



Mandala School Handbook 2017-2018

Mandala School
energetic, inquisitive, friendly





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2017-2018 Plans

Cultures & Languages

Our integrated approach to social studies will continue. Students have the chance to study French or Spanish in depth as well as introductions to Latin and German. Ongoing studies of foods, customs, literature, and music are included. Liza and Jeannet grew up in other countries and give us an international perspective on life.

Art

Ms. Jeannet guides the children in drawing, painting, sculpture, design as well as art history. We have seen children who did not think of themselves as artists blossom into amazing ones.

Music

Laura is an enthusiastic and talented person who helps students develop their understanding of music through composing, playing, singing, and listening.

Traditional Academics

Reading, writing, math, and science are developed by noting the ability of the child and working from that base. Whether ahead or behind, each child is offered lessons that promote growth in a natural, self-affirming way.

Camp Allegany

Our annual week in Allegany State Park will feature nature studies, fishing, storytelling, painting, journaling, and hiking. Families are welcome to stay with us for any amount of time they wish.

Check the website for more up-to-date information
MandalaSchool.org/communications

Mandala follows a different learning path than most schools. We encourage autonomy, responsibility, and competence. The staid methods of common textbooks for all students as they sit at desks learning the same things and responding in acceptable ways is not a working model for our modern society.

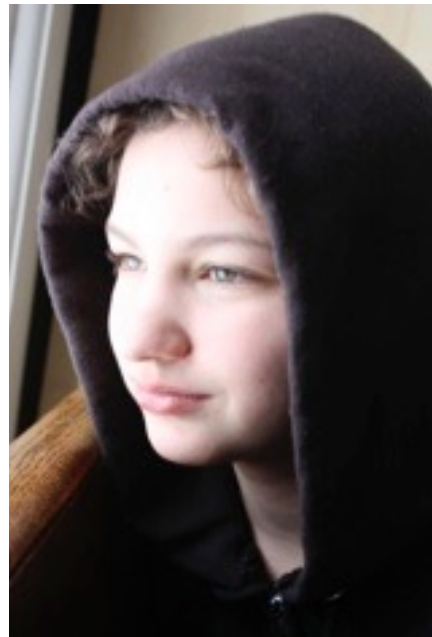


At Mandala we promote individual strengths expressed within the context of the community. We know that a diversity of talents in collaboration has greater success than similar skills all operating the same way. We provide challenges to spark creativity, deep thinking, and civil discourse. Mandala focuses on bringing education to life, and life to education.

Mandala learning is based on a structure promoting problem solving and communication yet does not have a curriculum, per se. Instead, we build on the students' interests. Through these interests, students develop their reading, writing, science, and math skills. This holistic approach is richer and more dynamic because of multiple connections among fields of knowledge. The developing knowledge is also deeper, stronger, and more accessible.

Developing these characteristics requires enormous patience, knowledge, and creativity on the part of the staff. There is no manual for this kind of education; it's much like raising a family. "Deep honesty" is one of our principles. If we can be honest with each other and with the students in a kind, respectful manner, we can make greater progress towards being better people, better learners, and better citizens.

The children who do best at Mandala are those who are inquisitive, alert, self-motivated, and energetic. We make time for them to follow their passions, broaden their knowledge, and explore the many wonders around us.



Mission Statement

Mandala School shall endeavor to provide learning experiences that practice and promote democratic conduct, intrinsic motivation, critical thinking, acquisition of knowledge, community service, and environmental stewardship.



Philosophy in Action

Good communities have the same foundations as good families. They are built on respectful communication, shared responsibility, acceptance of differences, and love.

Strong communities collaborate to reach common goals, solve problems, and enhance their surroundings through civil discourse and mutual efforts.

At Mandala School we practice this philosophy every day with morning meetings, multi-age groupings, community lunches, and shared chores. We are guided by our two rules:

- 1) Be kinder than you want to be.
- 2) Don't interfere with learning.

Core Learning Program

Character Development

Elbert Hubbard said “*Produce great people, the rest follows.*” Being secure in one’s own person and comfortable within the community are essential for maximizing learning. This begins with parents providing the basic needs of food, shelter, and security along with moral guidance. Character continues to develop as a child interacts with the greater world.

At Mandala School we work closely with families to promote proper deportment, community ethics, and a respect for our social and natural environments. We understand that mistakes will be made and guidance towards better choices is needed.

Essential aspects of character development involve being challenged to see situations from different viewpoints, being open to new experiences, and working to have a positive attitude. At Mandala School we are always focused on character development.



Communication skills

Our students develop superior communication skills because the skills are practiced in great depth and through various modes. The culture of creative writing has a strong place at Mandala. When wonderful stories, poems, and essays are shared with the group, the younger students are drawn into emulating the older ones. When an older student reads with passion to bring a story to life, the younger ones try the same technique. For the older students the impetus to have the younger students admire them is a strong motivator.

Communication skills are developed in other ways, too. Whether debating in morning meeting, presenting at a parents' night, or creating a poster to summarize research, our students are constantly engaged in some form of communication. Every week there is an hour and a half art class with plenty of time during the week for independent art. Our dance room is used daily and often results in interpretive dances shared with others. The students produce skits, simulations, and special events.

Problem Solving

From the individual nature of "word problems" in mathematics to the global issues we face, our students experience a vast range of problems and various strategies for resolving them. Our primary goal is to develop scientific thinking and comfort with uncertainty. This involves being logical, open to new ideas, skeptical of claims lacking data, and a curiosity to seek out problems. Collaboration and communication are key strategies for problem solving.

The more technical problems require a firm grounding in the core ideas of the various sciences. Integrated activities, science experiments, and discussions provide a broad range of experiences in geology, biology, physics, and chemistry. We expect our students to complete the first high school algebra class by the end of 8th grade.

Solving interpersonal problems is just as important as the academic problems posed. The skills of "radical listening" and respectful communication are essential for all aspects of life.

Fitness

Our students have the opportunity to play outdoors nearly every day and to take part in games and sports on a regular basis. In good weather we are playing soccer or tennis, taking a hike, or having a rousing game of kickball. We also encourage the children to participate in activities offered within the community. Movement and activity are an essential part of daily life and we encourage children to begin to make connections between both mind and body.

Healthy habits in eating, sleeping, and activities are encouraged. Students learn about making meals, baking bread, and eating in wholesome ways. Choices about leisure time are regularly debated in the hopes of promoting worthwhile activities.

Parent-School Contract

A vibrant community requires participation of all its members. The skills, talents, insights, feelings, and attitudes of everyone coalesce to create a positive environment.

All members have certain responsibilities and the clearer these are, the better chance of them being met. These guidelines have been developed with the help of Mandala parents and staff.

Family responsibilities

1) Make sure your child is ready for every day.

This includes all the regular commitments such as ensuring enough sleep, providing healthy food, being dressed for the weather, and loving your child.

2) Support strong community values.

This includes helping your child understand the benefits of manners, respectful speaking, helpful actions, kindness, and meeting one's responsibilities. We have two simple rules:
Be kinder than you want to be. Don't interfere with learning.

3) Maintain child's supplies

Occasionally check supply list (included) and ask your child to remind you if something needs to be replenished.

4) Attend school events.

There will be community work days, evening presentations, group meetings, and conferences. There will also be opportunities to volunteer for field trips, overnight trips, and special events.

5) Adhere to daily schedule (8:20-2:20)

Our program starts on time and suffers when children are late. It is also very important that children move on to their after-school activities on time.

6) Communicate regularly

Email is our preferred method of daily and weekly communication. We are also available by phone, through arranged conferences, and at monthly parent meetings.

7) Monitor assignments

As children learn to meet deadlines and quality standards, they need our guidance. While we wish they would be responsible for everything, please monitor their assignments.

Community Responsibilities

1) **Maintain and improve our community**

For the community to work together smoothly, there must be an atmosphere of respect. It must solve its problems through civil discourse and individual commitments to high standards.

Mandala School has shown great tolerance for children learning proper behavior and we can be patient. However, there must be obvious and steady growth. The learning community is too important to be distracted by poor behavior. When students cannot be brought into workable relationships with the community, they will be requested to leave.

2) **Focus on learning**

Continual improvement in all aspects of being human is our goal. We will strive to have curious, healthy, kind individuals. Academic goals of excellence in problem solving and communication are paramount. These skills grow in tandem with personal growth in the social and emotional realms.

Mandala School's learning program is centered on the skills and processes of learning rather than checklists of content. Modern technology provides content; we need people who know how to access, evaluate, utilize, and create content. To these ends, we prefer integrated, collaborative activities that promote holistic, synergistic thinking.

Being open to new ideas, new modes of communication, and alternative solutions is important. As a community we need to provide challenges that stretch our viewpoints and skills. We also need to provide an environment that supports this type of risk-taking. As Abraham Lincoln said, *The dogmas of the quiet past are inadequate to the stormy present.* We must look to the now and the future, an outlook that requires constant alertness, continuous growth, and a strong sense of value.

3) **Financial support**

A superior staff, pleasing environment, sufficient equipment, and other amenities all cost money. The Mandala School community must garner support through individual, corporate, and foundation pledges.

This is a commitment we make to the individual children who attend Mandala as well as the larger educational community that desperately needs to change. We are in a position to demonstrate that many, diverse schools funded to provide access to anyone can be more responsive to individual and social needs than the current public school model.

As a member of a family whose child attends Mandala School, I agree to:

- pledge whatever I can in monetary or in-kind donations
- attend two work days or provide an additional contribution of \$100
- be a working member of a committee (admissions, facilities, development, etc.)
- provide support at home and in the community for Mandala School

The two aspects of the intellect, problem solving and communication, operate in tandem. A person thinks best when the ideas are communicated and reviewed by others. Problem solving and communication develop together, especially when both realms of intellect are active on the same project.

Communication

Writing

Strong writing skills are a tradition at Mandala. They are developed through writing and sharing, not with DBQs, paragraph analysis, and worksheets.

Two powerful forces are in play when children read in front of peers. There is the push writers exert on themselves to create a piece which will earn the respect of others. Laughter, tears, and spirited discussion are the signals of success. There is also the pull from another's writing that sets new goals for language, plot development, characters, and risk-taking.

Many forms of writing are explored including short stories, poetry, essays, cartoons, letters, reports, pass-arounds, captions, and journaling. From these writings, an individual's curriculum is created. Some need work with basic punctuation and paragraphing while others are ready to craft figures of speech, double meanings, and allegories. We respond to the children's needs and fit our instruction to them.

Speaking & Listening

At Mandala we practice the ancient process of the dialectic. We encourage creative, non-routine thinking linked with radical listening. As ideas are exchanged through civil discourse, new ideas and understanding emerge.

At our morning meeting we discuss issues within our Mandala community, events from our lives, world issues, our fears, our joys, and our mysteries. This unscripted time is the most powerful force we provide for developing democracy and justice.

Reading

Being free of textbooks, workbooks, and an arbitrary curriculum opens up all of literature to us. We can find the right material to capture a reader's interest and use that to broaden one's interest.

We have taught non-readers to read using their own scribed stories. We have enticed reluctant readers into substantive fiction, mythology, and classics through literature circles. The broad interests circle back to their writings, skits, and dances.

Other Expressive Media

An hour and a half art class every week is enhanced with plenty of time for self-expression in drawing, painting, clay, photography, and collage. Students create skits, play instruments, write computer programs, produce slide shows, and build in the woodshop.

Scientific Thinking at Mandala

The development of scientific thinking is an ongoing process of problem solving, problem posing, communication, hypothesizing, experimenting, analyzing, and synthesizing. As competence increases, skills and knowledge continue to accumulate in this dynamic fashion. A scientific frame of mind grows only by experiences requiring scientific thinking.

At Mandala we experience scientific thinking daily. Whether during our meetings, our projects, or our directed lessons, we work to improve our logical abilities even though the activities often do not appear to be of a scientific nature. Activities more recognizable as science may be focused on specific skills such as using a microscope or testing for pH while others may be more divergent without a clear end.

The divergent projects best capture the way scientific thinking is developed at Mandala. Typically a question is posed that leads to a discussion of what we know or want to know. Different aspects of the problem may be divided among groups (jig-sawing) thereby increasing the sense of responsibility because each group will have a unique part of the whole puzzle. Students learn to collaborate, record data, prepare presentations, extend problems, listen to contrary views, and, above all, practice being scientists.

The teachers' role is to help students be aware of their discoveries, questions, and conclusions. Sometimes it means pointing out a direction to pursue or an interesting off-shoot for further study. We also monitor the specific skills in which we are interested (see below) to ensure that students are learning a broad range of skills and content.

Sample project: *Is global warming occurring?*

This question was posed to the group and a lively discussion followed. Some echoed their parents' viewpoints while others cited readings they had done or a program they had watched. Eventually it was decided to look at the evidence.

The project included looking at historic records of global temperatures. When it was clear to most students that the earth was indeed getting warmer than the historic averages, the next question was *Why?* This led to studying possible causes of global warming including natural processes such as volcanoes and long-term cycles, industrial activities such as coal-fired electricity generators, car and truck traffic, and the release of chemicals such as carbon dioxide and methane that alter the atmosphere.

This, in turn, led to the problems of the consequences of global warming and what to do about it. The project touched on human psychology like the difficulty of changing attitudes and habits, the politics of governments making changes, the ecological changes such as losing our maple trees, and the problem of how to convince others that a problem did indeed exist.

Dynamic vs. Objective Curriculum

Many schools use a checklist of objectives or competencies from which to create lessons. Often these are organized into units of study or into larger categories like "Life Science" or "Physics". While this might ensure that every topic is covered, it can also lead to a false sense of

what science is. Most decidedly, science is more than the accumulation of facts and concepts; science is a cognitive process requiring regular activity.

At Mandala we structure our science projects from the core ideas (see below) of the major categories of science. Within the core ideas are the specific objectives or competencies familiar to most science teachers. Because our projects take precedence over the objectives, Mandala students practice scientific thinking instead of a guided tour through science topics.

Such an approach means that as teachers we must occasionally assess our projects to determine if the breadth of science is being explored. For example, the global warming project touched on biology, technology, chemistry, psychology, geology, earth science, and geography but did not have much physics. At various times we did activities involving more physics: a tower-building contest, bridge-building, electrical circuits, celestial mechanics, acceleration due to gravity, and architecture.

An important aspect of our program is that a student can pursue an area of interest because there is time to do so. In fact, this is part of developing scientific thinking: problem seeking and curiosity.

Core Ideas

Core Ideas: Science everybody should know

Geology

- The earth processes at work today are the same that have been occurring for millions of years.
- Sedimentary rock cycle: -erosion-transport-deposition-solidification-uplift-
- The earth records changes over enormous amounts of time: climate, cosmic collisions, tectonics
- The vast expanse of time puts into unique perspective the brief span of human life.

Chemistry

- Matter is made of atoms
- Chemical vs. physical changes
- Representing concepts through symbols & formulae
- Mole concept

Physics

- Basic concepts of energy & forces
- Transformation of energy from one form to another

Biology

- homeostasis
- cycles
- interconnectedness (systems)
- human role in ecology
- classification

Mathematics (Yes, math is a science)

- basic operations of adding, subtracting, multiplying, & dividing with whole numbers, fractions, & decimals
- ratios & proportions
- graphic representation
- algebra: concept of variables & their interaction

General (Often these are unacknowledged as science ideas)

- Communication through speaking, writing, art, music, and movement
- Problem solving strategies of modeling, persistence, communication, logic, and evaluation
- Skills for staying healthy
- How to make and keep friends

Monitoring Knowledge & Skills

What should anyone leaving our school be able to do or discuss in science?

Because the use of scientific thinking is our focus, we do not expect every student to master every objective listed below. We would rather see students demonstrate logic, experimentation, research skills, data collection, and inference skills. Any student with these skills should be able to master the following objectives efficiently.

Biology

- B1 Δ demonstrate use of a dichotomous key, e.g. tree identification
- B2 Δ demonstrate use of both stage & dissecting microscopes; be able to make wet mount slide
- B3 Δ understanding of general classification of living organisms
- B4 Δ know the basic functions of a cell
- B5 Δ understand concept of homeostasis
- B6 Δ explain mechanisms for changes in organisms over time

Ecology

- E1 Δ communicate the basic concepts of an ecological perspective (interactions, energy transfers, limiting factors, capacity, competition, symbiosis, succession)
- E2 Δ be able to discuss ecological current events (e.g. global climate change, hydrofracking, organic farming)
- E3 Δ promote ecological practices such as minimizing garbage, recycling, composting, using renewable resources, and conservation.
- E4 Δ demonstrate awareness of humanity's effect on the environment

Human Development

- H1 Δ practice healthy habits for eating, fitness, friendships, and community relations
- H2 Δ understand how bodies grow and change
- H3 Δ recognize that people can improve their motivation, energy level, knowledge, and skills

Electromagnetism

EM1 Δ prove that like charges repel

EM2 Δ create and explain a working circuit with a switch

EM3 Δ build and explain a working buzzer

EM4 Δ build and explain a working motor

EM5 Δ demonstrate and explain the relationship between electricity and magnetism

Optics

O1 Δ understand refraction, reflection, and diffraction

O2 Δ explain the spectrum & relation to white light and electromagnetism

O3 Δ demonstrate the mixture of different colors of light

O4 Δ explain how filters work

Glaciers

G1 Δ describe a glacier and its actions

G2 Δ label landforms resulting from glaciers

G3 Δ be able to determine if rocks had been in a glacier

Geology

GO1 Δ explain the sedimentary rock cycle

GO2 Δ explain the formation of igneous & metamorphic rocks

GO3 Δ describe the “Law of Superposition”

GO4 Δ be familiar with tectonics, geologic eras, fossil record, local stratigraphic column

Mechanics

M1 Δ practical knowledge of simple machines (levers, ramps, pulleys, gears, pendulum)

M2 Δ basic understanding of flight (Bernoulli’s principle, forces involved)

M3 Δ concepts of tension & compression from architectural perspective

M4 Δ knowledge of laws of motion

M5 Δ explains examples of energy transformation

Astronomy

A1 Δ identifies and explains phases of moon

A2 Δ appreciates role of gravity in celestial mechanics, orbits, & weightlessness

A3 Δ familiar with life cycle of stars and evolution of universe

A4 Δ experience with distances and red shift

Chemistry

C1 Δ understands states of matter & associated vocabulary

C2 Δ knows theory of atom and methods of bonding

C3 Δ knows names, symbols, and properties of first 20 elements from periodic table plus 5 more

C4 Δ can differentiate between physical and chemical changes

Weather

W1 Δ knows cloud types and what they indicate

W2 Δ explains warm & cold fronts, formation of storms, low & high pressure areas

W3 Δ distinguishes between climate and weather

History of Science

S1 Δ gives examples of development of an idea from speculation to experimental data

S2 Δ knows several important scientists and their work

S3 Δ can give examples of how science and technology have changed the world

SP1 Δ special projects: _____

Mathematics

Too often mathematics is the most despised academic field. This contempt is a result of mis-education that relied on memorization, speed of recall, and abstractness.

At Mandala we ground mathematics in practical activities. We ask students to puzzle out the relationships, express them any way they can, then work to mold their expressions into the traditional language of math. We want students to look for patterns, find ways to describe them mathematically, and then apply them to similar problems.

The history of mathematics offers many activities for our practical approach. We use objects and shadows to introduce trigonometry, Mayan numbers and Fibonacci's work for number theory, Euclid's and Eratosthenes work for geometry, and Descartes' insights into algebra and graphing.

See the following pages for the math objectives we help children master.

Mandala Elementary Math Objectives

EW1	ability to determine quantity of objects using one-to-one correspondence
EW2	skip counting by 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
EW3	finds & describes patterns for different sets of skip counts
EW4	counts and records quantity within various place values
EW5	understands zero as start with positive & negative numbers being distances away
EW6	knows sum & difference combinations of numbers 1-5
EW7	knows sum & difference combinations of numbers 6-10
EW8	knows sum & difference combinations of numbers 11-20
EW9	understands trading with manipulatives for combinations to thousands
EW10	knows place names for ones, tens, hundreds, thousands when using manipulatives
EW11	knows factors of 1-25 & multiples of 1-5
EW12	knows factors of 26-100 & multiples of 6-10
EW13	determines all factors and prime factors of a number
EW14	applies divisibility rules for multiples of 2, 3, 4, 5, 6, 8, 9, & 10
EW15	adds & subtracts within any base system 2-10 using manipulatives
EW16	multiplies & divides within any base system 2-10 using manipulatives
EW17	cooperates in creating new number system with different base, symbols, & names
EF1	creates & labels parts of whole objects
EF2	demonstrates equivalency between different fractional or decimal quantities of objects
EF3	understands numerator as quantity and denominator as name
EF4	says sequence starting at any unit fraction, e.g. $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$,...
EF5	operates successfully with like denominators
EF6	applies place value understanding & skills with decimals
EG1	demonstrates spatial relationships such as in/out, over/under, straight/curved
EG2	conservation of shape and area regardless of rotation, flips, or translations
EG3	able to measure distance to nearest millimeter
EG4	able to measure area using squares
EG5	able to measure capacity with English units (e.g. cooking) and metric units
EG6	applies knowledge of fractions & decimals to measurement
EG7	knows names of basic shapes (triangles, quadrilaterals, pentagon, etc.)
EG8	demonstrates certain shapes form other shapes using Pattern Blocks, tangrams, etc
EG9	experiences artistic expression (weaving, painting, building, etc.)
EG10	knows vocabulary of angles (acute, right, etc.), shapes (similar, congruent, etc.), and movements (translation, rotation, flip, etc.)
EG11	able to find area of rectangles and triangles; introduction to deriving formulas
EG12	identifies basic solids (cube, rectangular prism, pyramid, tetrahedron, etc.)
ES1	records data in frequency table
ES2	graphically represents data with bar, line, and scatter plots
ES3	uses statistics to draw inferences about surveys & other data collection activities

Mandala Intermediate Math Objectives

IF1	able to add & subtract fractions with unlike denominators
IN1	able to work in different base systems & clearly explain operations
IN2	experience with number theory through patterns, mod arithmetic, irrationals, etc.
IN3	able to express quantities to certain orders of magnitude through estimation, scientific notation, and exponential notation
IN4	simplifies radicals
IA1	combines like terms
IA2	uses inverse operations
IA3	solves equations with one unknown
IA4	simplifies equations with two variables
IA5	solves for variables when given two equations
IA6	multiplies binomials
IA7	factors quadratic equations
IA8	understands linear equations: slope, y-intercept, graphing
IA9	graphs parabolic equations
IA10	understands inequalities: simplifies, graphing
IA11	solves problems using algebraic representation
IG1	measures & draws angles with a protractor
IG2	proves that any triangle's interior angles sums to 180°
IG3	derives a method to determine the sum of the interior angles of any shape
IG4	proves that opposite or "vertical" angles of intersecting lines are equal
IG5	demonstrates logical proofs of various geometric problems
IG6	plots points, lines, and shapes on a quadrant graph
IG7	uses a compass & straight edge to construct & copy lines, shapes, parts of circles, etc.
IG8	expresses or experiences geometry through art
IG9	finds area of plane figures and surface area of solids using derived formulas
IG10	finds volume of solids using derived formulas
IT1	knows vocabulary for triangles (opposite, adjacent, hypotenuse)
IT2	demonstrates basic ratios of sine, cosine, tangent
IT3	graphs functions of basic ratios in increments of 10° for 0° - 360°
IT4	uses basic ratios to solve problems involving missing side or angle measurements
IT5	proves Pythagorean theorem & knows its history
IS1	finds mean, median, mode, & range of data set
IS2	applies statistics to research problems
IS3	calculates error of measurement
IS4	finds "line of best fit" for scatter plot
IS5	draws inferences from research data
IS6	calculates probability for one and two variables