



Dear Incoming 6th, 7th, and 8th Grade Parents,

Welcome back to the Middle School! Each student has grown and learned so much this past school year. We want that learning to continue over the summer to help prepare your child for a fun-filled, academic rich, Middle School experience. Please visit the OLC website and click on the Summer Enrichment link to access each teacher's packet. **The work is due on the first day of school and will be reviewed and graded by the classroom teachers.** These activities are a starting point for the academic year. Following are brief statements from each content area teacher introducing the summer packet- for complete directions please see the packets on the OLC website.

Science/ STEM: The STEM packet includes topics to be researched in preparation for our Engineering Design Project in October. This is the Social Studies, Math, and Science portion of STEM- getting to know the country, the people and the challenges they face.

Math: Students in grades 6-8 will be expected to complete 90 minutes on IXL and various problems that you will find in the Math packet on the OLC website. Work must be submitted along with answers.

Language Arts for 7th and 8th Grade: Students will be reading 3 independent books over the summer, instead of the usual 5. This is due to the fact that students will be expected to allocate reading time for their STEM research, which includes cross curricular components. Their independent reading will be accompanied with a reading response notebook, which will be collected and graded on the first day of school.

Language Arts and Social Studies 6th Grade: Students will be reading a book that is about an Ancient Civilization (from a provided book list). Students will also research this time period and pick a project to complete. Also, please read 3-5 independent books over the summer to keep your stamina up.

Sincerely,

Mr. Tarabocchia , Mrs. Martineau, Mr. Keating, and Mr. Kristjansen

Name: _____

Summer Enrichment for Students Entering Grade 8

As part of your summer work, the following work must be completed on your IXL accounts:

	<u>Sections</u>	<u>Time</u>	
	C.1-C.9	10 min	-----> This means spend 10 minutes on <i>any</i> of the sections from C.1-C.9. It does <u>not</u> mean you need to spend 5 minutes in each of the sections.
	E.1-E.11	5 min	
	G.1-G.18	5 min	
	H.2-H.9	10 min	
	J.1-J.13	10 min	
	K.1-K.8	10 min	
	L.1-L.10	5 min	
	M.1-M.11	10 min	
	R.1-R.11	10 min	
	T.1-T.8	5 min	
<i>Topics above the line are under 7th Grade Math</i>	U.1-U.7	5 min	
	W.1-W.7	5 min	

<i>Topics below the line are under 8th Grade Math</i>	G.1-G.4	10 min	
	I.1-I.8	<u>10 min</u>	
		110 Total Minutes on IXL	

****Note: You will be given credit for reaching the given times. You will not be penalized for getting questions wrong on IXL!!! It is recommended that you do the IXL portion first, since it shows the correct way to get an answer if you get a question wrong!*****

***** Logging on to IXL:**

To log on to IXL, there are two options.

Option 1: Go to www.ixl.com/signin/olc. Enter your user name (first initial & last name) and password ("student"). For example, I would enter "tkeating" as my name and "student" as my password. (If you have a sibling with the same first initial, one of you has a "1" at the end of your user name.)

Option 2: Go to www.ixl.com. Enter your user name plus "@olc" and password ("student"). For example, I would enter "tkeating@olc" as my name and "student" as my password.

If you have any questions on accessing IXL, email Mr. Keating at keatingt@olcschool.org.

Show your work for all problems. You must round your answers to the nearest hundredth, if necessary.

The school computer lab has 5 times as many *i-pads* as it had last year. There are now 50 *i-pads*, how many were there last year?

Eighteen students are members of the Science Club. This is $\frac{1}{3}$ the number of students in the three sections of the eighth grade. How many students are in each section if each section contains the same number of students?

The difference between a number and 4, when multiplied by 9 is 54. What is the number?

When 12 is added to half the sum of a number and 3 the result is 28. What is the number?

One angle of a right triangle is 2 less than 3 times the size of the other acute angle. What is the measure of each angle?

Solve the following. Show all work.

Hank's gas tank holds 18.5 gallons. If the tank has 6 gallons of gasoline in it, what percent of the tank is empty?

The asking price of a house was \$358,500. It was finally sold at a 12% loss. How much money was lost on the sale?

The realtor who sold the house mentioned in problem 12 received a commission of 6 %. How much money did the realtor earn for selling the house?

Mr. Morris borrowed \$25,000 from the bank. The time of the loan was 4 years. How much will he pay if the interest rate is 5.25%? (Use simple interest.)

Complete the table.

Fraction	Decimal	Percent
1/8		
		2%
	0.57	
		80%
2 1/4		

Eliza drew a scale drawing of her bedroom. The drawing shows a room that is 4 inches by 3 inches. The scale she used is 1 inch : 4 feet. What is the area of her actual bedroom?

Michael is planning a trip to Hooperville. On the map, it is 3.5 inches from his home town. The map's scale is 1.5 inches : 50 miles. How far away is Hooperville from his home town?

The Yankees won 95 games in 2010 and 97 games in 2011. What is the percent of change in the number of wins from 2010 to 2011?

An angle has a measure of 73° . What is the measure of an angle that is complementary to it?

An angle has a measure of 33° . What is the measure of an angle that is supplementary to it?

Solve using the order of operations. Show all work.

$$32 \div 4 + 4$$

$$48 \div 2 \times 3 + 8$$

$$7 + 2 \times 5^2$$

$$[4(7 + 3)] - 5$$

$$2[6(5 - 3)]$$

$$9(4 - 2)^2 \div 3$$

Find the sum, difference, product, or quotient.

$$-7 + 4$$

$$-1 + 8$$

$$-9 + (-8)$$

$$-2 + 2$$

$$5 + (-9)$$

$$3.48 + 4.2$$

$$7 + 1.0394$$

$$-3.5 + 2.25$$

$0.683 + (-2.001)$

$0.28 + (-0.35)$

$3 - 19$

$-8 - 17$

$13 - (-13)$

$-27 - 5$

$-9 - (-9)$

$5.1 - 6.6$

$-7.3 - (3.7)$

$0.2 - (-6.01)$

$4\frac{2}{5} - 5\frac{4}{5}$

-9×7

3×-8

-5×-9

-0.07×-0.4

$4.15 \times (-2)$

$6.01 \times (-0.01)$

$49 \div (-7)$

$-42 \div 1.4$

$350.4 \div (-10)$

$-20.7 \div (-23)$

$\frac{1}{3} \div (-21)$

$144 \div 0.12$

$-100 \times (-\frac{1}{2}) \div (-2)$

Evaluate the following expressions when $x = -40$, $y = 100$, and $z = 75$. Show all work.

$4x$

$x + 25$

$z - 14$

$-3x$

$\frac{y}{4}$

$\frac{z}{y} + 5$

$5(y - z)$

$2(x + y) - z$

Write and solve an equation for each of the following problems. Show all work.

The sum of a number and 98 is 167. What is the number?

Terry has 14 coins. She has some quarters, 5 nickels and one dime more than she has nickels. How many of each coin does she have? How much money does she have all together?

Six times a number increased by five is fifty-three. What is the number?

The length of a rectangle is 4.5 times its width. The area of the rectangle is 36 square meters. What are the length and width of the rectangle?

Tamara bought three skirts at one price and 2 skirts priced \$3 below the others. The total cost was \$118.95. Find the price of the skirts.

Solve for the variable. Show all work.

$$n + 4 = 13$$

$$s - 6 = 13$$

$$21 = 7 + v$$

$$-13 + x = 53$$

$$85 = t - 38$$

$$172 - w = 140$$

$$4y = 36$$

$$32x = -288$$

$$\frac{m}{4} = 16$$

$$75 = \frac{u}{3}$$

$$4x + 2 = 38$$

$$2n - 5 = 39$$

$$\frac{3x+2}{2} = 10$$

$$6n + 23 = 53$$

$$\frac{r}{3} + 16 = 28$$

$$10b - 24 = 46$$

Use a scale of 2 inches : 45 miles for the following problems.

If two cities are 5 inches apart on a map, how far away are they in real life?

If two cities are 150 miles away in real life, how far apart are they on the map?

Solve.

If a student is going to flip a coin and roll a six sided number cube, what are the chances that the outcome will be heads and a number two or less?

How many possible ways are there to rearrange the letters in the word JUMP? Remember the arrangements do not have to spell real words.

STEM - Summer Enrichment Research

Dear Incoming 6th, 7th, and 8th Grade Parents,

Welcome to STEM Engineering 2018-2019! Please visit the OLC website and click on Summer Enrichment link to access the packet. The packet includes topics to be researched in preparation for our STEM Engineering Design Project in September. The majority of this assignment is the social study portion of STEM - getting to know the country, region, or village, and the people (End-User) and the challenges they face. The assignment also introduces the science and math portions of STEM.

The research is due the first day of school, as it will serve as an introduction to the Sustainable Development Goals (SDG) your child's group members will focus on. Your child's goal will be to present his/her researched case to the group and class by way of a persuasive oral report that will convince the group to help his/her End-User and the challenges they face. Your child will also propose a few solutions to their problems based on scientific concepts as well as a proposal on how to present mathematical data and statistics when the prototype is tested. The group will then vote upon which End-User they will try to help based on the research presented by your child.

Therefore, your child's summer enrichment assignment is to travel the world and find several countries and people in need of help. Once your child decides on the End-Use he/she will register his/her choice by emailing the lead teacher at the following address: tarabocchia@olcschool.org. The deadline for registration is Friday, July 13, 2018. After the deadline, your child's End-User will be registered. The assignment will not be accepted in September if the End-User has not been registered and approved by the teacher. No two students may have the same End-User. Your child will then use research prompts to gather information and record it on a formatted template already setup. All he/she needs to do is type in the information. Please visit the rubric for this assignment on the OLC website.

We are looking forward to a productive new school year that begins with this summer enrichment assignment.

Have a wonderful and safe summer!

The Middle School STEM Team

Mr. Tarabocchia, Mr. Keating, Mr. Kristjansen

STEM - Summer Enrichment Research

Dear Incoming 6th, 7th, and 8th Grade Students,

Welcome back to STEM Engineering. To prepare us for the 2018-2019 STEM Engineering projects, we will do our End-User research during the summer. You will use the “*All about My End-User*” prompts to research the “*Problem*” panel portion of the Display Board (pro-board) as well as the information needed for the tri-fold brochure.

Your End-User will need to be registered with your lead teacher at the following email address: tarabocchiaa@olcschool.org. Before you register your End-User, you must have the following information on hand to register.

1. SS - the End-User name (country, village, or people)
2. SS - challenge(s) End-User is facing
3. Science - possible solution(s)
4. Science - science concept(s) you need to know to understand and apply to the possible Solution(s)
5. Math - proposed chart(s) and/or graph(s) in which to present data and/or statistics

Therefore, do some in-depth research before you register your End-User. The deadline for registration is Friday, July 13, 2018. No two students may have the same End-User unless approved by the teachers based on proposed solutions and scientific background information. So be the first to register. Your assignment will not be accepted in September if the End-User has not been registered and approved by your teachers.

After gathering all the information needed to know your End-User, you will put your report together using a formatted template entitled “*STEM Research – All about My End-User*” found in the OLC website. Copy and paste the template to your computer and complete it by typing the information **under** each bold statement or prompt heading. The information should be written in short statements and when applicable, in bullet format. Copy and paste your pictures and maps to where they belong. Be sure to include a title and caption for each picture, map, etc. In the website, you will also find a rubric to check and compare your work to. This will help you receive the highest grade point possible. You must use the rubric to evaluate yourself before you submit the assignment. In the website, you will also find information on how to write an MLA Citation reference. When you complete the assignment, print it out and submit to your teacher the first day of school.

In September, you will be assigned to groups. You will present your End-User by way of a persuasive oral report to your group members and class. You will present your proposed solution as well. Your group will vote on which End-User they will focus on. Your goal in this report is to gather enough information that will convince your group to vote on and help your proposed End-User.

Good Luck!

Have a wonderful and safe summer!

The Middle School STEM Team

Mr. Tarabocchia, Mr. Keating, Mr. Kristjansen

STEM Research – All about My End-User

The “Problem” Panel

Name:

Date: September, 2018

PROBLEM: The major challenges (problems) my End-User is facing are...

UN - SDG ICONS: Look up the following web site for the 17 SDG icons.

<https://sustainabledevelopment.un.org/?menu=1300>

Click on each one for more information.

These are the UN SDG icons that are closely associated with the challenges my End-User is facing.

SOCIAL STUDY - COUNTRY FOCUS

I learned the following about my End-User.

WHERE:

Name – (of village, town, city and country)

Continent –

Neighbors – (neighboring countries)

Terrain – (elevation, relief, landforms (plains, mountains, plateaus) landform regions, coastal, or landlocked, etc.)

Climate – (temperature, rainfall, seasons, if weather factors are a cause to the problem, print pictures for presentation, print a CLIMOGRAPH)

Natural Resources – (of the End-User, not the entire country or government)

Maps:

This is a World Map showing the location of my End-User’s country –

This is a map of the country and the location in which my End-User lives –

WHO - KEY FACTS: (These facts must be about the End-User only, not other people or the country. Facts with an * should have pictures to support facts.)

What I learn about my End-User's...

Average Income –

***Types of Jobs Available -**

***Health Issues -**

***Typical Every-Day Life -**

Average Family Size -

Life Expectancy -

***Food Source & Diet -**

***Quality of Education -**

***Type of Housing –** (size, description, materials used, duration, etc.)

***Transportation –** (available to them and how they get around)

Contact with Other Communities -

Land Ownership –

***Customs & Traditions -**

***Religious Beliefs & Practices –**

***Art & Handy-Crafts -**

Pictures:

These are pictures that support my findings:

IMPACTS: These specific challenges are negatively affecting the country in the following ways:

HUMAN FACTORS (People): (how it affects the individual and/or community)

LOCAL FACTORS: (how it affects the region itself)

ECONOMICAL FACTORS: (how it affects the family, community and country)

MATH: These are dramatic statistics that help support the challenges my End-User is facing: (gather dramatic statistics (charts, tables, graphs) to support the challenges your End-User is facing)

WHY: I selected this End-User because...

SCIENCE – POSSIBLE SOLUTIONS:

These are some solutions that have already been tried to help the End-User with their challenges:

These are the reasons why these solutions were successful or not:

I have brainstormed the following three (3) possible solutions to help my End-User: (give a description of each proposal, not just the title)

- 1.
- 2.
- 3.

Of the three, the solution I am most interested in and will propose to my group in September is... (give a full, detailed description with illustrations of your proposal prototype solution)

The three (3) scientific background concepts that helped me understand how to build and make the prototype work are: (Explain the concepts, how each will help the prototype, use illustrations, pictures, etc.)

MATH – CHARTS & GRAPHS:

The following are my charts and/or graph proposals in which I will present my data and statistics

SOURCES

(You may use the following MLA Citation Guide websites to help you cite the sources of your research.)

MLA Format: The Complete MLA Citation Guide

<https://www.easybib.com/guides/citation-guides/mla-format/>

<http://www.bibme.org/citation-guide/mla/>

http://www.socialstudieshelp.com/research_paper_format.htm

http://library.csun.edu/egarcia/documents/mlacitation_quickguide.pdf

The following are all the sources I used to gather my written research, graphs, charts, tables, maps, and pictures including the UN – SDG icons using the MLA format.

STEM Research – All about My End-User Rubric

The “Problem” Panel

Name _____

Category	3 Met Requirements	2 Partially Met	1 - 0 Incomplete
Problem SDG icon Pts _____	<input type="checkbox"/> problem is identified <input type="checkbox"/> icon relates to the problem	<input type="checkbox"/> icon somewhat relates to the problem	<input type="checkbox"/> icon is present but is not related to content
Country Focus Pts _____	<input type="checkbox"/> all 6 WHERE prompts were researched <input type="checkbox"/> with 2 maps showing location globally & location within the country	<input type="checkbox"/> 3-5 WHERE prompts were researched <input type="checkbox"/> with 1 map showing the location	<input type="checkbox"/> 1-2 WHERE prompts were researched
Key Facts Pts _____	<input type="checkbox"/> 13-15 WHO prompts were researched <input type="checkbox"/> relate to the problem <input type="checkbox"/> with 8-10 pictures that support * list of facts <input type="checkbox"/> with a titled and caption for each <input type="checkbox"/> all 3 IMPACT prompts were researched <input type="checkbox"/> with accurate content <input type="checkbox"/> that relates to the problem <input type="checkbox"/> reason WHY End-User was selected is related to key facts	<input type="checkbox"/> 9-12 WHO prompts were researched <input type="checkbox"/> relate to the problem <input type="checkbox"/> with 5-7 pictures that support * list of facts <input type="checkbox"/> with a titled and caption for each <input type="checkbox"/> 2 IMPACT prompts were researched <input type="checkbox"/> with accurate content <input type="checkbox"/> that relates to the problem <input type="checkbox"/> reason is related to some key facts	<input type="checkbox"/> 6-8 WHO prompts were researched <input type="checkbox"/> some relating to problem <input type="checkbox"/> with 2-4 pictures that support * list of facts <input type="checkbox"/> with a titled and caption for each <input type="checkbox"/> 1 IMPACT prompt was researched <input type="checkbox"/> with accurate content <input type="checkbox"/> that relates to the problem <input type="checkbox"/> reason is related to just a few key facts
Science Possible Solutions Pts _____	<input type="checkbox"/> 2+ already tried solutions are identified <input type="checkbox"/> with reasons for their success or failure <input type="checkbox"/> 2 student generated & explained brainstormed solutions <input type="checkbox"/> and 1 detailed & illustrated that will be presented to the group	<input type="checkbox"/> 1 tried solution was identified <input type="checkbox"/> with reasons for their success or failure <input type="checkbox"/> 1 student generated & explained brainstormed solutions <input type="checkbox"/> and 1 idea that will be presented to the group	<input type="checkbox"/> with copied solutions <input type="checkbox"/> that could be presented to the group

	<input type="checkbox"/> supported by 3 scientific concepts to help explain & build the prototype <input type="checkbox"/> with full illustrations, pictures, etc. <input type="checkbox"/> that make the proposal easily understood	<input type="checkbox"/> supported by 2 scientific concepts to help explain & build the prototype <input type="checkbox"/> with some illustrations, pictures, etc. <input type="checkbox"/> some-what understood with a few questions	<input type="checkbox"/> supported by 1 scientific concepts to help explain & build the prototype <input type="checkbox"/> with an illustrations or pictures <input type="checkbox"/> many questions come to mind
Math	<input type="checkbox"/> 5-6 <u>dramatic</u> statistics support the challenges presented in Key Facts <input type="checkbox"/> presented in graph format <p style="text-align: center;">Data Results</p> <input type="checkbox"/> statistical graphs are proposed <input type="checkbox"/> with descriptive title and caption <input type="checkbox"/> identifying the independent & dependent variables <input type="checkbox"/> compared to the control	<input type="checkbox"/> 3-4 <u>dramatic</u> statistics support the challenges <input type="checkbox"/> presented in chart or table format <p style="text-align: center;">Data Results</p> <input type="checkbox"/> data tables or charts are proposed ← ← ←	<input type="checkbox"/> 1-2 <u>dramatic</u> statistics support the challenges <input type="checkbox"/> presented in word only <p style="text-align: center;">Data Results</p> <input type="checkbox"/> a survey is proposed <input type="checkbox"/> with descriptive title <input type="checkbox"/> and a list of questions to be asked in the survey
Sources Pts _____	<input type="checkbox"/> all maps, statistics, and pictures are referenced <input type="checkbox"/> as well as all content <input type="checkbox"/> using the MLA format accurately	<input type="checkbox"/> some maps, statistics, and pictures are referenced <input type="checkbox"/> as well as most content <input type="checkbox"/> and attempted to use the MLA format	<input type="checkbox"/> few maps, statistics, & pictures are referenced <input type="checkbox"/> as well as some content <input type="checkbox"/> used other format
Overall Pts _____	<input type="checkbox"/> research demonstrated a clear focus <input type="checkbox"/> and an understanding to the challenges facing the End-User <input type="checkbox"/> End-User registered by deadline (7-13-18) <input type="checkbox"/> submitted first day of school	<input type="checkbox"/> research demonstrated mostly clear focus <input type="checkbox"/> and a fair understanding to the challenges facing the End-User <input type="checkbox"/> submitted within the 1 st week	<input type="checkbox"/> research demonstrated an unclear focus <input type="checkbox"/> and a poor understanding to the challenges facing the End-User

<hr style="width: 20%; margin: 0 auto;"/> Total Points 78	Comments
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STEM End-User Registration

tarabocchiaa@olcschool.org

Dead-line 7-13-18

Name:

End-User's Country

End-User's Name of Village, Town, or City

End-User's Challenge(s) They are Facing

1.

2.

3.

etc.

SDG Closely Associated with the Challenges

1.

2.

3.

etc.

Proposed Prototype Solutions

(if you have one at this point)