NORTH MAC MIDDLE SCHOOL CURRICULUM GUIDE

Teacher Kelly Sonneborn

Grade Level: 6

Course: Earth Science

Course: Aims

- 1.) Student will understand the concept of the scientific method as a means of inquiry.
- 2.) Student will understand the rock cycle and characteristics, composition, identification and uses of rocks and minerals.
- 3.) Student will understand that the surface of the Earth is always changing; students will understand the processes that cause these changes, such as plate tectonics, earthquakes, and volcanoes.
- 4.) Students will analyze the structure of Earth's atmosphere, understand the water cycle, and identify factors that influence weather.
- 5.) Students will understand the development of water, currents, waves and tide
- 6.) Students will explore instruments for collecting data about our solar system, understand the rotation and revolution of the Earth and Moon, understand the makeup of our solar system and be able to describe how stars and galaxy formed.

<u>Course Description</u> Earth Science focuses on the study of earth and space science. The topics covered include: the materials that make up the earth, the changing surface of the earth, earth's internal processes, earth's air and water, astronomy and the scientific method.

Textbook:

Title: Earth Science

ISBN: 078-0-07-877803-2

Authors: Feather, Ralph, PhD, Snyder, Susan, Zike, Dinah

Publisher: McGraw Hill Glencoe

Publication Date: 2008

Assessment

There will be a minimum of 300 points scored each quarter. These points will be obtained from assignments, writing, quizzes, chapter tests, and projects. The points will be distributed from each category from the range of percents given below.

Example

- Assignments/writing 45- 55%
 Quizzes 5 15%
 Tests 25 35%

- Projects 5- 15%

QUARTER: 1

COURSE: EARTH SCIENCE

				
Minerals –	Teacher	MS-ESS2-1,	*What minerals	Mineral, crystal,
Students will be	observation,	MS-ESS1-4	and products	magma, silicate,
able to: 1.)	participation,		made from them	hardness, luster,
identification and	worksheets,		do you use every	specific gravity,
uses of minerals	writing, quizzes,		day.	streak, cleavage,
2.)characteristics	chapter tests		*What is a	fracture, gem,
all minerals			crystal?	ore,
share 3.) how			*How can	
minerals form 4.)			identifying	
describe physical			minerals help	
properties used			you recognize	
to identify			valuable mineral	
minerals 5.)			resources.	
Identify minerals			*Why is	
using physical			hardness	
properties such			sometime	
as hardness and			referred to as	
streak			scratchability?	
6.)characteristics			*When is	
of gems that			mineral an ore?	
make them more			*How do fluids	
valuable than			move through	
other minerals			rocks?	
7.)identify useful				
minerals that are	·			
contained in				
minerals				
Rocks – Students	Teacher	MS-ESS2-1,	*What are the 3	Rock, rock cycle,
will be able to:	observation,	MS-ESS1-4	types of rocks?	igneous rock,
1.) describe the	participation,		*Using the rock	lava, intrusive,
rock cycle and	worksheets,		cycle as a guide,	extrusive,
changes that a	writing, quizzes,		how are rocks	basaltic, granitic,
rock could	chapter tests		transformed into	metamorphic
undergo 2.) types			one another?	rock, foliated,
of rocks			*What is a rock?	nonfoliated,
3.)distinguish				sediment,
between a rock				sedimentary rock,

recognize magma and lava as the materials that cool to form igneous rocks 5.) contrast the formation of intrusive and extrusive igneous rocks 6.) contrast granitic and basaltic igneous rocks 7.) describe the conditions in Earth that cause metamorphic rocks to form 8.) classify metamorphic rocks as foliated or nonfoliated 9.) how sedimentary rocks form from sediments 10.) classify sedimentary rocks as detrital, chemical, or organic in origin the grain size of an igneous rock? *What ways are igneous rocks (classified? *How can one type of rock change into several different metamorphic rocks? *What type of metamorphic rock is composed of mineral grains arranged in parallel layers? *Why are some sedimentary rocks, like coal, important sources of energy *How do rocks form through compaction? *How do chemical sedimentary	and a mineral 4.)		* What controls	compaction,
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organic in origin sedimentary			1	
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			rocks form?	

QUARTER: 2 COURSE: EARTH SCIENCE

CONTENT	ASSESSMENT	NGSS	ESSENTIAL QUESTIONS	VOCABULARY
Plate tectonics-	Teacher	MS-ESS1-4,	*How do	Continental drift,
Students will be	observation,	MS-ESS2-2,	Mesosaurus	Pangaea, seafloor
able to: 1.)	participation,	MS-ESS2-3,	fossils support	spreading, plate
process the	worksheets,	MS-ESS3-2	the past	tectonics, plate,
hypothesis of	writing, quizzes,		existence of	lithosphere,
continental drift	chapter tests		Pangaea?	asthenosphere,

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2.) identify			*How does	convection
evidence			seafloor	current
supporting			spreading help	
continental drift			explain how	
3.) explain			continents	
seafloor			moved apart?	
spreading 4.)			*How does new	
recognize how			seafloor form at	
age and			mid-ocean	
magnetic clues			ridges?	
support seafloor			*What are some	
spreading 5.)		'	general ways	
compare and		'	that plates	
contrast		'	interact?	
different types			*What happens	
of plate		1	when seismic	
boundaries 6.)			energy is	[
explain how	1	1	released as rocks	
heat inside Earth			in Earth's crust	
causes plate	!		break and move?	
tectonics	'		*What features	
	1		occur where	
	!		plates converge?	1
Chick	Teacher	Life Sciences	*What is the job	Air cell,
Embryology	observation,		of the albumen?	albumen, calazae,
	participation,		*When does the	egg, fertilization,
	worksheets,		chick take its	shell, shell
	quizzes		first breathe?	membrane, yolk,
		1	*How long is the	chick tooth,
		1	incubation	embryo,
			period for the	incubator, pip,
		[chick to	germ spot, blood
			develop?	vessels
Earthquakes –	Teacher	MS-ESS3-2	*How do	Fault,
Students will be	observation,	1	earthquakes	earthquake,
able to: 1.)	participation,	1	form?	normal fault,
explain how	worksheets,	1	*Why do most	reverse fault,
earthquakes	writing, chapter	1	earthquakes	strike-slip fault,
result from the	tests		occur near plate	seismic wave,
buildup of		ı	boundaries?	focus, primary
energy in rocks		i	*What is a	wave, secondary
2.) describe how		i	strike-slip fault?	wave, surface
compression,		ı	*Why do surface	wave, epicenter,
tension, and	1		waves damage	seismograph,
` - <u>-</u> 1	1	'	waves damage	seismograph,
shear forces make rocks		1		magnitude,

convection 6.)	·		exosphere or in	
explain why			the troposphere?	
different			*How much sun	
latitudes on			is absorbed by	
Earth receive			the Earth's	
different			surface and	
amounts of			atmosphere?	
solar energy 7.)			*How much sun	
describe the			is reflected back	
Coriolis effect			into the	
			atmosphere?	
		,	*How does the	
			Sun warm your	
			skin?	
			*How can the	
			Sun continue to	
			heat the	
			atmosphere at	
			night?	
			*What are	
			doldrums?	
			*How does a	
			sea breeze	
			form?	
			*Why would it	
			take longer to	
			fly from east to	
			west than it	
			would from	
			west to east?	

QUARTER: 4

COURSE: EARTH SCIENCE

CONTENT	ASSESSMENT	NGSS	ESSENTIAL	VOCABULARY
			QUESTIONS	
Weather -	Teacher	MS-ESS2-5,	*What are the	Weather,
students will be	observation,	MS-ESS2-6,	major factors of	humidity, relative
able to: 1.)	participation,		weather and how	humidity, dew
explain how	worksheets,		do they affect	point, fog,
clouds form and	writing, quizzes,		everyday life?	precipitation,
how they are	chapter tests		*What happens	
classified 2.)			to the water	
describe how	*Cloud project-		vapor when it	
rain, hail, sleet,	illustrate 6			

and snow develops 3.) discuss how weather changes affect your daily life 4.)	clouds of choice along with description, altitude, and weather associated *Brochure of one weather disaster. Must have illustrations, facts on safety precautions Teacher	MC ECC2 (reaches the dew point? *How are clouds classified? * What are the three main cloud types? *Why can more water vapor be present in warm air than in cold air?	
Ocean motion	Teacher observation, participation, worksheets, writing, quizzes, chapter tests	MS-ESS2-6, MS-ESS2-4, MS-ESS3-1	*What resources do we obtain from the oceans? *How do waves and tides form? *How do they affect life and property?	Basin, salinity, surface current, Coriolis effect, upwelling, density current, wave, crest, trough, breaker, tide, tidal range
The Sun-Earth-Moon System	Teacher observation, participation, worksheets, quizzes *Build your own rocket then are able to launch at the end of the year	MS-ESS1-1 MS-ESS1-2 MS-ESS1-3 MS-ESS1-4	*Why does the sun seem to rise and set? *What is an ellipse? And why do solar and lunar occur? *What are the phases of the Moon and their cause? * What does the surface of the moon reveal about its history? * differentiate between rotation and revolution.	Sphere, axis, rotation, revolution. Ellipse, solstice, equinox, moon phase, new moon, waxing, full moon, waning, solar eclipse, lunar eclipse, maria, impact basin

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