station 7: Hammer and Feather** for example) with physics-related activities, gain new understandings, experience class as their children experience it, and build a connection between their children and the physics they are learning. Popular stations and activities explored in class by the students throughout the school year are revisited to comprise these multiple stations, and students serve as the "tour guides" through the understandings at the stations. Not only does this have the objective of improving the students' and parents' knowledge of physics, but also (and much more importantly) it provides a catalyst for the parents and students to talk about physics class. This is such an important part of my school year, and I believe that these *phun* nights contribute to the warm, supportive, positive class environment that is a consistent characteristic of our classroom.

As the students and parents cycle through the stations, I ask the parents to summarize what they have learned at eight stations. At the end of the experience, student and parent(s) are then encouraged to reflect on their experience and write about it (see attachment **Talkin' Physics @ Fall *Phamily Physics Phun* Night**). Consistently parents express how much physics they learned and, more importantly, how much they learned about their child. It is common to hear the parents say, "I didn't realize how much my child knows," and "I now understand why my child loves physics class." As a result of the event, parents walk away with a positive feeling about their children, physics, and their child's class

For the Fall of 2010: I am considering replacing or supplementing this family event with a series of "Minute to Win It" stations based on the NBC game show where students, parents, and family members can complete against each other in a series of mini games, while the students can share their understanding of the physics involved in each competition.

8. Spring *Phamily Physics Phun* Night (Attachments – The Light Museum and Reflections on reflections)

Parents are invited to a second *Phamily Physics Phun* Night. This night is similar to the one in the fall; however, it is at the beginning of a light and optics unit so that students and parents alike are experiencing the content at the same time. The theme for this night is a Light Museum (see attachment **The Light Museum** brochure), which is first explored by the students during class and then explored by students and their families that same evening. Not knowing "the answer" to any of the explorations, students, parents, and family members are all partners in the inquiry process.

On this evening throughout the years, I have especially enjoyed watching my students share their excitement and ideas with their parents. Equally powerful is the design of the night that allows the parents to experience the same activity that their children experienced earlier that day, so my students are more likely to look to their parents as resources in the inquiry process. Unlike the fall *Phamily Physics Phun* Night, during this evening some parent/student teams stay at a single station for a long duration, and so the reflection sheet (see attachment **Light Museum: Reflections on reflections and other cool stuff**) addresses a deeper level of exploration.

9. Open House Events and Demo Shows (Attachments – Welcome to Physics Phrenzy and Demo Night)

Throughout the school year, parents are encouraged and personally invited to the physics events hosted at the school. These events include two open houses for the community that are designed and presented by Team Phantastic, which is an optional physics club that usually includes at least half of my students as members. Team Phantastic members are grouped in pairs and present a specific physics concept by way of an interactive station and/or demo. The open house in the fall is called Spooky Science and it is Halloween-themed. The open house in the spring is our Physics Phrenzy, and it truly is a frenzy of physics fun! A copy of the brochure for the Physics Phrenzy is included as an example of the variety of stations and events (see attachment **Welcome to Physics Phrenzy** brochure). All parents and their entire families are invited to these open houses regardless of their children's participation in Team Phantastic. Each year, the parents of Team Phantastic participants glow with pride as they watch their child interact with youth and adults from the community. The parents of my students who elect to not participate in Team Phantastic also have a wonderful time as they enjoy experiencing the physics *phun*!

Parents and their entire families are also invited to two science demonstration shows each year as well. These demo shows are respectively hosted by the science teachers in the late fall and by Team Phantastic members in the late spring. My students and their guests are asked to reflect collectively on the demos and write down their ideas of why the exciting phenomena occurred as it did and how it can be applied in their own lives (see attachment **Demo Night Reflections**).

Yearly Opportunities for Parent-Teacher Connections

The parent who takes advantage of each opportunity will be contacted in the following ways throughout the school year:

FIRST SEMESTER
*End of August (first week of school) – Survey followed up by a phone call
*Beginning September – Take it Home assignment with follow up email
*Mid-September – A phone call to share progress of quizzes and/or tests
*Late September – Take it Home assignment with follow up email
*Late September – Letter home with details about class, project work, and invitations to many events
*Beginning of October – Project "Make and Take" workshop for students and their parents
*Mid-October – A phone call to share progress of quizzes and/or tests
*Late October – Invitation to physics open house event hosted by student group (for entire family)
*Early November – Take it Home assignment with follow up email
*Mid-November – Parent conferences
*Early December – *Phamily Physics Phun* Night
*Mid-December – Invitation to science demo show hosted by science faculty (for entire family)
*Mid-December – A phone call to share progress of quizzes and/or tests
*Mid-January – A phone call to share progress leading up to finals

SECOND SEMESTER
*End of January – Take it Home assignment with follow up email
*Mid-February – A phone call to share progress of quizzes and/or tests
*Late February – *Phamily Physics Phun* Night – Light Museum
*Beginning of March – Take it Home assignment with follow up email
*Mid-March – A phone call to share progress of quizzes and/or tests
*Late March – Invitation to physics open house event hosted by student group (for entire family)
*Early April – Take it Home assignment with follow up email
*Mid-April – A phone call to share progress of quizzes and/or tests
*Early May – Invitation to science demo show hosted by student group (for entire family)
*Mid-May – A phone call to share progress leading up to finals
*End of May – Take it Home reflection assignment with follow up email

PARENT INFORMATION CARD
PHYSICS 11-21

STUDENT'S NAME _____
ID_____ PERIOD_____

Father's Name_____
What is the best way to contact father? cell phone home phone work phone email postal mail

Please provide the number or address that corresponds with above_____

Mother's Name_____
What is the best way to contact mother? cell phone home phone work phone email postal mail

Please provide the number or address that corresponds with above_____

Your responses to the following are optional . . . but much appreciated!

1. In what types of classes does your child find most success? Why?

2. What are your goals for your child:
   (a) for this year?

   (b) for high school?

   (c) for college?

   (d) for your career after college?

3. Are there special accommodations needed because of vision, hearing, health, or other difficulties that your child needs to overcome in order to be most successful?

4. Have there been any major events or significant changes in your child's life that Mr. Reed should know about?

5. What resources are available for your child at home?
   (a) computer*: yes or no*
   (b) internet access*: yes or no*
   (c) quiet place to study*: yes or no*
   (d) time to study*: yes or no*
   (e) relative/friend with Physics knowledge*: yes or no*

6. Do you have a skill or expertise that you would like to share with your child's class?

7. Is there anything else you would like to share about your child?

Please double check that you have signed all of the following forms:

___ Classroom rules and procedures cover page

___ Lab safety contract

Parent communication log:

TAKE IT HOME - INERTIA
PHYSICS

NAME _____

PERIOD _____

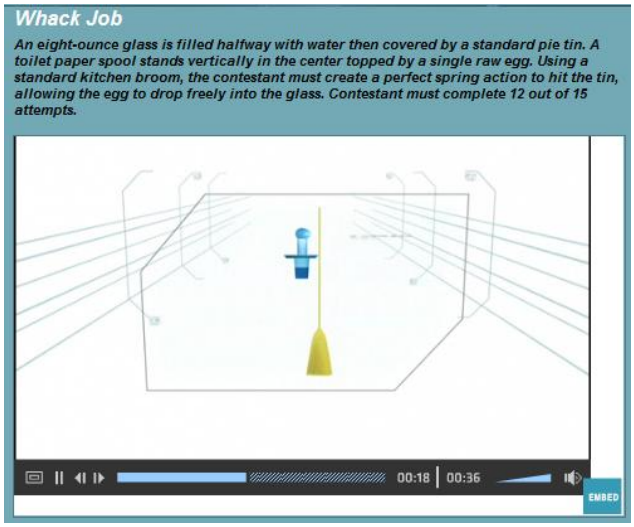
Periodically throughout the year, I will ask you to "take" your physics knowledge outside of the classroom and share with your friends and/or family. This has many benefits, among which are better solidifying your understandings by explaining them with others, enriching the lives of those around you, and giving you a chance to talk about what we have done in class.

This first "take it home" assignment will require you to share with your parent(s).

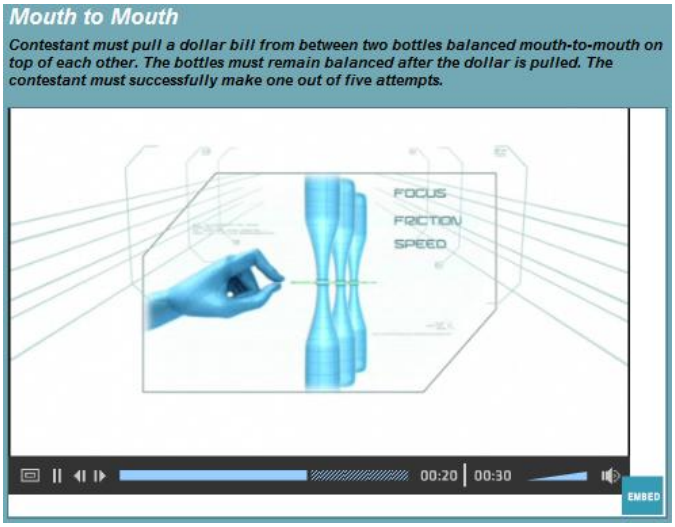
(1) Show your parent your Inertia Club membership card and explain the concept of inertia. Then share one of your experiences at the inertia stations from a week ago (and/or show off your skills by doing the final task for the Inertia Club). Try to replicate the activity at home as best as you can - - get your parent's permission with anything you set up (i.e. I do not want this to lead to damaged floors, pets, or humans).

(2) Look at the *Minute to Win It* tasks below together
. . . and then try at least one (you can improvise with the supplies you have at home).

http://www.nbc.com/minute-to-win-it/how-to/whack-job/



http://www.nbc.com/minute-to-win-it/how-to/mouth-to-mouth/



(3) You and your parent should answer the questions that follow (the ability of your parent to answer will reflect the detail and accuracy of what you shared with her or him about inertia). Please email your collective responses to scoree@niles219.org from your parent's email account. Please also include the task name of "Whack job" or "Mouth-to-mouth" in the subject.

To be completed by your parent only:

(A) How does inertia apply to the activity that your child showed you in step (1) above?

To be completed by you and your parent together:

(B) How do Newton's 1st, 2nd and 3rd Laws apply to the selected *Minute to Win It* task in step (2) above?

(C) The tasks of step (2) actually are better used to demonstrate the concept of impulse. How does impulse apply to either of these tasks?

Thanks so much! I look forward to hearing about your experience and getting your email ☺

September 27, 2010

Mr. and Mrs. Parent
address
city, Illinois zip

Dear Mr. and Mrs. Parent,

I am amazed that the first month has already passed. It seems like the end of September comes faster every year, which means that my classes are making fantastic progress and having a lot of phun (physics fun). We have already covered the first two units of the first semester and the students are collectively exhibiting an ever-growing proficiency with the concepts and advanced problem solving expectations of the course.

I am thankful for many aspects of this year. I am thankful for the great opportunity to work in a school as dynamic as Niles North and in a community as supportive as Niles Township. I am also certainly very thankful for the daily opportunity to work with your child. My students fill my days with great energy and motivate me to find new ways to better challenge and enrich their lives. Most days I am more energized at the end of the day than the beginning, and this is a tribute to the tireless efforts of your child.

I hope that your child is sharing the exciting things we are doing this year. My guess is that you are familiar with the egg drop project. In two weeks, I will be hosting an egg drop "make and take" workshop for students and their parents. Collectively we will design and build a basic egg drop device and will share ideas about modifications. This workshop will be on October 11th from 6:00pm – 7:30pm in room 2405. If you are interested in understanding how to better support your child through the projects for the semester or are just interested in having some phun, please RSVP by October 8th so I can ensure that I have enough supplies. Whether or not you can attend the workshop, please know that I welcome family-wide participation on all of the projects for this course. In the past, the projects have served as a great opportunity for my students and their families to discuss, plan, design, build, and share together. I only ask that your child takes the primary role in all of the facets of the creation of the egg drop and every other upcoming project.

I look forward to the parent conferences this year, and I certainly hope to conference with you. If you are not able to attend the district-scheduled conferences, I plan to call or email you shortly after Thanksgiving break to set up make-up conferences. To make our conferences more efficient, I encourage you to visit the web-based survey located at *http://tinyurl.com/26esk9t*. Even though it should take you just a few minutes to complete, it will allow us to cover much more in out short five minutes at our parent-teacher conference.

I am also very excited about the opportunities for you and your family to partner with your children and explore physics. My student-led physics demonstration group called Team Phantastic will be hosting a Halloween-themed open house on October 30th from 9:00 am to 12:00 noon. Everyone in your family is invited to attend, and we look forward to sharing Spooky Science with you.

The first Phamily Physics Phun night will be on Wednesday, December 8th. As in years past, I will be setting up some of the favorite physics activities– there will be labs and demonstrations for all of you to explore and it will feel much more like a museum than a class. These will be available from 5:30 pm – 9:00 pm in room 2400. Please come for any amount of time that you can (most families in the past stay for about an hour).

If you have any questions, insights, or concerns that you would like to share with me, please do not hesitate to call, email or stop by school for a visit. My contact information is listed below.

With warmest regards,
Scott Reed, NBCT
Physics Teacher
scoree@niles219.org (847)-626-2259

Parent PreConference Form

I am excited to meet with you in the coming weeks. Please take a few minutes to complete the questions on the form. Your responses will help guide our Parent-Teacher conference and will help us make the most of our five minutes together :)

* Required

Name of Student *

Name of Parent(s) *

email(s) of parent(s) *

To what extent do you feel your child has been successful in her/his Physics class? *

- Extremely Successful
- Very Successful
- Successful
- Inconsistently Successful
- Not very successful - there is still lots of room for growth

In your opinion, to what extent is your child working at his/her potential in physics? *

- Exceeding expectations
- Meeting expectations
- Below expectations
- Other:

How often does your child involve you in her/his Physics work (either asking for help or sharing what she/he is doing) *

- Daily
- Weekly
- Every other week
- Monthly
- Not often

In what ways have your goals for your child changed since your response to my initial survey question at the beginning of the year? *

How can I better support you or your child? *

Is there anything specifically you would like to discuss prior to the conference?

Is there anything else you would like to share with me?

Submit

Station 7 – Hammer and Feather

Begin by dropping the feather and hammer from the 1.5 meter high mark. Which object hits the pad below first and why?

Typical student response (erase before using)
The common misconception is that the hammer hits the ground first because it weighs more than the feather – although the hammer does in fact weigh more, the reason why the hammer hits the ground first is because of the air resistance in the room. The feather stops accelerating before the hammer due to the smaller amount of air resistance needed to balance its weight. If there was no air resistance, both hammer and feather would accelerate downward at the same rate.

To explore the possibility of equal fall times of hammers and feathers, we *unfortunately* ***(or fortunately)*** cannot remove the air from the room. Instead watch the youtube video of the Apollo 15 astronaut David Scott who dropped a feather and a hammer on the moon. Explain what you observe and do your best to explain why it happened that way.

Typical student response (erase before using)
The common misconception of why they both land at the same time is that there is no gravity on the moon, but if this was the case, the feather and hammer would hover above the moon. Instead, they fall at the same rate because they are both acted on just by their respective weight forces. Even though the hammer weighs more, it has a greater mass as well. These two factors of weight and mass cancel each other out resulting in an acceleration of ***g****. Since there is no air resistance and since they fall with the same acceleration from the same height and initial conditions, both objects will take the same amount of time to travel the same vertical displacement.*

Talkin' Physics @ Fall Phamily Physics Phun Night

Write down the station numbers of 8 stations that you visited tonight. Also write a sentence or two about what was learned or discovered or shared (remember tonight's focus is talkin' physics).

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Write down the station numbers of 8 stations that you visited tonight. Also write a sentence or two about what was learned or discovered or shared (remember tonight's focus is talkin' physics).

Reflect on the process of talking about physics. What was most meaningful? What discovery was most exciting? What were the struggles? What was learned? (you need not answer all of those questions)

(your guest's signature) (your signature)

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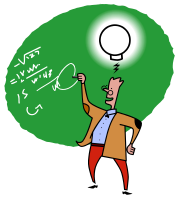
(your guest's signature) (your signature)

Featured Exhibits

1. Red light, green light . . .
2. Spectacular Spectrograph Spectacles
3. Real images right before your eyes
4. 3D from 2D
5. If two filters are dark, three …light?
6. Drive-in 3D movie?
7. Physics in a cereal box
8. Bend it like Snell (who is Snell?)
9. Color Math: Addition by light
10. Color Math: Subtraction by pigment
11. Images of images
12. Light just around the bend
13. The “magic” liquid and mug
14. Colors from non-colored objects
15. Fun with filters
16. Now I see me . . . now I don’t . . .
17. Blinded by the (flash)light
18. Bouncing baby light
19. Prism corner
20. The rainbow connection
21. Lend me a lens (or two)
22. Invisible light
23. Fiber-optic Fun
24. Me and my shadows



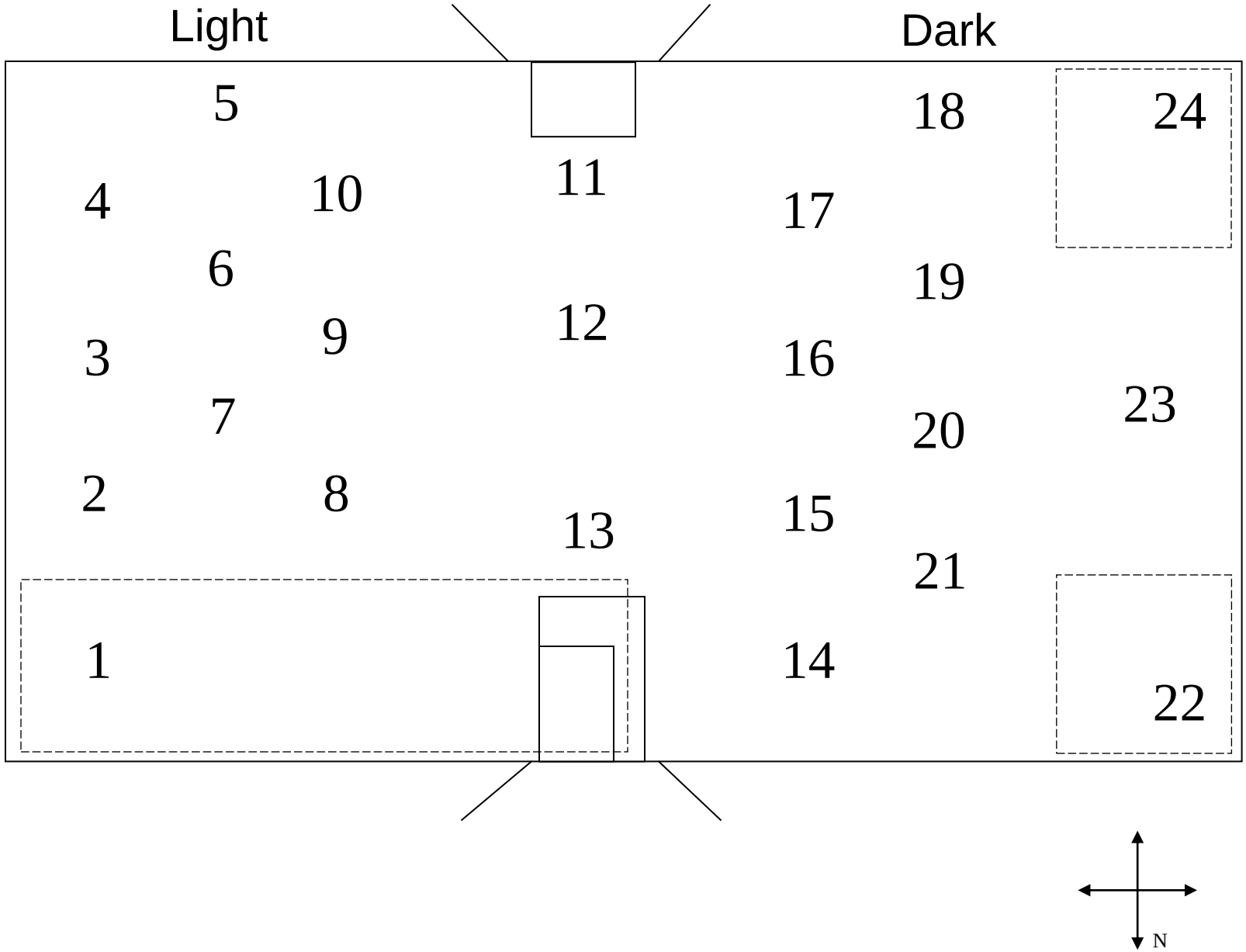
Rules of the Museum

- Groups are encouraged; however, no more than three guests per station at one time please.
- Museum management asks that you spend no more than ten consecutive minutes at each station—if you find a certain topic interesting, return to it after everyone else has had a chance to explore it as well.
- Once you have selected a station, remain there until you have completed your *official observations*.
- All equipment must be used with great professionalism and care. All equipment should also always remain at its respective stations. Please leave a station in the same order as it was when you first arrived.
- Have fun and explore, but don’t *lose sight* of the task at hand.

The Light Museum

Where Physics shines light on many of the world’s mysteries!

Museum Map



Light Museum: Reflections on reflections and other cool stuff **Name _____**

Write down the station numbers of three stations that you visited tonight. The focus of tonight's exploration is to make quality observations, predict why the phenomena occurred, answer the summarizing question(s) at the station, and consider an application of the concept (please select an application that is not already listed at the station already). You will be working with your parent(s) as a team to come to these new understandings and applications.

Station #	Observations and Explanation of Phenomena	Response to Summarizing Question	Application of New Understanding

(your guest's signature) (your signature)

Do you want to continue the physics phun?

- **Sign up for District 219's Summer Sizzling Science**

  http: //register.niles-hs.k12.il.us/summerschool/documents/SizzlingScienceBrochure2010.pdf

- **Email us for an exciting "try it at home" idea sheet that continues many of the topics learned tonight.**

  Email: scoree@niles219.org
  Subject: Try it at home sheet

- **Email us to be put on an email list for future events such as this.**

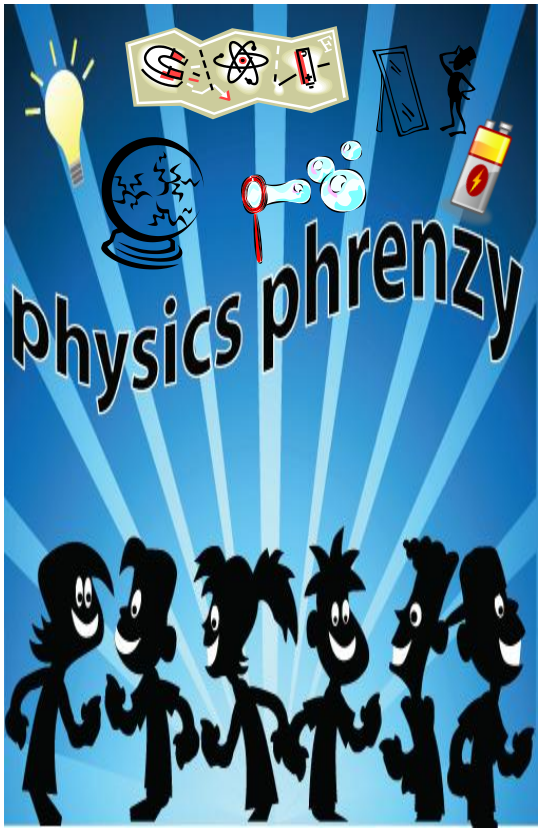
  Email: scoree@niles219.org
  Subject: Future events

Thanks for joining us tonight!

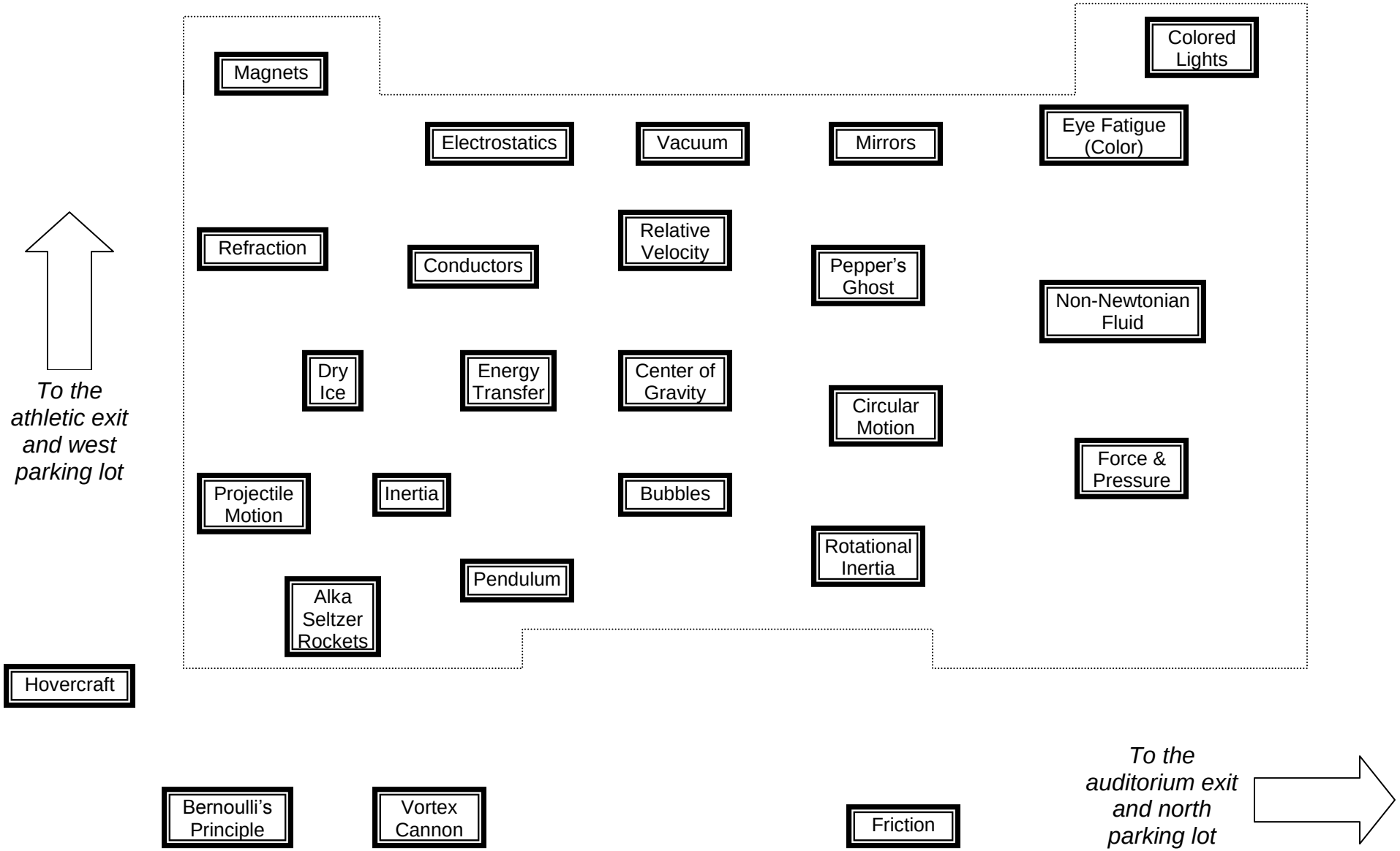
We hope that we have inspired further interest in science and exploring new ideas!

Physics Phrenzy has been presented tonight by Team Phantastic. Team Phantastic is a ***fantastic*** *group of Niles North High School physics students that have a passion for sharing the fun of science!*

Welcome to . . . .



We know you will have ~~*fun*~~ **phun** !!


Magnets
Colored Lights
Electrostatics
Vacuum
Mirrors
Eye Fatigue (Color)
Refraction
Conductors
Relative Velocity
Pepper's Ghost
Non-Newtonian Fluid
Dry Ice
Energy Transfer
Center of Gravity
Circular Motion
Force & Pressure
Projectile Motion
Inertia
Bubbles
Rotational Inertia
Pendulum
Alka Seltzer Rockets
Hovercraft
Bernoulli's Principle
Vortex Cannon
Friction
To the athletic exit and west parking lot
To the auditorium exit and north parking lot

DEMO NIGHT REFLECTIONS

STUDENT'S NAME _____

NAME OF GUEST(S)_____

Thanks for coming tonight and supporting the Science Department's Demo Show!
Thanks also for bringing a guest!

You will be selecting two demonstrations to write about:

(1) a "physics one" presented by Mr. Kyriazes, Mr. Reed or Mr. Reed's Students

(2) a "chemistry one" presented by Mr. Boll or Mr. Kretsos

For each demonstration, please write about what happened, what you learned and at least one way you feel that it could be applied to your life (that was not mentioned by the presenter). This should be a team effort so you should write one of the paragraphs (while both are collaborating and talking it through) and then your guest should write the other paragraph (again while both are collaborating and talking it through).

Demo #1 _____

Demo #2 _____