The Delphi Program™
GRADUATION REQUIREMENTS
HANDBOOK
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AN INTRODUCTION

The Delphi Program and its ability-oriented graduation requirements were inspired by the educational writings of American writer and philosopher L. Ron Hubbard. The following quotes have been chosen from Mr. Hubbard’s extensive writings and articles as a way of introducing and orientating the reader to the content of this Handbook.

“It doesn’t then really come down to a test of ‘what does a person know?’ but it comes down to a test of ‘what can a person do?’”

L. RON HUBBARD
Key to Effective Learning

“Learning bears fruit when it is applied. Wisdom, of course, can be pursued for its own sake: there is even a kind of beauty in it. But, truth told, one never really knows if he is wise or not until he sees the results of trying to apply it.”

“The true ‘gift of heaven’ may have been the potential to be competent.
“In common pursuits and activities, Man respects skill and ability.”

“The test of true competence is the end result.
“To the degree that a man is competent, he survives. To the degree he is incompetent he perishes.”

L. RON HUBBARD
The Way to Happiness ’Be Competent’
ABOUT THE GRADUATION REQUIREMENTS

One of the primary tenets of the Delphi Program is that, as a central focus, we pursue the attainment of demonstrable competence in students, not grades or time spent. The standards we have defined are called the Delphi Program Graduation Requirements and they are thoroughly outlined in this Handbook.

The Delphi Program is divided into eight Forms, spanning the Lower School, Elementary School, Middle School and Upper School. At each Form, levels of academic or technical competence are named and students fully demonstrate these abilities as a requirement for graduation from the Form.

The Handbook lays out specific graduation requirements within each Form, but it also provides the general requirements for each School which embrace and tie together all requirements for the Forms. They are referred to as “General Graduation Requirements” and are summarized at the beginning section for each School and are listed appropriately within the detailed requirements as well.

Notes On The Presentation Of The Requirements

In many cases the statement of a graduation requirement is followed by a list of related topics or activities (in italics), illustrating areas that can be explored.

“Educational Technology of L. Ron Hubbard” refers to elements of L. Ron Hubbard’s works in such areas as study, education, data evaluation, ethics, etc., which are included in the curriculum.

Some requirements in later Forms are intentionally identical to requirements in earlier Forms (and are marked with an asterisk). They are restated to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.

Practical Requirements

In addition to the ability requirements, there are general practical activity requirements for each School. These can be found at the end of each School section and allow the student to choose from many different opportunities to gain and use practical knowledge in areas of interest. Practical study is required on each Form.
Majors

While on Form 6, students select one major from four areas of choice: Humanities, Science and Technology, Business, and Fine Arts. The remainder of their educational program will have elements oriented to their chosen area of interest, while ensuring they continue to achieve mastery of the essential skills that are important in all fields.

Accelerated Placement

After successful examination, students may omit study in any part of the program in which he or she is able to demonstrate competence.

Incoming Placement

Students entering the school prior to their teens are enrolled into the Lower, Elementary or Middle School which encompass Beginner 1 through Form 6. Placement in a specific Form is done by examination.

Students entering the school in their teens would generally be enrolled in the Upper School. Their prior education would then be evaluated and those students who would benefit from a review of earlier work are placed in an Entry Program, the function of which is to ensure that students are fully prepared to begin the complete Form program.

More about Entry Programs can be found on page 11.
BEHIND THE DELPHI LOGO

The Delphi logo symbolizes our approach to education by providing four key elements that are an integral part of the graduation requirements at every level of the program, from Lower School to Upper School.

The logo is made up of a feather pen and scroll surrounded by these four words: Knowledge, Integrity, Ethics, and Leadership. While the feather pen and scroll symbolize our emphasis on literacy—a core element of the Program—each of the four words offers an insight into the entire Delphi Program and its focus on personal responsibility and improving the world. Each is an important part of the Delphi environment and part of the educational philosophy of L. Ron Hubbard.

**Knowledge** means certainty, not just acquiring facts. The Program incorporates a standard of learning that ensures every student gains a certainty about what he or she knows, not just a passing acquaintance with data.

**Integrity** means remaining “whole” and true to oneself and having the courage and ability to observe and say what is true for you -- an indispensable element for success within the Delphi Program. Students of all ages learn the value of integrity in their studies and in life by having it addressed often.

**Ethics** means the use of reason to make the right choices in life — a subject that becomes personal and valuable to Delphi students.

**Leadership** is defined, instilled and practiced by Delphi students so that they develop confidence, competence and have a proven ability to increase their sphere of responsibility in life.

Our goal is that each concept within the Delphi logo is embodied in our graduates and that each graduate uses his or her skill to contribute to a better world.
A unique but important feature of Study Technology, developed by L. Ron Hubbard, is that it permits us to require that a student achieve full comprehension of any course studied. This degree of mastery builds a solid and speedy pathway for the student as he or she goes forward.

While this is a common-sense approach to learning, it is often neglected.

Due to the effectiveness of Study Technology, it is very common for students to pass with 100% on their first examination in a subject. However, should a student miss even 5% of the materials, and get a 95% on the exam, this 5% can remain unknown and provide a seed for future trouble, and it will weaken his certainty of the subject. Therefore, our procedure is to then reinstruct the student on the materials missed, so that he has it all—100%.

Thus the examinations, which are designed to cover only the relevant and important data, take on a proper role, namely as a tool to help the student ensure his own full mastery of the materials. Grades are not assigned.

As a result, not only does the student know the material 100%, but (perhaps even more importantly) the student knows that he knows it.

Because of the individualized programs, students progress at their most optimum pace—learning extremely rapidly when they can and taking the time to work through more difficult subjects when they need to. The time spent studying any particular subject may vary from student to student. However, all students are expected to move quickly while achieving full understanding of what they study and they do not move on until they can demonstrate that they have done so.

Such rigorous mastery is achievable largely because:

- Students use Study Technology as discussed earlier,
- Students have individual academic programs that are specifically suited to their needs and strengths,
- The student/faculty ratio permits extensive interaction and communication between faculty and students,
• Students progress at their most optimum learning rate, learning at the fastest pace possible while still achieving full understanding,
• Practical application of the studied material is emphasized, and students spend a great deal of time outside the classroom applying what they have learned.

It should be noted that although students are not assigned grades, grade equivalents can be calculated for the purposes of school transfers and/or college admissions.
ENTRY PROGRAMS

Students first coming into the Delphi Program receive a complete evaluation of their academic skills and abilities against their age and the requirements of the appropriate Form. The evaluation is used to determine the level of mastery in major subject areas, resulting in a customized program to ensure each student’s success in the first Form entered.

This customized program is referred to as an Entry Program and is designed to most effectively and efficiently prepare the student for the correct Form, given the student’s age and abilities. For example, a student preparing to enter Form 4 would be on a Form 4 Entry Program, and so on.

Generally, Entry Programs address the following areas:

- Study skills appropriate to the student’s age;
- Literacy, including reading, writing and spelling;
- Math skills, including knowledge of basic math facts;
- Any trouble areas that might hinder success on the Form the student will be entering;
- Any other specific courses or activities needed for successful entry to the Form, e.g., critical elements of a preceding Form.

An Entry Program, particularly for a student who is considered to be behind for his age, is a form of “catch-up” and therefore worked through on an intensive basis. While on Entry, the student may be placed in a classroom with students on the Form he or she will be entering, with students on the preceding Form, or in a classroom specific to his or her Entry Program.

The focus on any Entry Program is to help the student rapidly achieve mastery of the basics he will need to move onto the appropriate Form successfully.
GENERAL GRADUATION REQUIREMENTS
for the Lower School (Beginner 1 - Form 2)

These requirements relate to those of the Elementary School and above as a beginning foundation, but are used in their own right – as a specification of the areas of full competence expected at this level. What a student is required to do, he should do well.

1. Lower School graduates should be able to make themselves understood clearly, both orally and in writing, handwrite in two forms clearly and neatly, and read well enough that reading has become a useful tool for learning.

2. Lower School graduates should have a good concept of numbers and counting, be able to use numbers in normal life situations, and be competent at arithmetic.
   - arithmetic, instant math facts
   - time
   - money

3. Lower School graduates should be confronting their environment to the extent of being able to differentiate many different life forms, interact responsibly with several types of mechanical devices, and safely use simple tools to achieve some control or change on the environment.
   - pets
   - wildlife
   - construction projects
   - appliances

4. Lower School graduates should have a usable understanding of acceptable customs in groups, at the table, meeting people, on the telephone and in the family.

5. Lower School graduates should have a good understanding and use of safety rules and reasons in their environment.
   - fire
   - traffic
   - electricity

6. Lower School graduates should have had experience as members of groups, including contributing and taking on appropriate responsibilities.

7. Lower School graduates should be launched into learning using checksheets¹.

¹ Checksheet: a study guide giving specific steps arranged in a sequence of gradually increasing knowledge and ability to guide the student to achievement of the objectives of a course.
Beginner 1

APPROXIMATE AGE WINDOW: 4 - 5 YEARS OLD

APPROXIMATE GRADE EQUIVALENT: TWO-THIRDS OF KINDERGARTEN

LANGUAGE

1. Enjoys reading, and can read out loud comfortably with understanding at a high pre-primer level.

2. Can successfully follow very simple written instructions that use words he is familiar with.

3. Knows the sound(s) represented by each letter. Can independently decode simple three-letter words like “hat,” “fan” and “box,” and use his knowledge of sounds and letters to help decode other simple words.

4. Can say the alphabet, and recognize and name each letter accurately (both upper and lower case).

5. Can print upper and lower case letters of the alphabet, and the numerals, forming them correctly.

6. Can write own name and can copy words and very simple sentences.
**MATHEMATICS**

1. Has the following mathematical abilities:
   - Can easily count things in the environment up to 10
   - Can easily recognize, say and demonstrate an understanding of numerals 0–10
   - Can correctly compare things in the environment as to size and position, and communicate simple comparisons

**LEARNING AND RESEARCH SKILLS**

1. Can examine things in the world around him, and make and relate his own observations about them.

2. Can work mostly independently for short periods of time (5–10 minutes) in the classroom, carrying out verbal instructions given by the teacher.

**LIVING SKILLS**

1. Can sort out some problems he has with communication and without upsets.

**PHYSICAL EDUCATION**

1. Can cross an overhead horizontal ladder hand-to-hand at least five feet.

2. Can walk the length of a low balance beam.

**ARTS AND MUSIC**

1. Knows several songs and fingerplays.
LANGUAGES

1. Enjoys reading, and can read quite comfortably with understanding at mid-first-grade level, both silently and aloud. Has comfortably read at least 100 pleasure readers while on this level.

2. Knows the sounds for blends at the beginnings of words. Can independently decode many simple four-letter words like “flat,” “plop,” “grin,” and use his knowledge of sounds and phonograms to help decode other words.

3. Can say the alphabet easily, and readily point out any letter on an alphabet chart from hearing its name.

4. Has mastered printing (all upper and lower case letters and numerals). Prints words and sentences of his own, consistently forming letters correctly.

5. Can spell many three-letter short-vowel words and some commonly used words (like “have,” “do,” “is” and “to”).

6. Can independently compose and write sentences, beginning them with capital letters and ending with periods. Can write simple stories of a few sentences.
MATHEMATICS

1. Has these mathematical abilities/can do these operations:
   • Can count objects, read and write numerals 0–20 with understanding
   • Can recognize and correctly name, without counting, groups of objects up to 10 when the objects are grouped in an orderly way
   • Understands the concepts of addition and subtraction and can explain some uses of these
   • Can add to sum 18 by addition of objects
   • Can subtract from 18 by subtraction of objects
   • Can recognize triangles, rectangles, squares and circles
   • Can tell time to the hour and half-hour
   • Can count change up to $.25 with various combinations of coins (pennies, nickels, dimes)
   • Can solve very simple realistic story problems

LEARNING AND RESEARCH SKILLS

1. Can examine things in the world around him, and make and relate his own observations about them. Can make suppositions about some familiar things.

2. Can work mostly independently in a classroom for 15–20 minutes at a time.

LIVING SKILLS

1. Can demonstrate an understanding of the basics of communication and sort out most problems with communication.

2. Knows basic points of caring for own body (cleanliness, teeth, food and rest) and does these fairly well.

PHYSICAL EDUCATION

1. Can demonstrate five different gymnastic positions or skills.

2. Can cross an overhead horizontal ladder hand-to-hand at least 10 feet.

ARTS AND MUSIC

1. Can follow simple rhythms.

2. Knows several songs well.
Enjoys reading, and reads smoothly and accurately with understanding at an end-of-second-grade level (both silently and aloud). Has read several second-grade readers and has comfortably read at least 250 pleasure readers while on Form 1, well-balanced over the span of difficulty of the Form.

While reading, can use letter sounds, phonograms, and the “silent e rule” to decode many new words.

Continues to print legibly, and can write all letters in cursive with correct formation.

Can readily spell many first- and second-grade spelling words, and extrapolate spellings for others.

Can write clear sentences that start with capital letters and end with correct punctuation. Has done minimally two thousand words of his own writing while on the Form, and can write journal entries, letters, directions, stories and poems.
MATHEMATICS

1. Has these mathematical abilities and can do these mathematical operations:
   - Count up to 999 and write the standard numerals
   - Easily demonstrate, using amounts, addition (up to a sum of 20) and subtraction (minuends of 20 or less)
   - Add and subtract numbers using 2-digit numerals
   - Add and subtract numbers using 2-digit numerals and regrouping
   - Can easily demonstrate multiplication using amounts (up to 5 x 5)
   - Multiply numbers using numerals up to 5
   - Add money (total up to $1.00) or subtract money (from $1.00 or less)
   - Identify place value to tens’ place
   - Identify and write basic fractions
   - Tell time to the nearest 5 minutes
   - Count change to $1.00 easily
   - Solve problems by applying addition and subtraction to real situations

2. Knows addition and subtraction facts up to “nine’s” and multiplication facts up to “five’s” at an instant response level.

LEARNING AND RESEARCH SKILLS

1. Can examine things and situations in the world around him, and make and relate his own observations about them. Can make suppositions, and can pose, and propose solutions to, simple problems.

2. Knows what a dictionary is for. Has had lots of experience looking in simple learning dictionaries and is familiar enough with them to find specified entry words and read their meanings.

3. Can accurately follow written directions and complete simple checklists on his own.

LIVING SKILLS

1. Knows what good table manners are.

2. Respects others’ communication.

3. Can apply basic rules of sanitation. 
   cleanliness handling of food
4. Knows and can observe basic rules of safety.
   - fire
   - household security
   - preventing accidents
   - electricity
   - scissors/tools
   - water safety
   - drugs/poisons/household chemicals

**GEOGRAPHY AND HISTORY**

1. Knows his own address, and can explain what it stands for.
2. Can explain what a map is and what it’s for.
3. Knows what a globe is, and can locate own position on a globe.
4. Knows what a continent is, and what an ocean is.
5. Can identify these geographical features.
   - mountains
   - hills
   - deserts
   - lakes
   - coasts
   - jungles
   - rivers
   - valleys
   - forests
   - streams
   - plains
6. Can use a compass to locate North, South, East and West.

**PHYSICAL EDUCATION**

1. Can run two miles.
2. Can cross hand-over-hand a 10-foot horizontal ladder independently.
3. Can jump rope.
5. Can dribble, catch and throw a ball skillfully.

**ARTS AND MUSIC**

1. Can create drawings, paintings, prints, crafts.
2. Can follow basic rhythms.
3. Participates in group singing and dances. Knows several songs well.
4. Has experienced a variety of types and styles of music, including music of other cultures.
   - classical
   - folk
   - rhythm & blues
   - Native American
   - Latin
   - jazz
   - country/western
   - African
   - Celtic
GENERAL PRACTICAL ABILITIES

Students on Form 1 are required to spend at least 50% of their time in school in activities intended to impart a practical skill or give the student an opportunity to compare data learned to the environment. This can include time spent in physical education, living skills or art and music instruction, as well as field trips and any other projects or activities that fit the above description.

While on Form 1 students should gain at least ten of the Forms 1 and 2 abilities listed below:

**Individual and Family**

1. Can prepare simple meals, set a table and clean up afterwards.
2. Able to can foods under supervision.
   *food storage and spoilage*
3. Can harvest a garden.
4. Can do routine household cleaning chores and keep own space neat and clean.
   *dusting    mopping    vacuuming    sweeping*
5. Can ride a two-wheeled bicycle with some skill.
6. Can avoid accidents and handle them well when they occur.
   *traffic safety    glass    poisons    bicycle    pedestrian*
7. Can pack a suitcase for an overnight trip.
8. Can participate well in an overnight camping trip, help with camp duties and contribute to making the outing successful.
   *campfires and cooking    equipment    safety    handling an unknown environment*
9. Can swim.

**Groups and Society**

1. Can participate well as a member of an organized group.
2. Can demonstrate understanding of what money is and how it is earned, can make correct change for purchases less than a dollar.
   *buying    earning    selling*
3. Can use telephone independently for long distance telephone calls and demonstrate an understanding of long distance communication by telephone, radio and telegraph.
4. Can communicate simply in a foreign language, being able to identify and say fifty words.

<table>
<thead>
<tr>
<th>greetings</th>
<th>common verbs/nouns</th>
<th>parts of the body</th>
<th>pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Can participate in mock or real election.

6. Can participate in community service activities.

**Mathematics and Sciences**

1. Can take care of an animal so it survives well.

2. Can take care of a plant so it survives well.

3. Understands and can trace basic food chains.

4. Can recognize common life forms in the environment and explain their role.

5. Can find a variety of seeds and has gotten some to grow.

6. Can ride a horse.

7. Can demonstrate understanding of the group structure of a social insect and can recognize such.

8. Can recognize major parts of a farm and demonstrate understanding of function of each.

<table>
<thead>
<tr>
<th>livestock</th>
<th>storage (silos, barns)</th>
<th>orchards</th>
<th>machinery</th>
<th>fields</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

9. Can design and build a simple structure with hand tools.

<table>
<thead>
<tr>
<th>design and dimensions</th>
<th>tools</th>
<th>geometry</th>
<th>fasteners (nails, screws, glue)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

10. Can draw and follow simple maps.

11. Can use telescope and binoculars.

12. Can use gardening tools and help grow a garden.

13. Can build a simple circuit (battery-switch-light bulbs) and demonstrate Ohm's Law.

14. Can set up a computer and write and run a simple program.

15. Can repair a bicycle tire.

16. Can fix a leaky faucet.

17. Can build and use a weather vane.
18. Can make and use a simple barometer.
19. Can make and use a rain gauge.
20. Can refinish or repaint a surface.
21. Can use timetables and maps to plan a trip.
22. Can use a highway map to plan and navigate an automobile trip.

**Arts and Music**

1. Can play a musical instrument.
   
   *rhythm instruments*  *recorder*  *piano*  *violin*

2. Can make wrapping paper.
3. Can make a plaster cast.
4. Can make a costume for a play.
5. Can create gifts.
6. Can make a book (for use as a scrapbook or album).
7. Can do some folk dances.
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE**

**General Graduation Requirement:** Lower School graduates should be able to make themselves understood clearly, both orally and in writing, handwrite in two forms clearly and neatly, and read well enough that reading has become a useful tool for learning.

1. Enjoys reading, and reads smoothly and accurately with understanding at an end-of-third-grade level, both silently and aloud. Has read several third-grade readers and has comfortably read at least 250 pleasure readers while on Form 2, well-balanced over the span of difficulty of the Form.

2. Continues to successfully decode new words encountered while reading at a third-grade level.

3. Continues to print legibly. Can write a story or composition in well-formed, easily readable cursive handwriting.
4. Can readily spell regular and irregular words (including many plurals, singular possessives and suffixed forms of words) at a third grade level. Can extrapolate the spellings of other words, and can use a simple spelling dictionary.

5. Can write well-structured sentences and organized paragraphs. Has done several thousand words of his own writing while on the Form. Can express himself well and write clear, readable letters, stories, explanations (of how to do something or get somewhere), reports and essays.

**MATHEMATICS**

**General Graduation Requirement:** Lower School graduates should have a good concept of numbers and counting, be able to use numbers in normal life situations and be competent at arithmetic.

1. Has the following mathematical abilities/can do these operations:
   - Identify and understand numerals up to ten thousands including place value
   - Add and subtract numbers using numerals up to the 3-digit level with regrouping
   - Multiply a 1-digit numeral by a 1-digit numeral
   - Divide a 2-digit numeral by a 1-digit numeral (no remainder)
   - Write fractions describing parts of regions and sets
   - Find a fractional part of a quantity (1/2, 1/3, 1/4, 1/5)
   - Use fractions to solve simple problems
   - Count any amount of money (dollar bills and coins) up to $10.00. Compute sums of two amounts of money less than $10.00. Compute change for purchases of less than $10.00.
   - Read a clock to the nearest minute
   - Measure in inches and centimeters
   - Gather information from a simple bar graph
   - Recognize congruent figures
   - Identify basic plane and solid geometric shapes and find examples of them in the environment

2. Knows addition and subtraction facts up to “elevens” and multiplication and division facts up to “nines” at an instant response level.

**LEARNING AND RESEARCH SKILLS**

**General Graduation Requirement:** Lower School graduates should be launched into learning using checksheets.
1. Understands some basic terms used in learning, for example *look, learn, understand, mass, gradient, word, checksheet, study, demonstrate* and *clay demonstration*.

2. Knows one can run into barriers when studying and learning. Understands some basic terminology regarding these, for example *barrier, not having the mass, skipped gradient, misunderstood word*. Understands that running into a barrier can cause a reaction, and that each barrier has a remedy. Has had experience with each barrier and its remedy.

3. Can use a Form 2-level dictionary to find a word, locate the definition being looked for, and read it for understanding.

4. With teacher help, can successfully learn using simple checksheets.

5. Can help another student learn.

   - *reading partner*
   - *drilling partner*
   - *checking another’s work*

6. Can pose questions about things he wants to know, do quick studies of them by observing, gathering information from others, and using very simple texts or encyclopedias and say what he has learned.

   **Sample topics:**
   - *A President*
   - *Where my family came from*
   - *How do ants work together?*
   - *An inventor*
   - *A famous artist*
   - *How was the airplane invented?*
   - *Life in a nearby field*
   - *What is coal?*
   - *What is a rainbow?*

### LIVING SKILLS

**General Graduation Requirement:** Lower School graduates should have a usable understanding of acceptable customs in groups, at the table, meeting people, on the telephone and in the family.

**General Graduation Requirement:** Lower School graduates should have a good understanding and use of safety rules and reasons in their environment.

**General Graduation Requirement:** Lower School graduates should have had experience as members of groups, including contributing and taking on appropriate responsibilities.

1. Knows accepted customs for at least these:
   - meeting people
   - answering the telephone
   - introducing people
   - invitations (giving and receiving)
   - politeness at meals
2. Can apply basic rules of sanitation.
   cleanliness  handling of food

3. Knows and can observe basic rules of safety.*
   fire  household security  preventing accidents  electricity
   scissors/tools  water safety  drugs/poisons/household chemicals

4. Can demonstrate an understanding of the give-and-take of relationships within the family, the school and with friends.

5. Understands some basic rules applying to groups he or she is a member of.

**GEOGRAPHY AND HISTORY**

1. Can locate own position on a globe and identify the North Pole and South Pole and equator.

2. Can show (on a globe) the continents and oceans and name them.

3. Can identify these geographical features.*
   mountains  hills  deserts  lakes  coasts  jungles
   rivers  valleys  forests  streams  plains

4. Can use a compass to locate North, South, East and West.*

5. Can recognize symbols on a map and can use a map to find directions and locations.

6. Understands what stars, planets and satellites are and their relationship to Earth.

7. Can recognize major parts of a town or city and demonstrate their functions.
   school  post office  thoroughfares  parks  sanitation
   fire station  stores  residential districts  police department
   town hall  sewage plant

**SCIENCE**

*General Graduation Requirement:* Lower School graduates should be confronting their environment to the extent of being able to differentiate many different life forms, interact responsibly with several types of mechanical devices, and safely use simple tools to achieve some control or change on the environment.

1. Knows what air is, what it does, and some ways it can be used.
2. Understands how the animal kingdom is divided into classes and can name some of them.

- amphibians
- fish
- mammals
- reptiles
- crustaceans
- birds
- spiders
- insects

**PHYSICAL EDUCATION AND SPORTS**

1. Can run two miles.*
2. Can cross hand-over-hand a 10-foot horizontal ladder independently.*
3. Can jump rope.*
4. Can do 20 gymnastic positions and stunts.*
5. Can dribble, catch and throw a ball skillfully.*
6. Can perform exercises and activities of these types:
   - Warm up exercises
   - Bounce a ball around obstacles
   - Catch and throw a ball with a partner 15 feet away
   - Kick a soccer ball to a partner 20 feet away
   - Dribble a soccer ball around obstacles; trap a rolling soccer ball with one or two feet
   - Running games
   - Stunts and tumbling
7. Knows rules and can compete in one or more team sports; can participate well as a team member.

- kickball
- field hockey
- softball
- soccer

**ARTS AND MUSIC**

1. Participates in group plays.
2. Continues to create art and can work in several media.

- watercolor
- collage
- crafts
- ceramics
- printmaking
- mobiles
3. Can vocally match pitch with a melodic instrument.
4. Participates in group singing, and can sing rounds and partner songs. Knows several songs well.
5. Has experienced a variety of types and styles of music, including music of other cultures.*

<table>
<thead>
<tr>
<th>classical</th>
<th>folk</th>
<th>rhythm &amp; blues</th>
<th>Native American</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin</td>
<td>jazz</td>
<td>country/western</td>
<td>African</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Celtic</td>
</tr>
</tbody>
</table>

**GENERAL PRACTICAL ABILITIES**

Students on Form 2 are required to spend at least 50% of their time in school in activities intended to impart a non-academic skill or give the student an opportunity to compare data learned to the environment. This can include time spent in physical education, living skills, or art and music instruction, as well as field trips and any other projects or activities that fit the above description.

While on Form 2 students should gain at least ten of the Form 1 and 2 abilities listed below:

**Individual and Family**

1. Can prepare simple meals, set a table and clean up afterwards.
2. Able to can foods under supervision.
   
   *food storage and spoilage*
3. Can harvest a garden.
4. Can do routine household cleaning chores and keep own space neat and clean.
   
   *dusting       mopping       vacuuming       sweeping*
5. Can ride a two-wheeled bicycle with some skill.
6. Can avoid accidents and handle them well when they occur.
   
   *traffic safety       glass       poisons       bicycle       pedestrian*
7. Can pack a suitcase for an overnight trip.
8. Can participate well in an overnight camping trip, help with camp duties and contribute to making the outing successful.
   
   *campfires and cooking       equipment       safety       handling an unknown environment*
9. Can swim.
Groups and Society

1. Can participate well as a member of an organized group.

2. Can demonstrate understanding of what money is and how it is earned, can make correct change for purchases less than a dollar.

   \[ \text{buying} \quad \text{earning} \quad \text{selling} \]

3. Can use telephone independently for long distance telephone calls and demonstrate an understanding of long distance communication by telephone, radio and telegraph.

4. Can communicate simply in a foreign language, being able to identify and say fifty words.

   \[ \text{greetings} \quad \text{common verbs/nouns} \quad \text{parts of the body} \]
   \[ \text{pronouns} \quad \text{numbers} \quad \text{colors} \]

5. Can participate in mock or real election.

6. Can participate in community service activities.

Mathematics and Sciences

1. Can take care of an animal so it survives well.

2. Can take care of a plant so it survives well.

3. Understands and can trace basic food chains.

4. Can recognize common life forms in the environment and explain their role.

5. Can find a variety of seeds and has gotten some to grow.

6. Can ride a horse.

7. Can demonstrate understanding of the group structure of a social insect and can recognize such.

8. Can recognize major parts of a farm and demonstrate understanding of function of each.

   \[ \text{livestock} \quad \text{storage (silos, barns)} \quad \text{orchards} \quad \text{machinery} \quad \text{fields} \]

9. Can design and build a simple structure with hand tools.

   \[ \text{design and dimensions} \quad \text{tools} \quad \text{geometry} \quad \text{fasteners (nails, screws, glue)} \]

10. Can draw and follow simple maps.

11. Can use telescope and binoculars.
12. Can use gardening tools and help grow a garden.
13. Can build a simple circuit (battery-switch-light bulbs) and demonstrate Ohm’s Law.
14. Can set up a computer and write and run a simple program.
15. Can repair a bicycle tire.
16. Can fix a leaky faucet.
17. Can build and use a weather vane.
18. Can make and use a simple barometer.
19. Can make and use a rain gauge.
20. Can refinish or repaint a surface.
21. Can use timetables and maps to plan a trip.
22. Can use a highway map to plan and navigate an automobile trip.

**Arts and Music**

1. Can play a musical instrument.
   *rhythm instruments*  *recorder*  *piano*  *violin*
2. Can make wrapping paper.
3. Can make a plaster cast.
4. Can make a costume for a play.
5. Can create gifts.
6. Can make a book (for use as a scrapbook or album).
7. Can do some folk dances.
GENERAL GRADUATION REQUIREMENTS
for the Elementary School (Form 3– Form 4)

These requirements relate to those of the Middle and Upper School as a progression toward them, but they must be used in their own right—as a specification of the areas of full competence expected at this level. What a student is required to do, he should do well.

1. Elementary School graduates should have good language and communication skills, both oral and written, and should have actively entered upon the path of broadening their horizons through literature.
   - control of basic mechanics of written communication—spelling, punctuation, elementary usage, and especially handwriting
   - ability to write stories and reports with good basic structure and a readable presentation
   - ability to read aloud clearly

2. Elementary School graduates should be competent in arithmetic and basic mathematics, and have basic word processing ability.
   - arithmetic, geometry
   - instant math facts

3. Elementary School graduates should have a foundation in science and its applications as manifested in their immediate environments.
   - life and physical sciences
   - investigating/cataloging
   - tools handling, mechanical devices, electricity

4. Elementary School graduates should have a basic understanding of ethics and morals adequate to provide a beginning foundation for interacting with their fellow students, families and the school.
   - personal ethics and honesty
   - groups and morals

5. Elementary School graduates should have a good understanding of the geography of their own continent, a general understanding of world geography, and a beginning understanding of history and current events.
   - physical and cultural geography
   - current events
   - individuals in history, biographies

6. Elementary School graduates should know how to achieve good educational progress by using Study Technology as learned and seeking assistance when needed. They should be able to help others learn to use information.
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE (INCLUDING FOREIGN LANGUAGE)**

1. Has read widely and in volume on Form 3, and has participated in seminars on Form 3 books. Can read a variety of mid-fifth-grade material (both silently and aloud) with good understanding, including works of fiction, history, biography and non-fiction. Examples of such materials are *Mr. Popper’s Penguins, Sarah, Plain and Tall* and *Little House on the Prairie*.

2. Continues to print legibly and writes cursive in a regular and legible hand.

3. Consistently writes with few misspellings of common Form 3-level words (about one per 100 words).

4. Can identify familiar nouns, verbs and modifiers (including articles) without reference to a dictionary, and use them in sentences.

5. Knows the difference between present, future and simple past verb forms (including some irregular ones) and uses them correctly in writing.
6. Writes compositions that communicate well; has written a few thousand words of compositions, letters, poems, short stories, etc., while on this Form.

7. Can carry on a simple conversation in a foreign language with a vocabulary of at least 150 words.

**MATHEMATICS**

1. Can do these mathematical operations:
   - Add and subtract large numbers
   - Multiply and divide multiple-digit numbers, including remainders
   - Read and write numerals to millions, and name the place value of each digit
   - Read and write Roman numerals using I, V and X
   - Compute averages
   - Identify and demonstrate common fractions
   - Add, subtract and compare fractions
   - Use decimals (to hundredths)
   - Do computations with money (dollars and cents)—addition, subtraction, multiplication and division
   - Do measurements and computations involving geometric figures
   - Make measurements in both common and metric systems of length, weight and volume.

2. Knows mathematics facts up to “twelves” at an instant response level.

**LEARNING AND RESEARCH SKILLS**

1. Can achieve good understanding and use of materials studied by applying Study Technology as learned and getting help when needed.

2. Can independently use a dictionary appropriate to his reading level to find and learn the meanings of words.

3. Can pose questions about things he wants to know, do quick studies of them by observing, gathering information from others and using very simple texts or encyclopedias, and say what he has learned.*

4. Can use a children’s encyclopedia well for reference and research.

5. Can effectively help other students learn.

   *reading partner*  *spelling partner*  *drilling partner*  *checking another’s work*
6. With adult consultation, can complete pre-structured projects to a good result using his own initiative, drive and learning skills.

**LIVING SKILLS**

1. Knows what manners are.

2. Knows accepted customs for at least these:*
   - meeting people
   - answering the telephone
   - introducing people
   - invitations (giving and receiving)
   - politeness at meals

3. Understands what a moral code is with examples; understands some basic rules applying to groups he or she is a member of.

4. Knows basic rules for staying healthy; knows how to avoid obviously unhealthy diet habits.
   - personal hygiene
   - healthful food
   - exercise
   - types of food: protein, carbohydrate, fat, fiber

5. Can handle several simple first aid situations.

6. Can cook dishes from recipes; can plan and prepare meals for self and others, and clean up afterwards.

7. Can take care of basic hand tools, and use them for beginning construction and repair projects.

**GEOGRAPHY, HISTORY AND CURRENT EVENTS**

1. Can demonstrate the following using a globe and other objects: equator and poles of Earth, own location, phases of the moon, and cause of day-night cycle and seasons.

2. Using references, can fill in a map of the world, showing continents, oceans and major land forms (major rivers, mountains, deserts, plains); can identify these features on sight from maps, globes and pictures.

3. Using a globe and maps, can identify major climatic and life zones on Earth.
   - latitude and longitude
   - temperature zones
   - types of habitats
4. Can relate some current and historical events and people to geography.

   current events       autobiography and biography
   historical fiction   non-fiction

**SCIENCE AND TECHNOLOGY**

1. Can assemble a basic circuit from parts (battery, wires, light bulb, switch), and demonstrate Ohm’s Law using it.

2. Can use a microscope with multiple objectives to examine microscopic life and materials from living organisms and non-living objects.

3. Understands the life cycle of flowering plants. Knows what plants need to grow and has grown some from seed.

**PHYSICAL EDUCATION AND SPORTS**

1. Has participated regularly in the school’s physical education program.

2. Can compete in some team or individual sports.

   - swimming
   - softball
   - horseback riding
   - field hockey
   - track events
   - soccer
   - volleyball
   - dodge ball
   - relay races
   - kickball

3. Can run three miles.

**ARTS AND MUSIC**

1. Can participate in choir performances or sing solo music, or perform on an instrument.

   - rhythm
   - basic musical notation
   - melody
   - pitch

2. Can take part in dramatic or dance presentations.

3. Can produce interesting or attractive pieces in a visual art form or in a craft.

4. Has attended several concerts, performances and exhibits having to do with the arts (including arts and crafts).

**GENERAL PRACTICAL ABILITIES**

Student has interacted extensively with his environment throughout Form 3. Through participation in a rich program of practical activities, has attained a broader knowledge of his environment, a higher level of self-discipline and competence, and a number of practical skills he can use for living.
art instruction and projects  sports teams
choir  concerts, performances and plays
dance instruction  factories
first aid instruction  farms
4H  festivals and fairs
karate instruction  geographical areas
music instruction  hands-on science
horsemanship  archery club
historical sites and activities  multicultural activities
drama club  museums
robotics  nature and the outdoors

boating  cooking
camping  gardening
chemistry  magic
composting  chess club
cooking  sewing
geographical areas  swimming
hands-on science  using tools
nature and the outdoors
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE (INCLUDING FOREIGN LANGUAGE)**

**General Graduation Requirement:** Elementary School graduates should have good language and communication skills, both oral and written, and should have actively entered upon the path of broadening their horizons through literature.

1. Has read widely and in volume while on Form 4, and has participated in seminars on Form 4 books. Can read a variety of end-of-sixth-grade material (both silently and aloud) with good understanding, including works of fiction, history, biography and non-fiction. Examples of such material are *A Little Princess*, *The Secret Garden* and *The Cay*.

2. Continues to print legibly and writes in cursive in a regular and legible hand.*

3. Consistently writes with few misspellings of common Form 4-level words (about one per 150 words).
4. Has a good command of the mechanics of writing, e.g.:
   - Can define and identify the basic parts of speech
   - Can recognize and use transitive and intransitive verbs
   - Can use correct capitalization and punctuation
   - Writes in complete sentences
   - Uses these words properly (sit, sat, set; a, an; may, can; is, are; was, were; has, have; doesn’t, don’t; I, me; we, us)
   - Forms plurals and possessives correctly

5. Writes compositions that communicate well; has written several thousand words of compositions, letters, poems, short stories, etc., while on this Form.

6. Can carry on a conversation in a foreign language with a vocabulary of 300 words.

**MATHEMATICS**

*General Graduation Requirement:* Elementary School graduates should be competent in arithmetic and basic mathematics, and have basic word processing ability.

1. Can do these mathematical operations:
   - Add 2- and 3-digit numerals
   - Find difference of two 4-digit numerals
   - Multiply 3-digit numerals by 3-digit numerals
   - Divide 4-digit numerals by 2-digit numerals
   - Perform operations involving mixed fractions
   - Find common denominators with fractions (6ths, 8ths, 10ths)
   - Perform operations to thousandth decimal place
   - Find perimeter and volume of simple geometric shapes
   - Do operations involving percents
   - Make and read bar graphs, circle graphs and line graphs
   - Use ratios to solve problems
   - Perform operations with integers
   - Describe and use fundamental geometric concepts and forms.

2. Knows addition, subtraction, multiplication, division and reducing fractions math facts at an instant response level.
LEARNING AND RESEARCH SKILLS

General Graduation Requirement: Elementary School graduates should know how to achieve good educational progress by using Study Technology as learned and seeking assistance when needed. They should be able to help others learn to use information.

1. Can achieve good understanding and use of materials studied by applying Study Technology as learned and getting help when needed.

2. Can independently use a dictionary appropriate to his reading level to find and learn the meanings of words.*

3. Can effectively help other students learn.

   effective coaching  good checkouts

4. Can use direct observation, an almanac and a children’s encyclopedia well for reference and research.

5. Knows some ways data can be logical and illogical and can distinguish fact from opinion.

   logic   illogic   sanity

6. With adult consultation, can complete pre-structured projects to a good result using his own initiative, drive and learning skills.

LIVING SKILLS

General Graduation Requirement: Elementary School graduates should have a basic understanding of ethics and morals adequate to provide a beginning foundation for interacting with their fellow students, families and the school.

1. Understands and can apply the basics of manners.

2. Knows accepted customs for at least these:*  
   - meeting people  
   - speaking on telephone  
   - introducing people  
   - invitations (giving and receiving)  
   - politeness at meals

3. Understands what a moral code is with examples; understands some basic rules applying to groups he or she is a member of.

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* Checklist: the action of verifying a student’s knowledge of and ability to apply the information on a selected portion of his materials.
4. Knows basic rules for staying healthy; knows how to avoid obviously unhealthy diet habits.*
   - personal hygiene  healthful food  exercise
   - types of food: protein, carbohydrate, fat, fiber

5. Knows and can observe basic rules of safety and emergency first aid.

6. Can prepare main dishes, vegetables, salads, bread and do menu planning.

7. Can type 25 words per minute, using correct hand and body positions, with a minimum accuracy of 95%.

**GEOGRAPHY, HISTORY AND CURRENT EVENTS**

*General Graduation Requirement:* Elementary School students should have a good understanding of the geography of their own continent, a general understanding of world geography, and a beginning understanding of history and current events.

1. Can demonstrate the following using a globe and other objects: equator and poles of Earth, own location, phases of the moon, and cause of day-night cycle and seasons.*

2. Can read and interpret several different kinds of maps.
   - political maps  physical geography maps  resource maps
   - relief maps  road and street maps

3. Understands how trade, in combination with geography, can influence the way civilizations develop.
   - trade routes: silk road and spice route  commerce
   - exchange of ideas and technologies  geographic barriers

4. Has some familiarity with American history and can relate some events from these topics and periods to the present:
   - European settlement of America
   - American Revolution and the Constitution
   - Industrial Revolution in America
   - Slavery and the Civil War
   - Expansion to the west and abroad
   - Inventions and industrialization
   - Immigration
   - Unions and labor
• Trend toward equal rights
• The U.S. in the 1900s and 2000s

**SCIENCE AND TECHNOLOGY**

*General Graduation Requirement:* Elementary School graduates should have a foundation in science and its applications as manifested in their immediate environments.

1. Understands what a machine and engine are and can make or test several simple engines.
2. Can identify and distinguish various kinds of wiring encountered in the home, understands their purpose and use and knows how to handle them safely.
3. Can use simple machines to make work easier and to move heavy objects.
4. Can explain the function and structure of the circulatory system and trace the flow of blood through the body.
   
   heart  veins  lungs  capillaries  arteries

5. Understands how nutrients are recycled into the soil for plants to use.
6. Can identify the parts of a computer and knows what they do (e.g. monitor, keyboard).

**PHYSICAL EDUCATION AND SPORTS**

1. Has participated regularly in the school’s physical education program.
2. Can compete in some team or individual sports.
   
   swimming  softball  horseback riding  field hockey
   track events  soccer  volleyball  dodge ball
   relay races  kickball

3. Can run four miles.

**ARTS AND MUSIC**

1. Can take part in a musical performance (vocal, dance or instrumental).
2. Can create visual art appropriate for display.
   
   painting  textiles  drawing  sculpture
   ceramics  crafts

3. Has been to several museum exhibits and concerts.
GENERAL PRACTICAL ABILITIES

Student has interacted extensively with his environment throughout Form 4. Through participation in a rich program of practical activities, has attained a broader knowledge of his environment, a higher level of self-discipline and competence, and a number of practical skills he can use for living.

- art instruction and projects
- choir
- dance instruction
- first aid instruction
- 4H
- karate instruction
- music instruction
- horsemanship
- historical sites and activities
- drama club
- robotics
- woodworking
- sports teams
- concerts, performances and plays
- factories
- farms
- festivals and fairs
- geographical areas
- hands-on science
- archery club
- multicultural activities
- museums
- nature and the outdoors
- boating
- camping
- chemistry
- composting
- cooking
- gardening
- magic
- chess club
- sewing
- swimming
- using tools
Middle School
FORM 5 & FORM 6*

*In some Delphi Schools, Form 6 is considered part of the Upper School.
GENERAL GRADUATION REQUIREMENTS
for the Middle School (Form 5 – Form 6)

These requirements necessarily derive from and coordinate with the General Requirements for graduation from the Upper School, providing a progressive approach toward them. In use it is important that they are not regarded as a diluted version of the Upper School requirements, but rather a specification of the areas of full competence expected at this level. What a student does, he should do well.

1. Middle School graduates should have excellent language and communication skills, both oral and written, and be becoming familiar with their cultural heritage through literature.
   • ability to write readily, both in volume and economically as needed, with a readable presentation
   • good control of the mechanics of written communication—spelling, punctuation, elementary usage, and especially handwriting
   • ability to read and comprehend both fiction and non-fiction literature; can use newspapers and magazines satisfactorily for research work

2. Middle School graduates should be thoroughly competent in arithmetic and basic mathematics.
   • arithmetic, algebra, geometry and mental math

3. Middle School graduates should have a foundation in science and its applications to their lives.
   • physical and life science
   • scientific investigation and practical applications

4. Middle School graduates should have a usable command of the meanings of ethics, personal integrity and morals adequate to provide a foundation for their further interaction with their families, fellow students and the school.
   • personal ethics and honesty
   • integrity and “backbone”
   • groups and morals

5. Middle School graduates should have an understanding of geography and history adequate to enable them to locate the ideas involved in major current events and situations and relate them to their geographical and historical context.
   • geography and current events
   • governments, world and national history
   • individuals in history, biographies

6. Middle School graduates should be proficient students, able to use Study Technology effectively to pursue own educational aims, and be self-reliable in their studies. They should be able to find data and competently report on it.
   • responsible for own study basics
   • elementary research and logic

7. Middle School graduates should understand the basics of teamwork, leadership and group membership, and have contributed constructively to a group.
   • giving/taking orders
   • manners/customs
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE (INCLUDING FOREIGN LANGUAGE)**

1. Has read widely and in volume while on Form 5, and has participated in seminars on Form 5 books. Can read a variety of end-of-eighth-grade material (both silently and aloud) with good understanding, including works of fiction, history, biography and non-fiction. Examples of such material are *The Adventures of Tom Sawyer* and *The True Confessions of Charlotte Doyle*.

2. Continues to write cursive in a regular and legible hand.*

3. Demonstrates good, consistent spelling discipline and can consistently write a 250-word paper with no more than one or two spelling errors.

4. Has a very good command of the mechanics of writing:
   - basic capitalization
   - basic punctuation
• subject-verb agreement
• usage (correct choice of words)
• sentences
• paragraphs

5. Can define and identify each of the basic parts of speech.

6. Writes compositions that communicate well; has written and had coached a minimum of 250 words a month of compositions, letters, poems, short stories, etc., while on this Form.

7. Has studied a second language continuously throughout this Form and can use what has been studied, or otherwise has acquired the ability equivalent.

**MATHEMATICS**

1. Can do these mathematical operations:
   - Arithmetic operations with whole numbers, fractions, decimals, percents, and integers
   - Solve simple algebraic equations
   - Solve problems by graphing equations with two variables
   - Solve problems using the metric and customary system
   - Solve problems involving ratios and proportions
   - Simple statistics
   - Make and read bar graphs, circle graphs and line graphs
   - Define geometric shapes mathematically (in geometric terms)
   - Find perimeters and areas of common plane figures
   - Find surface areas and volumes of common solid figures
   - Solve problems using congruence, similarity, parallel lines and Rule of Pythagoras
   - Measure arcs and angles
   - Do basic construction with compass and straightedge.

2. Knows addition, subtraction, multiplication, division, fractions to decimals, decimals to fractions, fractions to percents and percents to fractions math facts at an instant response level, and is maintaining this ability.

**LEARNING AND RESEARCH SKILLS**

1. Can use Study Technology competently to further own educational progress.

2. Can effectively help others achieve practical application in their studies.
3. Can identify data that are logical and illogical and distinguish fact from opinion.

   logic   sanity   illogic

4. Can carry out research utilizing written sources and direct observation, and understands the importance of accuracy in research.

   research reports   library skills   Internet   observation

   types of data   accuracy

**LIVING SKILLS**

1. Understands and can apply the basics of manners.

2. Understands what a moral code is with examples.

3. Knows and can observe basic rules of safety and emergency first aid.

4. Understands what ethics is and how to survive well through ethics.

   good   personal decisions   reason   evil

   effects of destructive acts

5. Understands what proper exchange is and its importance; can write a proposal which incorporates proper exchange.

6. Types accurately, correctly and with useful speed.

**GEOGRAPHY, HISTORY, GOVERNMENT AND CURRENT EVENTS**

1. Can describe major features of own country and its regions.

   regional products   physical features   political divisions

2. Can identify/tell a little about major people and events in world today.

   government   humanities   science

   arts   economics   business

3. Knows what history is, and how to study it so as to be able to use it (history as a study of ideas rather than events).

   evaluation of historical data

4. Knows some of the important ideas and people associated with the history of the following and can relate some events from these civilizations/cultures to the present:
   • Ancient Middle East
• Greece
• Rome
• Middle Ages
• Modern History (Europe, New World, Asia)

SCIENCE AND TECHNOLOGY
1. Can explain what chemistry is and do some simple experiments that demonstrate a few basic chemical reactions.

   solutions and mixtures          oxidation–reduction          crystallization
   emulsification                 acid–base                    electrolytic reactions

2. Can demonstrate understanding of basic function and structure of the human body and apply this data to maintenance of own health (exercise, nutrition).

   circulatory system          muscles and skeleton          nervous system
   respiratory system          endocrine system             reproductive system
   digestive system

3. Can operate a word processing program effectively.

4. Knows how to write a basic computer program.

PHYSICAL EDUCATION AND SPORTS
1. Has participated regularly in the school’s physical education or sports program.

2. Can compete in some team or individual sports.

   baseball          swimming          softball          soccer
   horseback riding  basketball       field hockey       volleyball
   track events

3. Can run five miles.

ARTS AND MUSIC
1. Can take part in a theatrical or musical (vocal, dance or instrumental) performance.
GENERAL PRACTICAL ABILITIES

Students on Form 5 are required to earn 60 units of practical credit (or more if needed to fulfill requirements below). No more than 25 of these may consist of practical instruction (more commonly called Afternoon Activities). The number of units earned for practical instruction is figured by dividing the number of hours of instruction by 7.5.

While on Form 5 students should gain at least eight of the Forms 5 and 6 abilities listed below:

**Individual and Family**

1. Can handle all common situations requiring first aid.
   - bleeding
   - artificial respiration
   - shock
   - lifesaving (swimming)
   - anatomy and physiology
   - poisons
2. Can maintain own health and personal appearance.
   - exercise
   - posture
   - nutrition
   - grooming
   - drugs
   - medicine
   - clothing
   - sewing
3. Can do routine household repairs.
4. Shops well.
   - wholesale/retail outlets
   - sales
   - discounts
   - quality evaluation
5. Can care for and teach younger children.
   - control
   - ethics
   - safety
   - communication
   - interest
   - education
6. Can plan and prepare an excellent diet for a family.
7. Can create complex garments.
8. Can earn enough money to handle personal needs.
10. Can plan and carry out a three-day backpacking trip.
    - equipment
    - maps
    - food
    - safety

**Groups and Society**

1. Participates in community service projects.
2. Participates in local community governmental affairs.

3. Can run a simple business.
   
   administration  sales  production  promotion  finance

4. Can investigate a local, state or federal issue of government and make a well-reasoned recommendation as to its resolution.

5. Can plan, organize and lead a group activity.

6. Can carry out secretarial duties for a small office.
   
   typing  filing  handling correspondence

7. Participates in student government.

8. Can create and design an effective campaign to promote a product, service or activity.

9. Can prepare and deliver an effective 10-minute oral presentation to a group.

10. Can write letters with good presentation to government representatives and officials that urge a particular course of action, based on an understanding of relevant current events.

**Mathematics and Sciences**

1. Can cross plants to get a hybrid.
   
   genetics

2. Can follow a map by compass, can find own way around a city or across country with a road map.

3. Can grow a garden.

4. Can ensure that milk and water are safe to drink.
   
   chemistry  field tests

5. Can survive well in the wilds for a week.
   
   shelter  edible plants  orientation

6. Can survey with transit and chain; can use sextant and charts to locate position on the planet (or time of night) and directions.

7. Can chart a planet’s course across the sky.
   
   spherical coordinates
8. Can build a dome.
   \textit{spherical geometry} \hspace{1cm} \textit{construction} \hspace{1cm} \textit{materials}

9. Can program a computer.

10. Can determine a broad geologic history of area from observations.

11. Can build a methane generator, solar heater or windmill.

12. Can operate a greenhouse or hydroponics facility.

13. Can investigate the ecology of a particular area in detail.

14. Can build a radio or device of similar complexity.

15. Can take and develop photographs.

16. Can make a battery, telegraph and electric motor.

17. Can make a refracting or reflecting telescope, and a spectroscope.

18. Can build furniture.

19. Can tune up an automobile engine and do minor repair work.

20. Can use prisms and filters to get lighting effects.

21. Can find out how a refrigerator works.

22. Can find out how you get beats in sound waves.

23. Can find out what causes tides.

\textbf{Arts, Philosophy and Religion}

1. Can play a musical instrument well.
   \textit{keyboard} \hspace{1cm} \textit{brass} \hspace{1cm} \textit{woodwinds} \hspace{1cm} \textit{percussion}
   \textit{strings} \hspace{1cm} \textit{musical theory and composition}

2. Can create visual art pieces for display.
   \textit{drawing} \hspace{1cm} \textit{sculpture} \hspace{1cm} \textit{painting} \hspace{1cm} \textit{textiles}
   \textit{ceramics} \hspace{1cm} \textit{mobiles}

3. Can write short stories, poems, essays for publication.

4. Can assist in the direction of a dramatic or musical production.
5. Can write a short play.

- **plot**
- **staging**
- **dialogue**
- **characterizations**

6. Can compose and write music with harmony.

7. Can create exchangeable crafts (textiles, pottery, jewelry, etc.).

8. Can copy works of professional artists.

9. Understands what philosophy and religion are; has studied a few examples of philosophies or religions, and can compare them to each other and relate them to life.

10. Can trace a particular philosophical idea through history to see how it influenced events.
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE (INCLUDING FOREIGN LANGUAGE)**

**General Graduation Requirement:** Middle School graduates should have excellent language and communication skills, both oral and written, and be becoming familiar with their cultural heritage through literature.

1. Has read widely and in volume while on Form 6, has participated in seminars on Homer and Shakespeare, and has increased skill in penetrating and understanding literature. Can read a variety of adult-level material (both silently and aloud) with good understanding, including works of fiction, history, biography and non-fiction. Examples of such material are *White Fang*, *To Kill a Mockingbird* and *Great Expectations*.

2. Writes cursive in a regular and legible hand.*

3. Writes essays, reports and letters clearly and well with good sentence structure, paragraphing, and overall organization, and few or no spelling, usage or punctuation errors; has written a minimum of 2,000 words a month while on this Form.
4. Can do the following in a second language:\footnote{Not applicable to non-native English speakers.}
   \begin{itemize}
   \item Using simple sentences, as appropriate, can understand and give simple data about everyday activities, such as greetings, addresses, numbers, time, etc.
   \item Can identify pertinent information by looking over instructions, brochures, maps, menus, etc. Can use a dictionary to read in more detail.
   \item Can fill out simple forms and write short phrases and lists which are comprehensible to persons accustomed to dealing with a non-native speaker. Can use references to be more accurate in grammar and spelling.
   \end{itemize}

**MATHEMATICS**

*General Graduation Requirement:* Middle School graduates should be thoroughly competent in arithmetic and basic mathematics.

1. Can set up and solve single variable algebraic equations\footnote{Algebra is the branch of mathematics that uses symbols to make general statements about relationships between quantities whose values are not necessarily known. These statements can then be used to calculate amounts, predict motion, etc. A \textit{variable} is a letter representing a quantity that may change. An \textit{equation} is a mathematical sentence that states that something is equal to something else. An example of an algebraic equation with a single variable would be $6 = x + 2$.} to evaluate geometric situations, and apply formulas\footnote{\textit{Formula}: a rule for computing something. The formula for finding the area of a rectangle is to multiply the length times the width.} more generally.

2. Can represent functions\footnote{\textit{Function}: a statement of how one quantity depends on another quantity. For example, the cost of running a car depends on the mileage put on the car, so cost is a function of mileage.} graphically.

3. Can set up and solve simultaneous linear equations\footnote{\textit{Simultaneous linear equation}: Simultaneous equations are two equations that are worked out at the same time to find one solution that works for both equations. A linear equation is an equation which, when graphed, makes a straight line. For example, here are simultaneous linear equations: \( y = 3x - 7 \) and \( y = 2x - 5 \). When different values are assigned to \( x \) and the values of \( y \) are found, and the two equations are graphed, the \( x \) and \( y \) points for each equation lie on a straight line. The one solution that works for both equations is the point where these lines cross.}.

4. Can set up and solve quadratic equations\footnote{\textit{Quadratic equation}: an equation in which at least one variable has an exponent\footnote{An exponent is a number written next to and slightly above another number, which tells how many times the lower number is used in multiplying itself. In $3^2$, 2 is an exponent which says that 3 is multiplied times itself twice, or $3^2 = 3 \times 3 = 9$.} of 2, but no variable has a higher exponent.} to predict motion and for other purposes.

5. Knows addition, subtraction, multiplication, division, fractions to decimals, decimals to fractions, fractions to percents and percents to fractions math facts at an instant response level.*
LEARNING AND RESEARCH SKILLS

General Graduation Requirement: Middle School graduates should be proficient students, able to use Study Technology effectively to pursue own educational aims, and be self-reliant in their studies. They should be able to find data and competently report on it.

1. Can use Study Technology competently to further own educational progress.*
2. Can effectively help others achieve practical application in their studies.*
3. Can evaluate data to find the cause of a situation and determine what to do to improve it (scope: a continuing problem in one’s personal life or schoolwork).
4. Can do research based on direct observation and the use of library facilities, and can write a report based on that research.

LEADERSHIP AND PLANNING

General Graduation Requirement: Middle School graduates should understand the basics of teamwork, leadership and group membership, and have contributed constructively to a group.

1. Can coordinate the related elements in planning to align organizations toward their desired production.

LIVING SKILLS

General Graduation Requirement: Middle School graduates should have a usable command of the meanings of ethics, personal integrity and morals adequate to provide a foundation for their further interaction with their families, fellow students and the school.

1. Can communicate effectively based on an understanding of the basic principles of communication.
2. Understands what integrity is and how to maintain one’s integrity.
4. Has an understanding of manners and their application.

GEOGRAPHY, HISTORY, GOVERNMENT AND CURRENT EVENTS

General Graduation Requirement: Middle School graduates should have an understanding of geography and history adequate to enable them to locate the ideas involved in major current events and situations and relate them to their geographical and historical context.
1. Can evaluate current events in the United States with an understanding of their roots in history. (If a foreign national, may substitute “their own country” for “United States.”)

**SCIENCE AND TECHNOLOGY**

*General Graduation Requirement:* Middle School graduates should have a foundation in science and its applications to their lives.

1. Can demonstrate structure of matter and chemical interaction; can predict basic chemical reactions.
2. Can demonstrate elementary laws of physics and use them to make predictions.
3. Can effectively and productively use a major computer operating system. Can manage files; locate and run programs; install and uninstall software or optional equipment, solve common problems through effective use of help programs and manuals.

**PHYSICAL EDUCATION AND SPORTS**

1. Has participated regularly in the school’s physical education or sports program.
2. Has participated successfully in at least one full season of an interscholastic sport.

**GENERAL PRACTICAL ABILITIES**

Students on Form 6 are required to earn 60 units of practical credit (or more if needed to fulfill requirements below). No more than 25 of these may consist of practical instruction (more commonly called Afternoon Activities). The number of units earned for practical instruction is figured by dividing the number of hours of instruction by 7.5.

While on Form 6 students should gain at least eight of the Forms 5 and 6 abilities listed below:

**Individual and Family**

1. Can handle all common situations requiring first aid.
   - bleeding
   - shock
   - poisons
   - artificial respiration
   - anatomy and physiology
   - lifesaving (swimming)

2. Can maintain own health and personal appearance.
   - exercise
   - posture
   - drugs
   - medicine
   - nutrition
   - clothing
   - grooming
   - sewing

7 This requirement can be moved to Form 7, with prior faculty approval.
3. Can do routine household repairs.
4. Shops well.
   wholesale/retail outlets  sales  discounts  quality evaluation
5. Can care for and teach younger children.
   control  ethics  communication
   safety  interest  education
6. Can plan and prepare an excellent diet for a family.
7. Can create complex garments.
8. Can earn enough money to handle personal needs.
10. Can plan and carry out a three-day backpacking trip.
    equipment  maps  food  safety

**Groups and Society**

1. Participates in community service projects.
2. Participates in local community governmental affairs.
3. Can run a simple business.
   administration  sales  production  promotion  finance
4. Can investigate a local, state or federal issue of government and make a well-reasoned recommendation as to its resolution.
5. Can plan, organize and lead a group activity.
6. Can carry out secretarial duties for a small office.
   typing  filing  handling correspondence
7. Participates in student government.
8. Can create and design an effective campaign to promote a product, service or activity.
9. Can prepare and deliver an effective 10-minute oral presentation to a group.
10. Can write letters with good presentation to government representatives and officials that urge a particular course of action, based on an understanding of relevant current events.
**Mathematics and Sciences**

1. Can cross plants to get a hybrid.
   
   *genetics*

2. Can follow a map by compass, can find own way around a city or across country with a road map.

3. Can grow a garden.

4. Can ensure that milk and water are safe to drink.

   *chemistry*  

   *field tests*

5. Can survive well in the wilds for a week.

   *shelter*  

   *edible plants*  

   *orientation*

6. Can survey with transit and chain; can use sextant and charts to locate position on the planet (or time of night) and directions.

7. Can chart a planet’s course across the sky.

   *spherical coordinates*

8. Can build a dome.

   *spherical geometry*  

   *construction*  

   *materials*

9. Can program a computer.

10. Can determine a broad geologic history of area from observations.

11. Can build a methane generator, solar heater or windmill.

12. Can operate a greenhouse or hydroponics facility.

13. Can investigate the ecology of a particular area in detail.

14. Can build a radio or device of similar complexity.

15. Can take and develop photographs.

16. Can make a battery, telegraph and electric motor.

17. Can make a refracting or reflecting telescope, and a spectroscope.

18. Can build furniture.
19. Can tune up an automobile engine and do minor repair work.

20. Can use prisms and filters to get lighting effects.

21. Can find out how a refrigerator works.

22. Can find out how you get beats in sound waves.

23. Can find out what causes tides.

**Arts, Philosophy and Religion**

1. Can play a musical instrument well.
   - keyboard
   - brass
   - woodwinds
   - percussion
   - strings
   - musical theory and composition

2. Can create visual art pieces for display.
   - drawing
   - sculpture
   - painting
   - textiles
   - ceramics
   - mobiles

3. Can write short stories, poems, essays for publication.

4. Can assist in the direction of a dramatic or musical production.

5. Can write a short play.
   - plot staging
   - dialogue
   - characterizations

6. Can compose and write music with harmony.

7. Can create exchangeable crafts (textiles, pottery, jewelry, etc.)

8. Can copy works of professional artists.

9. Understands what philosophy and religion are; has studied a few examples of philosophies or religions, and can compare them to each other and relate them to life.

10. Can trace a particular philosophical idea through history to see how it influenced events.
Upper School
FORM 7 & FORM 8*

*In some Delphi Schools, Form 6 is included in the Upper School.
GENERAL GRADUATION REQUIREMENTS
for the Upper School (Form 7 - Form 8)

1. Upper School graduates should have excellent language and communication skills, both oral and written, and be familiar with their cultural heritage through literature.
   - ability to communicate clearly and readably in writing
   - mastery of the mechanics of written communication—handwriting, spelling, punctuation, usage
   - can write in a slang-free or more formal style when needed
   - ability to read and comprehend a wide range of literature, as well as newspapers and magazines

2. Upper School graduates should be literate in mathematics as the language of science and technology and be computer literate.
   - algebra, geometry, trigonometry
   - functions as a way of thinking and communicating
   - productive use of computers

3. Upper School graduates should have a foundation in science and its applications adequate to permit them to participate causatively in the modern technological environment.
   - physical and biological sciences
   - laboratory work, investigations, practical applications

4. Upper School graduates should have a usable understanding of the subjects of ethics, personal integrity and morals adequate to provide a foundation for their creation of their lives.
   - personal ethics and honesty
   - integrity and “backbone”
   - groups and morals

5. Upper School graduates should have an understanding of history and the role of individuals in it adequate to enable them to analyze and evaluate current events and situations against the historical backdrop.
   - government and governments
   - current events, geography, world history and national history
   - religions
   - biographies

6. Upper School graduates should be proficient students. They should be able to be responsible for their further educations, and for the investigation and evaluation of data important to their lives.
   - responsible for own study
   - competent at research, both quick and in depth, and able to present findings understandably

7. Upper School graduates should understand the basics of planning, and the interrelationship of leadership, responsibility and trust, as well as having competently held a position of trust and responsibility in a group.
   - leadership and planning
   - teamwork/team activities, giving/taking orders
   - manners and customs
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE**

1. Has read several works of literature, independently and in seminars, representing different historical periods, styles and subject matter. Can read and evaluate with good depth of understanding works like *The Autobiography of Benjamin Franklin*, *David Copperfield* (Dickens) and *Macbeth* (Shakespeare).

2. Writes cursive in a regular and legible hand.*

3. Writes lucid and highly readable extended essays, reports, letters and documented research papers; has written a minimum of 3,000 words a month while on this Form.

**MATHEMATICS**

1. Knows addition, subtraction, multiplication, division, fractions to decimals, decimals to fractions, fractions to percents and percents to fractions math facts at an instant response level.*
2. For Non-Science and Technology Majors, choice of:

   A. Can solve the types of mathematical problems that appear in life, including simple applications of the fundamentals of trigonometry.

   B. Can apply a deeper understanding of functions\(^1\) and relations, including the use of quadratic functions\(^2\) in solving practical problems.

   C. Has mastered the principles of Euclidean (plane and solid) geometry and can apply these.

   \[\text{perimeters} \quad \text{volumes} \quad \text{congruence} \quad \text{areas} \quad \text{similarity}\]

**LEARNING AND RESEARCH SKILLS**

1. Can use Study Technology competently to further own educational progress.*

2. Can design an educational program for self or another in a given subject based on an understanding of the basic principles of education.

   \[\text{purpose and use of subjects} \quad \text{comparison of information to environment}\]

   \[\text{evaluation of data} \quad \text{student self-determinism}\]

3. Can pick an unfamiliar topic in an area related to career interest, and find out enough about it to be able to get an exchangeable product in that area.

4. Can evaluate data to find the cause of a situation and determine what to do to improve it (scope: a continuing problem in an ongoing school function or program, e.g., the science program, state of the school library, effectiveness of student council, level of production of a segment of the student body, etc.).

**LIVING SKILLS, LEADERSHIP AND PLANNING**

1. Knows and can apply the elements of a successful marriage and how to raise children to be responsible and happy.

   \[\text{agreements} \quad \text{children’s and adults’ rights} \quad \text{communication}\]

   \[\text{exchange} \quad \text{setting an example} \quad \text{goals}\]

2. Can improve one’s own condition in life and assist others by application of ethics technology.

   \[\text{ethics} \quad \text{justice} \quad \text{statistics}\]

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1. **function**: a statement of how one quantity depends on another quantity. For example, the cost of running a car depends on the mileage put on the car, so cost is a function of mileage.

2. **quadratic function**: functions that include the second power of a variable (\(x\) squared).
GEOGRAPHY, HISTORY, GOVERNMENT AND CURRENT EVENTS

1. Can trace back influential ideas through history and see their relationship to events and their place in current events.

- types of government
- empires
- nationalism
- revolution
- law
- alliances
- trade
- technology
- education systems
- economic systems
- religion
- art and music

2. Understands and can carry out duties as a citizen; knows how U.S. (or native country) government works and how to achieve something through the national government.

- U.S. Constitution
- function and structure
- federal government
- representation

SCIENCE AND TECHNOLOGY

1. Can demonstrate understanding of the fundamental processes of living organisms and apply this data with regards to own body and other living things.

- cell structure
- cellular reproduction
- cellular metabolism
- genetics

2. Can do word and data processing.

PHYSICAL EDUCATION AND SPORTS

1. Has participated regularly in the school’s physical education or sports program.

MAJORS

SCIENCE AND TECHNOLOGY MAJOR

1. Can use algebra in the solution of force, mass and prediction of motion problems.

2. Can apply a deeper understanding of functions and relations, including the use of quadratic functions in solving practical problems.

3. Has mastered the principles of Euclidean (plane and solid) geometry and can apply these.

- perimeters
- volumes
- congruence
- areas
- similarity

HUMANITIES MAJOR

1. Has studied a second language continuously throughout this Form and can use what has been studied; or otherwise has acquired the ability equivalent.
2. Can interact responsibly with governments, groups and other individuals under the law.
   civil law       criminal law       courts

**BUSINESS MAJOR**

1. Can demonstrate an understanding of fundamental economic and organizational principles and practices and their application in groups.
   structure of organizations      staff training      valuable final products
   finance allocations

2. Has knowledge of particular tools and strategies for achieving economic goals; has set and achieved some major personal economic goals.
   exchange            assets management            creditors            production
   money              personal finance

**FINE ARTS MAJOR**

1. Has studied a second language continuously throughout this Form and can use what has been studied; or otherwise has acquired the ability equivalent.

2. Is familiar with the history of art and music through the Renaissance in some detail and can relate current art or music (created by self or others) to historical periods and pieces.
   art of Babylon, Sumer and Egypt
   Greek and Roman art
   Greek music
   religious art and music of Middle Ages
   Renaissance art
   Indian, Chinese, Japanese art and music

3. Has attended several professional art or music presentations.

4. Has prepared for and presented in a professional manner at least two performances or exhibits while on Form 7.
   selection of pieces            planning            performance/exhibition manners
   communication            rehearsal            environmental control
   technique            criticism
Students on Form 7 are required to earn 75 units of practical credit (or more if needed to fulfill requirements below), except Science and Technology Majors who, with lab-heavy (practical-rich) course requirements, are only required to earn 50 units of practical credit on Form 7. No more than 30 of the total practical credits may consist of practical instruction. The number of units earned for practical instruction, also called “afternoon activities,” is figured by dividing the number of hours of instruction by 7.5.

**HUMANITIES MAJOR**
- Humanities—45 Practical Units
- Science—15 Practical Units
- Elective—15 Practical Units

**BUSINESS MAJOR**
- Business—20 Practical Units
- Humanities—20 Practical Units
- Science—20 Practical Units
- Elective—15 Practical Units

**SCIENCE AND TECHNOLOGY MAJOR**
- Science—20 Practical Units
- Humanities—15 Practical Units
- Elective—15 Practical Units
FINE ARTS MAJOR

Arts—45 Practical Units
Science—15 Practical Units
Humanities—15 Practical Units

The following are example projects that would be appropriate for Form 7, Form 8 and Honors practical requirements. (Actual projects would in general be designed and proposed by the student(s) doing them.)

Science and Technology

1. Design and build a laser.
2. Construct a hydroponics facility.
3. Design and build a simple computer.
4. Design and build a robot.
5. Analyze soil over a region and determine how it should be treated and what crops should be grown.
6. Breed plants or animals for certain characteristics.
7. Design and build a telescope tracking device.
8. Propose an experiment to test a concept of quantum mechanics or relativity.
9. Design and build a full size structure (a bridge or dam, habitation, wind generator, etc.)
10. Do a full set of lab tests on a blood sample.

Humanities

1. Analyze proposed legislation and make recommendations to appropriate government office.
2. Propose detailed national policy or legislation designed to achieve a specific end (eg, reduce unemployment, reduce national debt, promote peace).
3. Become active in a local or state government function.
4. Teach a program of one’s own devising in a school.
5. Make a major contribution to a community.

6. Determine who or what to vote for in an upcoming election and assist effectively in the campaign.

7. Make a proposal to a member of Congress for an economic policy based on an analysis of the economic causes of at least two wars.

8. Research and present an analysis of a practical legal question (e.g., process of incorporation, home schooling, etc.).

9. Make a major contribution to a selected social betterment program.

10. Compile, edit and publish a major publication for a specific purpose.

**Business**

1. Create an investment plan and track it for a few months, making adjustments to it as appropriate.

2. Create and run a promotional campaign for a service or product.

3. Work in a position of significant responsibility in a business and set and accomplish targets for the position.

4. Propose a strategy for a given business enterprise based on analysis of relevant economic factors.

5. Carry out a full audit and prepare a financial statement for a small business.

6. Do one-on-one sales of a given product or service until successful at it.

7. Do an analysis to see whether a certain area can support a given type of new business, and where in that area the business should be located.

8. Analyze the overhead in a given business and make recommendations for how best to reduce it by a given amount, with the least sacrifice of productivity.

9. Prepare a complete budget proposal for an actual small business for a fiscal year.

10. Research and prepare a proposal for a new computer system for a business.

**Fine Arts**

1. Compose or arrange a fully orchestrated score.

2. Do a commissioned painting or sculpture.
3. Write, produce and direct a play.
4. Make a film for a specific purpose.
5. Prepare for and perform a one-hour concert (alone or with co-performers).
6. Prepare a demonstration tape (music) or portfolio (visual arts or drama).
7. Conceive of, plan, and carry out a program to improve the aesthetics of an area.
8. Do a set of illustrations for a publication.
9. Teach a class the basic elements of an art form.
10. Lead rehearsals for and conduct a performance by an instrumental group or choral group.
[NOTE: Some of the following requirements are marked with an asterisk. This means these abilities were covered at an earlier Form, and are included at this Form to ensure that the student retains these abilities or attains them newly if the earlier Form was not done.]

**LANGUAGE**

**General Graduation Requirement:** Upper School graduates should have excellent language and communication skills, both oral and written, and be familiar with their cultural heritage through literature.

1. Has read independently and in seminars, novels, plays, poetry and essays concerning philosophy, history, art, government, human relations and ethics. Can read and evaluate with good depth of understanding works like Sophocles’ *Antigone*, Voltaire’s *Candide*, Plato’s *Republic*, Shakespeare’s *Hamlet* and Thomas Paine’s *The Rights of Man*.

2. Writes cursive in a regular and legible hand.*

3. Writes lucid and highly readable extended essays, reports, letters and documented research papers; has written a minimum of 3,000 words a month while on this Form.

4. Can make a 15-minute oral presentation to a group comfortably and effectively.
MATHEMATICS

*General Graduation Requirement:* Upper School graduates should be literate in mathematics as the language of science and technology and be computer literate.

1. Knows addition, subtraction, multiplication, division, fractions to decimals, decimals to fractions, fractions to percents and percents to fractions math facts at an instant response level.*

2. For Non-Science and Technology Majors, choice of:*
   
   A. Can solve the types of mathematical problems that appear in life, including simple applications of the fundamentals of trigonometry.
   
   B. Can apply a deeper understanding of functions\(^1\) and relations, including the use of quadratic functions\(^2\) in solving practical problems.
   
   C. Has mastered the principles of Euclidean (plane and solid) geometry and can apply these.

\[
\begin{align*}
&\text{perimeters} & \text{volumes} & \text{congruence} & \text{areas} & \text{similarity}
\end{align*}
\]

LEARNING AND RESEARCH SKILLS

*General Graduation Requirement:* Upper School graduates should be proficient students. They should be able to be responsible for their further educations, and for the investigation and evaluation of data important to their lives.

1. Can evaluate data to find the cause of a situation and determine what to do to improve it (scope: a continuing problem involving the student and others related to the student’s career interest, e.g., in an apprenticeship).

LIVING SKILLS

*General Graduation Requirement:* Upper School graduates should have a usable understanding of the subjects of ethics, personal integrity and morals adequate to provide a foundation for their creation of their lives.

1. Can keep self and others healthy and fit from knowledge of nutrition, exercise and medical services.

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\(^1\)function: a statement of how one quantity depends on another quantity. For example, the cost of running a car depends on the mileage put on the car, so cost is a function of mileage.

\(^2\)quadratic function: functions that include the second power of a variable (\(x^2\)).
LEADERSHIP AND PLANNING

General Graduation Requirement: Upper School graduates should understand the basics of planning, and the interrelationship of leadership, responsibility and trust, as well as having competently held a position of trust and responsibility in a group.

1. Understands the essentials of leadership.

   - communication
   - supervision
   - ethics
   - intention
   - responsibility
   - handling situations

GEOGRAPHY, HISTORY, GOVERNMENT AND CURRENT EVENTS

General Graduation Requirement: Upper School graduates should have an understanding of history and the role of individuals in it adequate to enable them to analyze and evaluate current events and situations against the historical backdrop.

1. Can compare Man’s major religions with an understanding of how those religions developed.

   - definition of religion
   - Buddhism
   - Christianity
   - Hinduism
   - Judaism
   - Islam

2. Can trace back influential ideas through history and see their relationship to events and their place in current events.*

   - types of government
   - revolution
   - trade
   - economic systems
   - empires
   - law
   - technology
   - education systems
   - nationalism
   - alliances
   - religion
   - art and music

SCIENCE AND TECHNOLOGY

General Graduation Requirement: Upper School graduates should have a foundation in science and its applications adequate to permit them to participate causatively in the modern technological environment.

PHYSICAL EDUCATION AND SPORTS

1. Has participated regularly in the school’s physical education or sports program.
MAJORS

SCIENCE AND TECHNOLOGY MAJOR

1. Understands the properties of trigonometric and circular functions and can apply them to a variety of practical problems.

2. Choice of:

   A. Has a thorough grounding in the fundamental principles of physics; can demonstrate their application in experiments and use them to analyze physical phenomena.

      *quantum mechanics, motion, optics, magnetism*
      *atomic physics, heat, electricity, relativity*
      *gravity, waves*

   B. Can classify living organisms on the basis of physical characteristics; can describe function and structure of components of cells and of organisms; can design and carry out experiments to investigate the chemical mechanisms behind biological phenomena.

   C. Can analyze substances to determine chemical composition both by theory and in the laboratory; can predict and control chemical reactions; can understand and evaluate the stages of a complex chemical process and suggest modifications which should improve efficiency.

      *nomenclature and formulas, kinetic theory, reactions and bonding*
      *equilibrium, atomic and molecular structure, acids, bases and salts*
      *Periodic Table, oxidation-reduction, element characteristics*
      *electrochemistry, properties of gases, liquids, solids, bio-chemistry*

   D. Can design and build electronic tuning, amplification and logic circuits for various applications; can test, diagnose and repair electrical and electronic devices.

      *power sources, inductors, tubes and transistors*
      *transformers, capacitors, computer logic*
      *motors, meters, semiconductor devices*
      *resistance, resonance, schematics*

   E. Has a grounding in the sciences adequate to the pursuit of higher education in a variety of scientific fields.

HUMANITIES MAJOR

1. Has studied a second language continuously throughout this Form and can use what has been studied; or otherwise has acquired the ability equivalent.
2. Can describe major political, geographical and cultural features of the world and relate them to current events.

<table>
<thead>
<tr>
<th>physical geography</th>
<th>climate</th>
<th>economic structure</th>
</tr>
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<tbody>
<tr>
<td>resources</td>
<td>technology</td>
<td>political structure</td>
</tr>
<tr>
<td>imports/exports</td>
<td>religions</td>
<td>standard of living</td>
</tr>
</tbody>
</table>

3. Can research and analyze major historical events and trends in some detail with an understanding of the ideas and people that caused them, and relate them to current events.

Example topics:

- Effectiveness of civil service system of ancient China
- Administration as a factor in the growth of the Roman Empire
- Italian Renaissance
- The Reformation and its relationship to application of power by the Catholic Church in European Middle Ages
- The depressions of the 19th and 20th centuries
- Industrial Revolution in the U.S. and its impact on lifestyle, economic stability and standard of living
- Administration of the British Empire as a factor in its decline
- Chinese and/or Russian Revolutions
- Nazi Germany and the events leading to WWII
- USA/USSR relationship from 1950 to the present
- Vietnam War

**BUSINESS MAJOR**

1. Can operate a business from an understanding of important elements of business law, including proper accounting procedures.

<table>
<thead>
<tr>
<th>legal agreements</th>
<th>debtors and creditors</th>
<th>statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>contractual form</td>
<td>journals and ledgers</td>
<td>remedies for breach</td>
</tr>
<tr>
<td>product liability</td>
<td>receipts</td>
<td>transfer of ownership</td>
</tr>
<tr>
<td>employment</td>
<td>insurance</td>
<td>checkbooks</td>
</tr>
</tbody>
</table>

2. Can administrate well (production and organization).

<table>
<thead>
<tr>
<th>program design</th>
<th>observation</th>
<th>management by statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>policy</td>
<td>compliance</td>
<td>complete planning</td>
</tr>
<tr>
<td>trends</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Fine Arts Major**

1. Has studied a second language continuously throughout this Form and can use what has been studied; or otherwise has acquired the ability equivalent.

2. Can evaluate both art and music based on a detailed knowledge of art and music history from the Renaissance period to the present.
   
   \[
   \text{classical \hspace{1cm} baroque \hspace{1cm} contemporary \hspace{1cm} impressionist \hspace{1cm} romantic}
   \]

3. Has attended several professional art or music presentations.

4. Has prepared for and presented in a professional manner at least two performances or exhibits while on Form 8.
   
   \[
   \text{selection of pieces \hspace{1cm} planning \hspace{1cm} performance/exhibition manners}
   \]
   \[
   \text{communication \hspace{1cm} rehearsal \hspace{1cm} environmental control}
   \]
   \[
   \text{technique \hspace{1cm} criticism}
   \]
GENERAL PRACTICAL ABILITIES

Students on Form 8 are required to earn a minimum of 90 units of practical credit (or more if needed to fulfill requirements below), except Science and Technology Majors who, with lab-heavy (practical-activity rich) course requirements, are only required to earn 70 units of practical credit on Form 8. No more than 30 of the total practical credits may consist of practical instruction. The number of units earned for practical instruction, also called “afternoon activities,” is figured by dividing the number of hours of instruction by 7.5.

HUMANITIES MAJOR

- Humanities—50 Practical Units
- Science—20 Practical Units
- Elective—20 Practical Units

BUSINESS MAJOR

- Business—40 Practical Units
- Humanities—20 Practical Units
- Science—20 Practical Units
- Elective—10 Practical Units

SCIENCE AND TECHNOLOGY MAJOR

- Science—30 Practical Units
- Humanities—20 Practical Units
- Elective—20 Practical Units
**Fine Arts Major**

Arts—50 Practical Units  
Science—20 Practical Units  
Humanities—20 Practical Units

**HONORS**

An Honors Diploma will be awarded to any student who masters all Theory and Practical Requirements through Form 8 and earns an additional 50 practical units.

The following are example projects that would be appropriate for Form 7, Form 8 and Honors practical requirements. (Actual projects would in general be designed and proposed by the student(s) doing them.)

*Science and technology*

1. Design and build a laser.  
2. Construct a hydroponics facility.  
3. Design and build a simple computer.  
4. Design and build a robot.  
5. Analyze soil over a region and determine how it should be treated and what crops should be grown.  
6. Breed plants or animals for certain characteristics.  
7. Design and build a telescope tracking device.  
8. Propose an experiment to test a concept of quantum mechanics or relativity.  
9. Design and build a full size structure (a bridge or dam, habitation, wind generator, etc.)  
10. Do a full set of lab tests on a blood sample.

*Humanities*

1. Analyze proposed legislation and make recommendations to appropriate government office.
2. Propose detailed national policy or legislation designed to achieve a specific end (e.g., reduce unemployment, reduce national debt, promote peace).

3. Become active in a local or state government function.

4. Teach a program of one’s own devising in a school.

5. Make a major contribution to a community.

6. Determine who or what to vote for in an upcoming election and assist effectively in the campaign.

7. Make a proposal to a member of Congress for an economic policy based on an analysis of the economic causes of at least two wars.

8. Research and present an analysis of a practical legal question, (e.g., process of incorporation, home schooling, etc.).

9. Make a major contribution to a selected social betterment program.

10. Compile, edit and publish a major publication for a specific purpose.

**Business**

1. Create an investment plan and track it for a few months, making adjustments to it as appropriate.

2. Create and run a promotional campaign for a service or product.

3. Work in a position of significant responsibility in a business and set and accomplish targets for the position.

4. Propose a strategy for a given business enterprise based on analysis of relevant economic factors.

5. Carry out a full audit and prepare a financial statement for a small business.

6. Do one-on-one sales of a given product or service until successful at it.

7. Do an analysis to see whether a certain area can support a given type of new business, and where in that area the business should be located.

8. Analyze the overhead in a given business and make recommendations for how best to reduce it by a given amount, with the least sacrifice of productivity.

9. Prepare a complete budget proposal for an actual small business for a fiscal year.
10. Research and prepare a proposal for a new computer system for a business.

**Fine Arts**

1. Compose or arrange a fully orchestrated score.
2. Do a commissioned painting or sculpture.
3. Write, produce and direct a play.
4. Make a film for a specific purpose.
5. Prepare for and perform a one-hour concert (alone or with co-performers).
6. Prepare a demonstration tape (music) or portfolio (visual arts or drama).
7. Conceive of, plan, and carry out a program to improve the aesthetics of an area.
8. Do a set of illustrations for a publication.
9. Teach a class the basic elements of an art form.
10. Lead rehearsals for and conduct a performance by an instrumental group or choral group.