

**2011 Summer Assignments Checklist
Grade 6**

Brooklyn Prospect Summer Work Philosophy

We believe that summer homework assignments are essential to maintain and extend foundational skills over the extended break. The assignments are designed to support student's academic and personal growth without placing an excessive burden on their time. The actual time required to complete the assignments will vary with each student's study habits and academic skill level. Average time commitments have been noted in the assignment checklist below. If your student is spending an inordinate amount of time on the summer work, please note the approximate time and discuss this with your student's advisor during the Fall Advisory Intake Interview.

Grading Policy

All summer assignments are due the first day of school. Projects/activities assigned by the teachers will be discussed during the second week of school. Students will receive a grade for the work they complete over the summer by the end of the third week of school. Any late work or make-up work can be submitted by the end of the first six-weeks grading period for a maximum grade of 70%.

Expectations for the First Day of School

Science

- Read a book
- Visit a science museum or complete an experiment

Estimated Time Commitment

Varies
1-1.5 hours

Math *

- Complete online math work
- Memorize multiplication facts up to 12s

4-8 hours
Varies

English Language Arts / Humanities *

Please visit <https://sites.google.com/site/bpcsummerwork/> for all instructions and materials.
(A link to this website is available on the Brooklyn Prospect homepage.)

- Mesopotamia Viewing Packet
- Gilgamesh Reading Packet
- Geography Skills Packet

1 hour
2 hours
Varies

*Internet access will be available free of charge to all Brooklyn Prospect students from July 11th – August 12th. To arrange a visit, please contact Mr. Griffin (our Dean of Students) at 718-965-7978 or (cell) 718-810-4953.

Dear Parents & Guardians:

Over the summer, incoming 6th grade students at Brooklyn Prospect Charter School are expected to do two things:

- 1) Complete online math work to keep their skills sharp.
- 2) Memorize their multiplication facts up to the 12s.

We are lucky to have access to a website called IXL which contains hundreds of math practice questions that are closely aligned with New York State standards. All incoming 6th grade students should work on at least 8 IXL topics over the summer. On the attached page you will find the 4 topics that all students are required to complete, plus additional recommended topics.

One of the best things about IXL is that your child can access it from anywhere that has an internet connection! Students who do not have internet access at home who wish to come to Brooklyn Prospect to complete IXL assignments should have their parents contact Mr. Griffin (our Dean of Students) at 718-965-7978 or (cell) 718-810-4953 to arrange a date and time during our Summer Academy session. Summer Academy is from July 11-August 12 this year.

In addition, all students should memorize their multiplication facts up to 12 x 12. Students will be tested on these facts in the first days of school. It is a good idea to study these with flashcards with a parent or sibling. Students can also use IXL to practice these facts. (Go to 4th grade skills, skill D.2 is Multiplication Facts to 12) Other online resources are Sumdog (www.sumdog.com) and Timez Attack (available at www.bigbrainz.com).

Please contact Ms. Michael (cmichael@brooklynprospect.org) or Ms. Vaughan (kvaughan@brooklynprospect.org) by email if you have any questions about these assignments or how to use IXL.

Thank you in advance for your support!

Sincerely,

Carolyn Michael cmichael@brooklynprospect.org
Kelly Vaughan kvaughan@brooklynprospect.org

IXL Login Information

Please note: New students' IXL usernames and passwords will be in the IXL system as of July 1. Please follow the steps below to log in.

To log in to IXL, go to www.ixl.com/signin/brooklyn. The username should be your child's first initial and last name followed by @brooklyn, and the password is "password." For example, for Jane Doe, the username and password would be as follows:

Username: jdoe@brooklyn

Password: password

When your child enters IXL, he or she should click on the **5th grade** tab and then choose the topics indicated on the next page from that list. Please check in with your child as they work. As teachers, we can also review the practice sessions your child has done in order to provide extra instruction if it is needed in the fall.

IXL Topics

All of the topics below are found on the 5th grade list in IXL.

Required Topics for Incoming Sixth Graders (Complete all 4)	Additional Topics for Incoming Sixth Graders (Complete any 4 additional topics.)	
	Regular Level	Challenge Level
<input type="checkbox"/> C.3 Place values in decimal numbers <input type="checkbox"/> D.2 Add and subtract whole numbers; word problems <input type="checkbox"/> F.2 Multiply by one digit numbers; word problems <input type="checkbox"/> L.1 Fractions review	<input type="checkbox"/> A.6 Rounding <input type="checkbox"/> C.5 Round decimals <input type="checkbox"/> F.4 Multiply numbers ending in zeros <input type="checkbox"/> H.3 Divide multi-digit numbers by 1-digit numbers <input type="checkbox"/> S.4 Interpret bar graphs	<input type="checkbox"/> A.9 Compare integers <input type="checkbox"/> E.2 Add and subtract decimals: word problems <input type="checkbox"/> M.4 Add fractions with unlike denominators <input type="checkbox"/> Q.1 Simplify expressions using order of operations and parentheses <input type="checkbox"/> T.5 Mixed pattern review

Tips for Parents:

1. Students should be solving problems on paper, then selecting or entering the answer into the computer. Please make sure your child has paper and a pencil out while working in IXL. They will not be able to do all of the problems in their heads!
2. You can monitor your child's progress in a skill by looking at the *Smart Score* on the right hand side of the screen. The closer this is to 100, the better your student is doing with that skill. A score under 30 after 10 minutes of practice means that your student is struggling and may need assistance to get on track. **Students should reach a Smart Score of 80 for the topics assigned for this summer.**
3. When your child gets a problem wrong, they can click *Explanation* to see a step-by-step explanation of how to solve the problem correctly. Please encourage your child to use this tool to learn from their mistakes. It can also be helpful for parents who want to understand how to explain a skill to their child.
4. In addition to making math practice exciting, IXL is designed to help your child learn at his or her own pace. The website is adaptive and will adjust to your child's demonstrated ability level. The site also records all of your child's results, so you can monitor your child's progress anytime by clicking on the *Reports* tab.

Science – Grade 6 Summer Packet

This summer, you will complete two activities to get you thinking scientifically:

All students must...

- Read a book** about a science topic that interests you. Write a journal entry telling what the book was about and what you learned from it.

AND choose one of the two options below:

- Visit a museum exhibit** related to science. Write a journal entry describing what you saw and what you learned from it.

OR

- Do a science experiment.** Write a journal entry explaining what you did and what you learned from it.

Directions for each of the three activities are inside. ☺ Do your best work – and don't forget to have fun! ☺

Note: The summer packet is intended to keep your mind active over the vacation and to help me learn about your interests. Therefore, you should choose places to visit, books, and experiments based on what you want to know more about.

However, if you are interested, you may choose to focus your summer work on sixth grade science topics, such as...

- Force, power, and work
- Energy transfers
- Simple machines
- Heat and temperature
- Weather & Climate

Science Exploration #1: Read a book about science!

What to do: Go to a library. Find the section of science books (ask a librarian if you need help!). Look at a few different books, then find one that interests you. Read the first page or two to make sure the reading level is not too easy or hard for you. Check out the book, then take it home and read it. Write a journal entry answering the questions below.

Journal Entry:

1. Book title: _____

2. Author's name: _____

3. Why did you choose this book? _____

4. What did you learn from this book? (Focus on the big ideas – don't just list facts.) _____

5. Would you recommend this book to your friends? Why or why not? _____

Science Exploration #2: Visit a museum or nature center!

What to do: Visit a science museum or nature center in New York City or

somewhere else. Some suggestions of possible museums are listed on the next page. Choose one exhibit that you find really interesting, and write a journal entry answering the questions below.

Journal Entry:

1. Which museum or nature center did you visit? _____

2. Who went with you? _____

3. What did you do and see? _____

4. What did you learn? (Try to focus on big ideas, not just a list of facts.) _____

5. Would you recommend this museum/nature center to your friends? Why or why not? _____

Suggested Museums:

American Museum of Natural History

West 79th St. and Central Park West, Manhattan

10 am – 5:45 pm every day

Adults \$16, children \$9

<http://www.amnh.org>

Liberty Science Center

Liberty State Park, New Jersey

9 am – 4 pm every day, until 5 pm on weekends

Adults \$15.75, children \$11.50

<http://www.lsc.org/>

New York Hall of Science

47-01 111th Street □ Queens, NY

Located in Flushing Meadows Corona Park

Adults \$11, children \$6

<http://www.nysci.org/home>

There are MANY other museums and nature centers in the New York city area – these are just a few ideas to get you started. Other places to consider are the Bronx Zoo, the New York Botanical Garden or Brooklyn Botanical Garden, the New York Aquarium, Wave Hill, etc.

Science Exploration #3: Do a science experiment!

What to do: Choose one of three experiments explained on the next pages. Complete the questions that go with the experiment you chose. If you have time & interest, feel free to try more than one of the experiments. 😊

Time needed: Varies depending on the experiment you choose. (Experiment 3 requires outdoor observation for at least 5 days).

Experiment Choices:

1. Make a thermometer
2. Swing a pendulum
3. Make a cloud journal

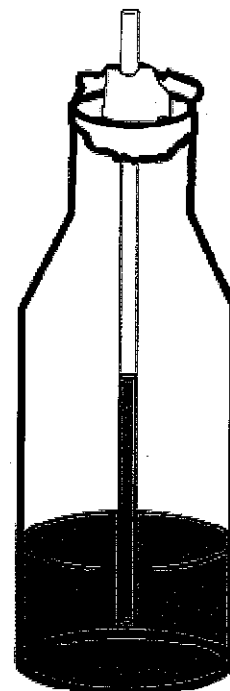
Experiment 1 (Weather, Heat & Temperature): Make a Thermometer

Background: A thermometer is an instrument that measures temperature. Temperature is measured using a scale called Fahrenheit (by most people in the United States) and in Celsius or Centigrade (used by scientists and by people in many other countries). The point where water freezes is 32 degrees Fahrenheit (F for short) and 0 degrees Celsius (C). The point where water boils is 212 degrees F and 100 degrees C. □

Thermometers help us know what the weather will be like. If it will be 90°F outside, we're not going to put on a winter coat. Or if it's below zero, we won't be wearing shorts. Here's a way to show how a simple thermometer works.

Materials:

- 1 clear plastic straw
- 1 empty juice bottle
- 1 bowl that is larger than the bottle
- food coloring
- clay
- water



Procedure:

1. Fill the bottle half full with room temperature water.
2. Add a few drops of food coloring and mix.
3. Put the straw in the bottle. Wrap the clay around it to hold it in place; do not push the straw through the clay. Also, it is important that the clay completely seals the bottle around the straw.
4. Fill the bowl half way with cold tap water. Put your thermometer in the bowl. What happens? _____

5. Now fill the bowl half way with very hot tap water. Put your thermometer in the bowl. What happens? _____

6. Water expands (takes up more space) when hot, and contracts (takes up less space) when cold. How does this explain what happened in your thermometer? _____

Experiment 2 (Force & Motion): Pendulums

Background: A **pendulum** is any weight that swings back and forth on a rope, string, or chain. Pendulums can be found in old clocks and other machinery. A playground swing is a pendulum.

If you pull the weight away from its rest position, so that the string is at an angle, and then let go, the weight will begin to swing back and forth. The time it takes the weight to swing back and forth once is called the **period** of the pendulum.

Question: How does the amount of weight affect how fast a pendulum swings back and forth once?

Hypothesis: I think that a heavier pendulum will swing (faster / slower / at the same speed) as a lighter pendulum.

Materials:

- string or twine
- scissors
- a ruler
- a stopwatch, timer, or clock with second hand
- 6 washers or heavy beads
- tape

Procedure:

1. Cut a piece of string that is 15 inches long. Tape one end of the string to the edge of a table, and tie 2 washers or beads to the other end. This makes a pendulum.
2. Lift one end of the pendulum up at an angle. Then let go so the pendulum swings back and forth. Make sure your pendulum can swing back and forth freely.
3. Repeat step 2 three times. Each time, use the stopwatch to measure how long it takes the pendulum to swing back and forth once (a period). Record the times in the data table below.
4. Add 2 more washers to your pendulum (four total) and repeat steps 2-3.
5. Add 2 more washers to your pendulum (six total) and repeat steps 2-3

Data:

	Swing 1	Swing 2	Swing 3
2 Washers			
4 Washers			
6 Washers			

Analysis:

1. How does the weight of the pendulum affect how fast it swings back and forth? Use your data to prove it! _____

2. Was your hypothesis correct or incorrect? Explain what you predicted and what really happened in the lab. _____

3. What other things could you change about your pendulum that might make it swing faster or slower? _____

Experiment 3 (Weather): Cloud Journal

Background: Clouds are made of tiny water droplets (or ice crystals) and particles that aren't heavy enough to fall to the ground as rain or snow. Different types of clouds are associated with different weather. To decide what to wear in the morning, you might watch the weather report on the news or look online. But how did people predict the weather before they had technology? They used the clouds! Sailors at sea still use cloud observation to predict if a storm is coming!

The three main types of clouds are cirrus, cumulus and stratus. A cloud's name gives us hints about what it looks like!

Cumulus clouds Cumulus is Latin for 'heap,' or 'pile'. Cumulus clouds look like a pile of cotton balls squished together. Cumulus clouds are usually associated with fair weather, but can produce rain if they are very tall. When large and bunched, they can cause heavy showers, especially in warm weather.

Stratus clouds Stratus is the Latin word for 'layer' or 'blanket.' Stratus clouds form a low layer that can cover the entire sky like a blanket. Rain and drizzle often come from stratus clouds. If they lift quickly in the morning, this often means a nice day ahead.

Cirrus clouds In Latin, the word cirrus means 'curl.' Cirrus clouds are very high in the atmosphere where the air is very cold. These clouds of ice crystals are usually associated with good weather, but may sometimes indicate that storms are on their way.

Questions: How are clouds classified? Can we use clouds to predict the weather?

What you'll do: You should go outside, or look out a window with a clear view of the sky, and observe the clouds for **at least 5 days**. Try to observe the clouds at the same time every day. For any artists out there, feel free to make your own cloud journal poster with drawings or photos to record the data.

Procedure:

1. Fill in the date and time in the data table.
2. Draw (please use color!) or take a photo of the clouds in the sky. If you decide to record your observations with photos, please print the photos and include them with your data.
3. Use the cloud identification chart on the next page to help you classify the clouds you see in the sky. Record the name of the cloud type in your data table.
4. Write down some basic observations about the day's weather. Is it raining? Is it light or heavy rain? A thunderstorm? Is it windy? Humid? Sunny? Overcast? Hot? Cool? Foggy?
5. Repeat steps 1-4 for at least 4 more days. Feel free to keep journaling- the more days you observe, the more likely you are to notice a pattern!



S'COOL Cloud Identification Chart



CERES S'COOL Project
 Students' Cloud Observations On-Line
<http://scool.larc.nasa.gov>

<http://asd-www.larc.nasa.gov/SCOOL/cloudchart.html>
scool@lists.nasa.gov

My Cloud Journal

Date and Time	Drawing/Photo of Clouds Observed	Cloud Type	Weather Observations

Analysis:

Look at the cloud type and weather you observed each day. Do you notice any patterns? (For example, was it sunny when there were cumulus clouds? Rainy with cirrus clouds?)
