

# Lynn and Ann's Group

## Fifth Grade

### Curriculum Report 2008-09

Group Teacher Teacher: **Lynn Hughes**  
Assistant Teacher: **Ann Hitchins**

#### THE GROUP

*"The ability to think straight, some knowledge of the past, some vision of the future, some skill to do useful service, some urge to fit that service into the well-being of the community — these are the most vital things education must try to produce."*  
Virginia Gildersleeve (1877 - 1965)

This year, for a variety of reasons, we decided to separate the fifth and sixth graders, creating two groups of 16 fifth- and 11 sixth-grade students. Although Erica's group was right next door, our two groups chose to have little social contact, even when the teachers tried to create connections. Our students might not have realized it, but we missed the presence of sixth graders very much in our classroom. Without them, everything we did was new for everyone; there were no older students who could serve as informal mentors and advisers. Next year, as we return to our more customary parallel grouping structure of blended fifths and sixths, there will be some "old hands" in our classroom who will know how to save files to a flash drive, run a Friday lunch sale, know where the good climbing rocks are at my house, and proofread text for comma-spliced sentences.

This was a group that loved to play and laugh: anytime, anywhere. Our mummers' play for the winter assembly featured energetic music, dramatic recitations, and flawless sword dancing. Their skits for the graduates at the end of the year were done well and filled with humor. Our celebration of Pi Day (on March 14, of course) marched us around the campus with 15 digits of *pi*

written on paper plates, disrupting and entertaining every class we could find. They improvised a "peace parade" on our June overnight with balloon-sculpture accoutrements. This group was eager to learn things and eager to do things. They built catapults and figured out how to make them work better, made quilt designs and oil lamps, mastered tessellation on *Geometer's Sketchpad*, learned to touch-type, and created PowerPoint presentations. They learned about the distant past and saw how it connected with our modern world. They thought hard about the implications of the real-world data we provided for many math activities, numbers that described the limited resources and wealth of the world and pointed up how unevenly those things are distributed. We talked about what might be done to improve people's lives, balance injustice, and nurture the environment. They raised money for trips and supplies by selling lunch to the school on many Fridays. Some of our profits went to a charity that we selected after considerable research. Our community service work included helping in the library and emptying the recycling tubs for every classroom. Although a few students grumbled about it, most understood the value of their work and the importance of service. I think Virginia Gildersleeve would have approved of our goals and our group.

#### A WORD ABOUT INSTRUCTION AND GROUPING

This year's group was typical in its range of maturation, learning style, interests, working pace, and acquired skills. They spanned more than a year in age and much

more than a year in those other ways. So it was important (as it always is) to take those differences into account.

One way to individualize instruction is through multiple entry points. That is, students can work on the same topic but begin it at a level suited to their own knowledge and experience. This is how we have worked with our typing software. They chose the beginning level for themselves and were free to remake that decision if they decided it was too high or too low. Another way to individualize is through multiple exit points. That is, students begin a topic at more or less the same place, but some go more quickly and/or more deeply than others. Some are reviewing and consolidating while others are exploring new territory. A third way is through teams and partnerships. As they work together on a project, they contribute in different ways, and all learn from the conversations that take place as things are explained and decided. A fourth way is to take advantage of our half-group instructional time to create quarter-groups that might be based on skills or interests, as we did when we read novels. No instructional group remained intact for the entire year. We grouped and re-grouped many times for mathematics, language arts, and social studies — a flexibility made possible because we used many different resources and instructional materials instead of being locked in to a single text or publisher's program. No child consistently dominated or trailed behind, and everyone had a chance to demonstrate expertise to all of their classmates.

## THE CURRICULUM

Much of this will be familiar to those of you who have read the newsletters that I have sent home during the year, where our days were described in richer detail. (Those are still available on our group website: [www.lynnsgroup.org](http://www.lynnsgroup.org), which is part of the larger Miquon website. If you want to know

much more about what we did this year, that's the place to find out and see lots of pictures. There just isn't enough room here to do more than provide goals, brief lists, and a few examples.) Although our year's program is presented in this report as separate subject areas, there was extensive cross-curricular instruction that, in my opinion, is one of the essential elements of meaningful education. Daily life is not divided into subject areas, and it would be very dull if it were. Our PowerPoint presentations on Celtic life were a blend of research, non-fiction writing, computer skills, and graphic design. Our study of the Muslim world included history and geography, comparative religion, current events, mathematics, and art. Those are just two examples among many.

I believe that our curriculum should serve three broad goals. Children need learning tools, values, and self-respect. **Learning tools** include skills and knowledge. These are acquired and refined over a long period of time. We look for progress rather than perfection. **Values** form the basis for many important things, including behavior and social judgment. We teach these by examining the behavior (and its consequences) of others in our world, by learning about the social rules and underlying beliefs of cultures including but not limited to our own, and by setting appropriately high standards for our own community. We give public recognition to students who make significant contributions to a positive social tone. **Self-respect** seems to arise from many sources, including a genuine sense of accomplishment, repeated experience with persevering successfully in the face of difficulty, and feeling appreciated and important within one's family and other social groups. We take everyone seriously as a learner and as a community member, and we offer many opportunities for accomplishment. With those three things under construction, a

fourth element becomes important – **strong interests**. A desire to do, learn, create, or improve something provides the impetus that gives those first three goals a purpose.

### **Mathematics**

My general goals for mathematics instruction are to:

- broaden students' problem-solving strategies and reasoning skills;
- improve and expand computation skills, including mastery of traditional algorithms and number facts;
- increase awareness of the interconnectedness of mathematics topics;
- develop a lively intellectual community, working with partners and exploring ideas as a group;
- make connections among mathematics, mathematicians, and mathematics history;
- enable students to use reference materials to answer their own questions and review prior instruction
- improve students' communication skills, both written and spoken;
- find practical uses and applications for abstract concepts and processes, showing that math is a part of everyone's daily life;
- strengthen students' use of tools and technology, including geometric construction tools, measuring equipment, computers, and calculators;
- establish a distinction between inventions and discoveries in mathematics, along with artificial systems and laws of nature;
- endorse the value of effort, the importance of conjecture and generalization, and the usefulness of an incorrect solution;
- encourage enquiry and curiosity, especially in terms of making cross-topic connections and taking ideas into a deeper and more theoretical domain;
- motivate students to look for reasonableness in their conclusions;
- sustain a strong connection between the visual and numerical, the concrete and the abstract;

- and present mathematics as a living science, in which new ideas are still being generated, new questions asked, and old ones remain unresolved.

We reviewed and extended computation skills throughout the year. We started with positive whole numbers and gradually moved into decimals, percentages, fractions, and negative integers. One of the goals was to make everyone secure with efficient computation methods. The expanded algorithms that are usually taught in the younger groups make good mathematical sense and provide a solid conceptual foundation. However, by this point in school, most people are ready to use less paper and take less time to crunch those numbers. And, for a certain group of learners, a more compact procedure is less visually confusing and comes as a great relief. Computation practice and review remained an instructional focus throughout the year, but most of our time was spent in more interesting tasks. We did a lot of work in the last part of the year with proportional reasoning, which focused primarily on solving percentage problems but also for other purposes. We used proportions to make sure our game for the spring fair would give 1 prize to every 3<sup>rd</sup> or 4<sup>th</sup> player. When students were making research posters, they understood the percentage by which they needed to shrink or enlarge a photocopied illustration, often thinking of the relationship as a fraction first.

Our first real mathematics project involved alligators made from a water-absorbing polymer. Every morning when they arrived in the room, student pairs worked together on the job of drying, weighing, measuring, and tracing their alligators. Each student kept a separate journal, but they helped their partners with the work. There was a lot of graphing and some percentage and fraction work along the way. Through this kind of repeated, hands-on experience, most students will develop a

well-internalized sense of metric weights and measures and of percentages, as well as grasping the interpolated nature of line graphs. After the alligators had grown for several weeks, we drained the water out of their plastic shoe boxes and measured them as they shrank again over time.

The last topic we tackled this year was based on the “Hands-On Equations” materials created by Dr. Henry Borenson. This is an introduction to formal algebra. It uses pawns, dice, and an imaginary balance scale to introduce students to foundation concepts as they build strategies for solving linear equations. The core idea is that the equation must be kept in balance as it is being transformed into its solution statement. Each new lesson presents a new situation; students are given time and encouragement to use prior learning to come up with ideas for how to solve the kind of equation they are seeing for the first time. Through this continuum of very small steps, many students ended up feeling comfortable and confident when they saw something such as  $5x + 7 = 2(x + 8)$ . That standard written form was used to present the problems, but they used the concrete materials and, sometimes, a modified notation system, to do the actual solving. Through this approach, many students discovered distributive property for themselves, made valid inferences about adding and subtracting negative numbers, and established a strong visual connection with the number-based concepts of basic algebra.

Everyone made extensive use of our mathematics software. Sometimes we spent the entire math lesson time at the computers, working with programs that taught and strengthened children’s understanding of order of operations, number facts, problem solving skills, algebra concepts, geometry, and much more. We used spreadsheets and graphing software for many purposes in and out of mathematics classes all year long. We

have developed a good working relationship with Key Curriculum Press, the publishers of *Geometer’s Sketchpad* and other mathematics materials. We used their online “Lesson Links” to explore many topics within and beyond geometry. They sent people to our classroom near the end of the year to film our students at work with *Sketchpad*, in part because it is not yet widely used in elementary schools.

For more information about the topics that children explored in math (but still not a comprehensive listing), please see the skills assessment checklist that accompanied our end-of-year narrative report for each student. Our newsletters provide a more complete and episodic description of our year in mathematics.

### **Language Arts**

It’s my hope that all students will end their Miquon years being able to:

- read well enough to enjoy literature at a level commensurate with their interests and maturity;
- find lots of books and authors that please them and have an open mind about exploring an unfamiliar *genre*;
- comprehend independently most written material that they encounter in other curricular areas, such as social studies and mathematics;
- write legibly, using standard punctuation that supports their syntax;
- convey their ideas in well-organized paragraphs whose level of detail and elaboration is appropriate to the task;
- speak clearly in a confident and organized manner and listen with full engagement in order to understand the purpose, content, and structure of what they are hearing;
- use basic word processing features independently;
- and type fast enough to keep up with their flow of ideas and use all keyboard-related software efficiently.

By the time most students reach the fifth or sixth grade, they are ready to benefit from varied opportunities to apply their language skills: reading, writing, listening, and speaking. They still need instruction in specific topics, and some are continuing to work on some foundation areas, but the using of all of the prior years' learning is the way that we consolidate their skills and motivate them to strengthen areas in need of more work. As a result, development of all of these language skill areas was not only a part of direct instruction but also embedded in all kinds of classroom work, particularly in social studies activities.

### **Reading**

Skilled reading requires much more than the decoding of individual words. A successful reader maintains an inner monologue. This may include self-checking for comprehension, recalling and comparing related information, making predictions, and sorting information from the reading into a hierarchy of major ideas and supporting details or causal relationships and sequenced events. Many children who are strong in word analysis skills (“sounding out” or “decoding” single words) may need extra instruction and more time to mature in this metacognitive domain. In contrast, some children who are still putting out a lot of effort to decode words may be doing extremely sophisticated thinking to help them infer meaning from context and use their recognition of main ideas to help them bridge the gaps created by the single words they cannot yet read. For that reason, we work on both kinds of reading skills. We worked on syllabication, the sounds of vowels and common blends, and other word attack skills as we were also working on making sense of the reading and using that knowledge to figure out what that troubling word could be.

Non-fiction reading activities were important. We worked specifically on

previewing, setting purposes, summarizing, and seeking causal relationships. “Read the directions” was our constant litany, whether it was to install a new piece of recreational software or to complete an assignment. We helped students learn to underline key instructional words, to refer often to written task descriptions, and to bolster their understanding by predicting and making note-maps.

We did vocabulary-building work, centering primarily on learning to recognize common prefixes, suffixes, and roots. We did game-like activities that gave students lots of opportunity to work with a new prefix or other word part. This seemed to be a very successful approach for many students, who found the multi-format practice both painless (except for the sentence-writing) and effective. We had two different levels of activity sheets for each prefix. Students who moved quickly through the first level were able to deepen their understanding and work with more challenging words by going as far as they could with the second level.

We often stopped a lesson to talk about word families, especially ones that were part of our study collections. We often paused in the reading of our chapter books to make sure that new words and phrases were being noticed and their meanings correctly inferred or, when necessary, explicitly stated. We had a number of students in the group with excellent vocabularies, so we only rarely had to supply the meaning or explain the reference. We often put emphasis on the enormous part that Latin and Greek play in our language. We also strongly encouraged students to consider choosing Latin for at least part of their language study in their next school.

We enjoyed a lot of fiction. This was a group of very enthusiastic readers. Some books were chosen independently by students, and some were assigned. Group reading work included preparatory activities and meetings to share ideas about the story

and the way the author told it. I read aloud to the class throughout the year. We often stopped to discuss word meanings, plot events, themes, symbolism, and anything students wanted to pursue. I think it's important to read aloud to students as old as these: it makes some material available to students who cannot or will not read it on their own; it may spark interest in an author or genre in a skilled reader; and the ongoing discussions emulate the kind of reflective internal monologue that a good reader sustains while reading alone. The first book was short and written for slightly younger readers, but it was funny and the group enjoyed it: *The Legend of the Worst Boy in the World* by Eoin Colfer. Then I read a version of *The Táin*, which is an epic Irish tale about a cattle raid that becomes an all-engulfing war. The third book was *The New Policeman* by Kate Thompson. This was a fantasy set in modern Ireland and in the Otherworld land of *Tir na nÓg*. Our last book was *The Hounds of the Morrigan* by Pat O'Shea, another epic story that drew on Celtic myths. Our group is well-steeped in Irish folklore.

Another approach to the understanding and appreciation of literature was the way in which we watched videos. Film as a literary and visual art form was as much a part of our discussion as was the actual content of the movie. When we watched stories, we talked about characters, setting, plot, and theme just as we would with a novel. We looked at lighting decisions and the music soundtrack as additional aspects of creative storytelling that are not found in books.

### **Writing**

My minimal writing goals for all of the students include:

- making basic punctuation and capitalization automatic in their writing, not something to be “fixed up” later;
- spelling correctly most of the basic bank of high-frequency words;

- knowing how to apply the relatively few consistent spelling rules that exist in English;
- writing all misspelled words with every sound present;
- writing complete sentences instead of comma-spliced or fragmented ones;
- understanding the basic structure of a paragraph and employing topic sentences in expository writing;
- developing a handwriting style that is legible and fluid;
- learning to type well enough to keep up with their own ideas and make revision less arduous;
- and acquiring an awareness of their own personal error tendencies to support independent proofreading and revising of their own work.

Writing was an instructional topic in itself and a presence in all curricular areas. Children in fifth and sixth grade are at many different places in terms of mechanics, elaboration, and fluency. We worked on learning to spell high-frequency words. This was done in part through directed study, presenting some of the relatively consistent rules in English, such as forming the past tense or plurals. We tried to make a stronger connection between rules for reading and rules for spelling in the hope of strengthening both. We also worked in a context-based way, focusing on common words that individual students were writing often in journals and other project-related work. We emphasized the correct spelling in our written feedback, insisted on attention to that particular word, and saw some of the most durable learning from that repeated need to write. We also observed that, when students were writing on computers, the immediate underlining of misspelled words by our software led them to be more attentive to the spelling of those words as they continued writing. Touch-typing instruction was a daily activity in the first

part of the year and was kept up much longer for students who needed more time to get to a reasonable level of mastery. Flexible skins concealed the letters on the keyboard during this work. We used Sunburst's *Type to Learn* because of its blend of visual and aural formats and its embedded lessons in language skills. By mid-year, almost everyone was comfortable with writing on a computer.

We did a lot of writing, much of it non-fiction. We worked throughout the year on paragraph construction for all sorts of writing: selecting a topic, starting with a topic sentence, adding supporting details. We also used the students' increased awareness of this structure to help them get more out of their reading of informational material. We worked hard on punctuation, especially the use of commas for many purposes and the use of quotation marks in dialogue. One of our major creative-writing projects this year was "framework" writing. The basic idea of this activity is that we provide an ongoing (very generic) story skeleton, and students write within it. The challenge for me is that of offering enough guidance and structure to support students who find organizing their creative writing difficult while not restricting the options and ideas of students who write original stories with little or no effort. The challenge for some students is to do more than just rephrase the basic outline, but for others it is to keep their wealth of story ideas within the boundaries of the gradually-delivered outline. For most students in this age group, starting a story with a final goal to reach or problem to overcome is not yet their preferred approach. Some of our most eager story-writers are more interested in characters and their relationships, with the plot evolving gradually and often wandering uncertainly from one sub-plot to another. Many of our most reluctant story-writers are not particularly interested in characters and don't feel very confident about beginning, let alone ending. The framework that they were

given in stages could help all of our writers produce a more coherent tale. As students handed in each stage of the assignment, we looked for things to praise and things to try to coach to a higher level. Each stage of the child's writing got some brief comments in the margins and at the end. Then, into each cumulative journal, we pasted a new sticker that provided the "framework" for the next installment of the story. We also connected some instruction in writing mechanics with the creative side of this project. For example, before we asked students to bring a second character into the tale, we did a review and extension of students' understanding of how to punctuate conversation. We then looked for individual use of this skill in the writing that followed and did some additional coaching in my written. As students were at different points with this fairly complicated collection of punctuation rules, I chose different things to praise and clarify, depending on what seems to be the appropriate individual level of expectation and instruction.

### **Social Studies**

In general, our goals for social studies encompass information, skills, concepts, and attitudes. I believe that children need to know a certain amount of "stuff" in order to be effective members of their society, and that includes but is not limited to its history. I also believe that things are best learned in a meaningful context and built layer on layer.

*Skills* for social studies at this age include:

- the use of resource materials and their access structures such as indices;
- understanding maps and mastering common geography vocabulary;
- the interpretation of statistical tables and charts;
- strategies for previewing, reading, and skimming informational text;
- basic methods for presenting information in well-organized and content-appropriate

ways;

- and methods for note-taking and summarizing.

*Concepts and attitudes*, along with *values*, cover a wide range of ideas such as these:

- successful inventions and practices are the result of many people's contributions and effort accumulated and blended over time;
- we are not "smarter" than people of the past or present who had/have simpler tools;
- when people trade goods, they are also likely to exchange ideas;
- cultures have different ways of fulfilling basic goals such as housing, education, and social order, but there are many commonly shared features across societies and time periods;
- although cultures and societies have had many different attitudes about such things as genocide and slavery, we should not feel less certain of our own social rules and guidelines as we try to understand theirs.

Our history study focused on three groups. First we learned about the Celts, a mega-culture whose influence ranged from Galicia (in Ukraine) to Galacia (in Spain). The ancient Greeks called them the *Keltoi*, while the Romans called some of them *Gauls*. These widespread people never organized themselves into an empire but left their mark across ancient Europe. Our next group, however, did coalesce into an empire: the ancient Romans. We learned about their social rules, their technology, their cities, and their very effective professional. We had a large collection of *Asterix* comics. Students loved reading the pun-laden stories of a small village of Gauls standing up to the might of the Roman occupation troops. We used them for some vocabulary-building lessons as we used our dictionaries to try to figure out, for example, why the oldest man in the village was called *Geriatricus*. We ended with a brief unit on the Muslim world,

focusing on the life of Muhammad, the early history of Islam, and its foundation beliefs. We also learned how widespread Islam became, noting that many of the African people brought to this country as slaves were practicing Muslims and, in some cases, literate in Arabic. None of our topics was done in any thorough way; each one was potentially rich and interesting enough to have filled the year.

Throughout our exploration of history and current events, we worked on many related skills and concepts: map making and interpretation, basic geography of Europe, the creation and use of graphs and tables, reading techniques appropriate to information-dense text, and effective use of reference books and other resource materials. We developed better research skills using print, video, and electronic sources. We did a number of short inquiry projects, ones that gave students repeated experience in using their research and writing skills and applying what they had learned from a previously-completed project. This opportunity for repetition seems to work better than doing one or two large research projects. Research projects this year included aspects of daily life in Celtic Ireland and the Roman empire, essential beliefs and history of Islam, and background for their own personal projects.

Research is challenging. How do we find things? How do we know what to select? How do we organize a lot of stuff collected from several places into a fluent, coherent body of text? Most of our children are just starting to build their research skills for dealing with an enormous mass of content. We did some work with ways to limit and refine a search, whether it is being done online or in a print resource. We did activities that pointed up the benefits of using more than one source. We also discussed ways we might determine the reliability and level of scholarship of an online site.

We did many hands-on projects in the classroom and with the help of several specialists. We made small looms from wood during our fall camping trip, and we dyed wool for weaving on them – thanks to Tony – with natural materials. We combined a word processing lesson on tables with the making of a traditional Celtic game board. Again thanks to Tony, students learned about the physics of siege weapons as they built catapults near the end of the year. We did a traditional Irish mummer’s play for the winter assembly, and great thanks go to Karen for all of her help. Anne extended our work with tessellations, which connected with our study of Muslim culture. We explored many kinds of Irish tunes and songs as we worked on learning to play pennywhistle.

Our current events work was dominated in the fall by the presidential election. We spent a lot of time on the issues of the campaign, trying to develop understanding and appreciation for political opinions on all sides. We elected the National Doughnut by voting six different ways and saw that the outcome was greatly influenced by the voting method. Then we ate the consensus winner. (Actually, there was a tie and we ate both.)

### **School Survival Skills**

This is another topic that was both a free-standing area of instruction and a part of daily life. In the first part of the year, we spent some time helping students get their required 3-ring binders divided into subject areas. We used the materials in our notebooks for later work, and we expected students to keep their notebooks in good order. We always gave out detailed written descriptions of lengthy assignments to go into the notebooks, such as the book reading projects, and we also posted a copy on our website. When students asked questions that were answered in those descriptions, we referred them to those papers instead of just repeating the information. As we worked

our way through long multi-step tasks, we often looked at those written directions and reinforced the value of having a sequential plan close at hand. We worked on learning how to deal with things that were too hard or too information-dense to read easily. Most textbooks contain a glossary and other reference pages in the back, and many teachers forget to point them out to you. Preview by reading over all of the headings and subtitles. Read the first and last paragraph. Read the first and last sentences of each paragraph. Look at all of the pictures and captions. Ask questions. We collected homework at the start of every day, and tried to get it checked or at least looked at by the time the related classes started. This gave me a chance to modify my plans for the group or just one student if it turned out that more or less had been understood from the previous day’s work than I had expected. I tried to make this purpose clear to students so that they could understand that homework was not a test but a kind of communication about learning achievement and learning needs.

### **Personal Projects**

These occupied a large part of each child’s homework time during the month of May. A personal project is a true test of each child as an independent, organized, self-disciplined learner. It’s an opportunity for each child to make a major decision about what and how to learn. Students chose a topic that was of interest to them, made a plan for working at it outside of school for a month, found mentors as needed, and maintained a daily journal that contained observations about their learning and their process as well as questions and descriptions of success and frustration. In the last full week of school, they shared their work with classmates and family members. The presentations were as varied as the topics: demonstrations, Power Points, videos, models, products, and well-planned talks. Some projects were expressions of interests

that children will continue to develop and to which they will return over many years. Not everything was as easy as expected, and that was an important learning experience. What mattered most was that children made good choices, committed themselves to the work, and came out of it knowing they had accomplished something of value.

## **IN CLOSING**

First, as always, thanks go to all of the students. As you worked and played and endlessly negotiated together, you sustained an abiding sense of commitment to our small community. I've learned a lot from all of you. Those of you whom I am sending to Erica's classroom are being given up with the greatest reluctance. Second, I thank the parents in our group – you found time to drive, advise, read and respond to e-mail, watch performances and presentations, assist with personal projects, and drop by for a chat when there was something on your mind or just to say hello. Third, thanks go to our assistant, Ann. Despite having another responsibility at school that could have absorbed all of your time, you were completely connected to our classroom as well. You were a valued colleague who was always ready to do what was needed.

Graduation day meant that everyone moved one place along the continuum. Our neighbors made their speeches, performed their music, and received their diplomas. Our fifth graders became next year's graduates (with the exception of Dylan and Ian, whom we will miss very much). I hope that everyone in our Class of 2010 has a wonderful summer.