



Mr. Blackman's
6th Grade Science

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OF INTEREST:**

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PNMS 6th Grade Science 2022-2023

Mr. Blackman's Science Expectations for Students

The Jr. Huskie Way "Classroom Expectations"

Respect

Respect self, others and school property
Use polite words
Honor the personal space of others

Responsibility

Enter and Exit Quietly
Bring all materials needed to class daily
Follow adult directions immediately

Relationships

Treat others the way you want to be treated
Own your behavior
Include everyone
Follow adult directions immediately

Expectations

You are expected to be on time to class with all materials and ready to learn. *If you choose not to bring the appropriate materials to either our virtual or face to face class, you will be given two warnings before a phone call is made home. On the fourth offense you will be referred to the office. Please reach out to me or the office if you are having difficulty with technology or getting connected to our Google Meets (if virtual).*


Participation is an important ingredient in the learning process. In order to facilitate classroom discussions, you must focus on the task at hand and be an active part in the lessons by listening, asking questions for clarification, and contributing your thoughts and ideas. *Please try to engage as much as possible during our Whiteboard meetings. We will be collaborating as a class on many of the concepts and labs. At times you will be put into small groups. It is expected that you work with your small group on the assigned task or discussion. Part of being engaged is asking questions if you don't understand something, need directions repeated or are having difficulty with technology or how to do something that is being asked of you. I am here to help and want you to be successful in our class!*

What work should my child expect?

All of the student's work is on Google Classroom. Students are expected to work to their full potential during their science class at their own pace. If you find that your child is falling behind in the assignments, he/she will be asked to join me for time in XTS or during my Friday office hours. Your child is expected to do the homework to the best of their ability and turn it in completed by the due date. In science, homework is mostly used as practice for the assessments. The homework will be uti-

If you need assistance getting supplies or would like to have a textbook checked out to your student, please contact Renee Smith at rsmith3@portageps.org or at 323-5759. Our goal is to make sure your students receive any requested items by the second week of school.



"There is a theory which states that if ever anybody discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened." —  Douglas Adams (1952–2001).

Energy

Students who demonstrate an understanding can:

MS-PS3-1. Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.

- Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed.

MS-PS3-2. Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

- A system of objects may also contain stored (potential) energy, depending on their relative positions.
- When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object.

MS-PS3-4. Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.

- Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present.
- The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment.

MS-PS3-5. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

- When the motion energy of an object changes, there is inevitably some other change in energy at the same time.

Earth's Systems

Students who demonstrate an understanding can:

MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

- All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.

MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

- Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.

MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

- Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land.
- Global movements of water and its changes in form are propelled by sunlight and gravity.

Earth's History



Students who demonstrate an understanding can:

MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions

- Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.

"The whole of science is nothing more than a refinement of everyday thinking." —

Albert Einstein

Ecosystems and Organizations of Living Things

Students who demonstrate an understanding can:

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors.
- In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction.
- Growth of organisms and population increases are limited by access to resources.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

- Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

- Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

- Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.

Dear Students,

There are a few supplies that you want to make sure you have to help you have a successful year at PNMS. Please check to make sure you have as many of the supplies listed below as possible and that you bring them to school on a regular basis. If you can't acquire any of these items, come and see us, and we will make sure that you have them.

These items are required and used for science:

75ish page (1 subject) notebook dedicated just for science

Pencils

HEADPHONES- this is very important. We have a virtual blended learning environment and you will use these every day for instructional purposes.

These items are strongly recommended and used regularly for science but not required.

Colored Pencils

Highlighters

Handheld mouse for easier navigation with use of the Chromebook

These items are for all school use (up to the student and teacher discretion):

binder and dividers

Pencils- even though we use technology, not a day will go by that we will not use pencils

pencil pouch for your binder

colored pencils

blue or black pens

red pen

ultra-fine Sharpie black marker

Mr. Blackman's Classroom Wish List

Dry erase markers

Clorox Wipes

Kleenex