A learning tool for families to support and enhance children’s learning and development

It is Seattle Public Schools’ Vision that Each Student Receives a High-Quality, 21st Century Education and Graduates Prepared for College, Career, and Life.

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Dear Families,

You are the first and most important teachers our children will ever have! As part of our commitment to strengthening School-Family Partnerships at Seattle Public Schools, we have developed the Family Tool Kits. These kits, designed for families with children of multiple ages, pre-school to high school, are loaded with engaging tools and strategies families can use to support your student’s learning.

Families and community members can obtain these kits on our website (www.seattleschools.org) in the following languages: Spanish, Somali, Vietnamese, Chinese, Tagalog, Amharic and Tigrigna, and use them to explore what their children are learning in Math, Literacy, and Science.

As you might already know, Seattle Public Schools has adopted specific national expectations for what students should know, learn, and be able to do in each grade level. These specific expectations make up the fundamentals of a good and solid education and are called Common Core State Standards (CCSS).

The Family Tool Kits illuminate various details of the Common Core State Standards that our students are learning every day. In using the Tool Kits with your student, you will have the experience of learning and practicing what your children are learning in the classroom.

These booklets were created especially for you because it is proven that meaningful family engagement intentionally linked to student learning increases student academic achievement. We hope you find this material useful in helping your child succeed in school.

Research also tells us that when families and children know what is expected of them in school and when a family member talks and asks specific questions about what children are learning, students get better grades, have better attendance, and fewer behavior incidents.

These booklets have samples of some of the Common Core State Standards your child will learn in school this year so that you can support that learning at home, at school, and in the community. To get more information about these standards, please consult with your child’s teacher.

I believe working collaboratively with our families as equal partners in the education of our children is fundamental for their academic success and social emotional well being.

Thank you for choosing Seattle Public Schools!

José Banda,
Superintendent
# Table of Contents

**The New Common Core State Standards (CCSS)**  
6

**LITERACY:**  
CCSS in Literacy (English Language Arts) Development 6  
Families and Schools in Partnership:  
   Supporting Literacy Development Beyond the School Day 7  
Fifth Grade Readers and Writers 8  
Activities to Help Your Child Meet Fifth Grade  
   Common Core State English Language Arts Standards 11  
Seattle Public Library Map of Locations 14  
Dinosaur Days Game Instructions 15  
   Dinosaur Days Game Boards 17  
   Dinosaur Days Information Sheets 21

**MATH:**  
New Math Requirements (CCSS) 27  
Math: Fifth Grade Common Core State Standards 29  
How to Engage Your Child in Mathematics at Home 30  
Fraction Track 31  
   Fraction Track Number Card Board 33  
   Fraction Track Gameboards 35  
Multiple Divisor Game Instructions 39  
Math Websites and Other Math Resources 41

**SCIENCE:**  
Family Letters for Three Science Units for Second Grade 42  
(The science unit activities are based on Washington State Science Standards. You can see these standards at this website: http://www.k12.wa.us/Science/pubdocs/WAScienceStandards.pdf)  
Other Family Strategies for Supporting Science 45  
Acknowledgements 47

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The New Common Core State Standards

Schools in the United States are working to provide higher quality instruction than ever before. The way we taught students in the past simply does not prepare them for the higher demands of college and careers today and in the future. Our state and other states throughout the country have developed new Common Core State Standards (CCSS) in order to improve teaching and learning and to ensure that all children will graduate from high school, college and career ready, with the skills they need to be successful. The new CCSS have been adopted by more than 40 states. These K-12 standards are informed by the highest state standards from across the country.

CCSS in Literacy (English Language Arts) Development

There are three major changes in the new CCSs in the area English Language Arts. Students will continue reading and writing. But in addition to stories and literature, they will read more texts that provide facts and background knowledge in areas including science and social studies. They will read more challenging texts and be asked more questions that will require them to refer back to what they have read. There will also be an increased emphasis on building a strong vocabulary so that students can read and understand challenging material.

Don’t be afraid to reach out to your child’s teacher(s)—you are an important part of your child’s education. Ask to see a sample of your child’s work or bring a sample with you. Ask the teacher questions like:

• Is my child on track toward meeting the end of the year standards for her/his grade?
• What are my child’s strengths and weaknesses?
• What can I do at home to make sure that my child is successful?

Adapted from Parent Roadmaps: Supporting Your Child in Language Arts, by The Council of Great City Schools.
For more information on the Common Core State Standards for Language Arts and Literacy, go to http://www.corestandards.org/the-standards/
Families and Schools in Partnership:
Supporting Literacy Development Beyond the School Day

The goal for literacy instruction in Seattle Public Schools is for every child to become proficient, critical, and joyful readers and writers, motivated to read and write throughout their lives. Our foundation is a Balanced Literacy approach, with students having opportunities to read books and articles covering a range of genres and topics and write for various reasons and audiences. Teachers begin with very explicit instruction in both reading and writing, and students then get time to read and write independently, with continuous feedback from the teacher. The ultimate goal is for students to have a toolkit of strategies for both reading and writing which they can tap into when faced with the varying demands in college, career, and life.

Developing Reading and Writing Skills

Learning to read and write is a journey that begins with students being curious about books and written language. In the early years, they begin learning about sounds, letters, and words, and over the course of their schooling become competent at reading and writing for many different purposes. Each of the stages described below should help you understand your child’s progress more clearly. You will then be able to take the accompanying suggestions on how to support reading and writing in the home and practice them when you have the opportunity to spend time with your child. 

Remember to read every night to your child and, as they develop their skills, have them read to you and have them read silently.

Reading Terms that Parents Should Know

The goal of reading is to make sense of the words. As readers develop their skills they need to have the following:

**Phonemic Awareness** is the understanding that words are made up of sounds, which can be assembled in different ways to make different words. Once a child has phonemic awareness, he/she is aware that sounds are like building blocks that can be used to build all the different words.

**Phonics** is connecting the sounds of spoken language with the letters of written language.

**Fluency** is the ability to read out loud with expression, accuracy and speed (not too slow or not so fast that meaning is lost).

**Vocabulary** is the collection of words that we know the meaning of, and that we use to express ourselves and to understand other people, in both spoken and written language. We can always add on to our vocabulary collection.

**Comprehension** is getting and making meaning from what we hear and read.
Fifth grade readers and Writers

Fifth grade readers are reading more informational texts and are able to discuss what they read in more detail. They are using many different strategies as they read more complex material. These readers are paying more attention to such things in reading as charts, tables, graphs, maps, and other text supports. Writers at this level have strong voice in their writing which comes through when they add personal opinion for emphasis in informational or persuasive writing. These writers try on different sentence types.

What your child will be learning in grade five
English language arts and literacy

In grade five, students will continue to build important reading, writing, speaking, and listening skills. They will read more challenging literature, articles, and other sources of information and continue to grow their vocabulary. Students will also be expected to understand and clearly summarize what they have learned from readings and classroom discussions, referring to specific evidence and details from the text. Students will write regularly and continue to develop their ability to gather, organize, interpret, and present information. Activities in these areas will include:

- Determining the theme of a story, play, or poem, including how characters respond to challenges
- Comparing and contrasting stories that deal with similar themes or topics
- Explaining how authors use reasons and evidence to support their points or ideas
- Drawing on information from multiple books, articles, or online sources to locate an answer or to solve a problem quickly
- Learning the rules of spoken and written English
- Learning and using new words, including words related to specific subjects (such as science words)
- Understanding figurative language
- Participating in class discussions by listening, asking questions, sharing ideas, and building on the ideas of others
- Giving a class presentation on a topic or telling a story, introducing relevant facts and details in a clear, logical order
- Writing research or opinion papers over extended periods of time

For example, “She was as quiet as a mouse.”
In grade five, students will read a wide range of literature, including stories, plays, and poems. Additionally, they will read to learn information about history, the world, science, and other areas. Here are just a few examples of how your child will develop important reading skills across grade levels.

### Reading Literature

<table>
<thead>
<tr>
<th>Grade Four Reading</th>
<th>Grade Five Reading</th>
<th>Grade Six Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students determine the theme of a story, play, or poem from details in the text and summarize the text.</td>
<td>Students determine the theme of a story, play, or poem from details in the text, including how characters respond to challenges or how the speaker in a poem reflects upon a topic, and students summarize the text.</td>
<td>Students determine the theme or central idea of a text and how it is conveyed through particular details and provide a summary of the text without personal opinions or judgments.</td>
</tr>
<tr>
<td>Students compare and contrast the point of view from which different stories are told, including the difference between first- and third-person accounts.</td>
<td>Students describe how a narrator’s or speaker’s point of view influences how events are described.</td>
<td>Students explain how an author develops the point of view of the narrator or speaker in a text.</td>
</tr>
</tbody>
</table>

### Reading For Information

<table>
<thead>
<tr>
<th>Grade Four Reading</th>
<th>Grade Five Reading</th>
<th>Grade Six Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</td>
<td>Students quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</td>
<td>Students cite evidence from the text to support analysis of what the text says explicitly as well as inferences drawn from the text.</td>
</tr>
<tr>
<td>Students interpret information presented in charts, graphs, or other visual sources of information and explain how the information contributes to an understanding of the text.</td>
<td>Students draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</td>
<td>Students integrate information presented in different media or formats (such as visually or through numbers) as well as in words to develop a coherent understanding of a topic or issue.</td>
</tr>
</tbody>
</table>

As they progress through grade levels, students will be asked more questions that require them to cite details or information from increasingly challenging texts. This will encourage them to become observant and analytical readers.
Writing tasks in grade five may include stories, essays, reports, and persuasive papers. Here are just a few examples of how your child will develop important writing skills across grade levels.

<table>
<thead>
<tr>
<th>Grade Four Writing</th>
<th>Grade Five Writing</th>
<th>Grade Six Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Students introduce a topic clearly and develop the topic with facts, definitions, concrete details, quotations, or other information.</td>
<td>• Students introduce a topic clearly, providing a general observation and focus, and develop the topic with facts, definitions, concrete details, quotations, or other information.</td>
<td>• Students introduce a topic and develop the topic with relevant facts, definitions, concrete details, quotations, or other information.</td>
</tr>
<tr>
<td>• Students provide a concluding statement or section related to the information or explanation presented.</td>
<td>• Students provide a concluding statement or section related to the information or explanation presented.</td>
<td>• Students provide a concluding statement or section that follows from the information or explanation presented.</td>
</tr>
<tr>
<td>• Students group related information in paragraphs and sections and use formatting (such as headings), illustrations, and multimedia when useful.</td>
<td>• Students group related information logically and use formatting (such as headings), illustrations, and multimedia when useful.</td>
<td>• Students organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect.</td>
</tr>
<tr>
<td>• Students link ideas within categories of information using words and phrases (such as another, for example, also, and because).</td>
<td>• Students link ideas within and across categories of information using words, phrases, and clauses (such as in contrast or especially).</td>
<td>• Students include formatting (such as headings), graphics (such as charts or tables), and multimedia when useful.</td>
</tr>
<tr>
<td>• Students use precise language and subject-specific vocabulary.</td>
<td>• Students use precise language and subject-specific vocabulary.</td>
<td>• Students use appropriate transitions to clarify the relationships among ideas and concepts.</td>
</tr>
</tbody>
</table>

Some writing guidelines may seem similar from year to year. However, with practice at each grade level, students continue to learn and apply the rules of standard written English and to strengthen and expand their vocabulary, use of language, and organization of ideas.
Home Activities to Help Your Child Meet Fifth Grade Common Core State English Language Arts Standards

Helping your child learn outside of school

- Provide time and space for your child to read independently. This time should be free from distractions such as television.
  - Ask your child what he or she learned from reading. Have him or her read the most interesting or useful sections aloud, and discuss how that knowledge can be used in real life.
- Assist your child in using references such as the Internet or a dictionary to look up unfamiliar words.
- Keep track of the time that your child spends reading every day. Note what kind of reading materials he or she likes (books, magazines, newspaper articles, the Internet, etc.). Then look for additional materials that would encourage your child to read more.
- Be sure your child has a library card. Children should select books they are interested in to develop a passion for reading. Many libraries have book clubs and family activities that make reading fun for the entire family.
- Use technology to help build your child's interest in reading. There are several websites where students can read books or articles online. The computer will help with words the student cannot read independently. Libraries also have computers students can use to access those sites. Feel free to ask a librarian or teacher for suggestions.

- Before your child writes, talk about the event they are going to write about.
- Have your child keep a log of ideas for writing.
- Talk about ways to plan out a piece of writing (make a list of events, brainstorm ideas, make a story map, timeline, etc.).
- Have your child share their plan for their writing before they begin their draft. This might look like a sketch, a timeline, or another graphic organizer.
- Have your child reread the text they have written and continue to draft on a single topic for several days. Sometimes, you might encourage them to put the piece away for a day then come back to it and reread it again before revising again.
- If your child is reading and does not know a word have them reread it, breaking it into word parts. Have him/her read the sentence around the word and think, "What word would make sense here?"
- Have your child read-on to see if they can figure out the meaning of the word from the context clues of the rest of the page or paragraph.
- After your child writes a page or two, have him/her read it to you. Tell them what you picture in your mind. Ask them to add some details to help you as the reader.
- Encourage your child to do "surgery" on their draft to help them to learn as they go through the writing process. This might include cutting and taping pieces of their draft together, adding to their draft with strips of paper or Post-It notes, and crossing out parts of their draft as they revise.
• Encourage your child to reread their text several times, each time with a different reading focus such as adding details, dialogue, inner thinking to their draft.

• When reading a social studies or science book, have your child keep a log of words that are important to understanding the text. They can add short definitions as they create their own content dictionary.

• As your child finds words that have different meanings when used in different contexts, have them write the various meanings (example: property in science and property in social studies) so that their writing is easy to read.

• Create a checklist on a Post-It together that your child can use to edit their writing and check off after rereading their draft several times before publication.

• Have your child practice reading aloud a page from their text. Pay attention to how they read with expression and how they read in phrases, rather than word-by-word.

• Read a poem or a short, familiar book aloud together. Practice reading with different voices. Have fun acting out what different characters might sound like.

• Use a video camera to capture your child reading aloud with expression.

• As your child reads either fiction or nonfiction, ask them to talk about the theme or main idea and supporting details.

• After your child has read, ask them what would be another good title for the story or article.

• After reading, have your child summarize the theme or main idea in one sentence.

• Ask your child to tell you what the story or article will be about based only on the title.

• When your child makes a prediction about the story/article, ask them to find evidence to support their thinking.

• As your child reads, ask them to note important events or important details on note cards. Have them write a summary once they have finished reading the story/article. Be sure the summary has a good introduction stating the main idea or theme.

• After your child reads a story/ magazine article/ newspaper article, have them write a one sentence summary of what they read.

• Have your child retell their stories to identify what happened first, then, and in the end.

• Have your child explain steps in a math story problem or a process in science or social studies. (Example: How a bill becomes a law or how erosion happens.)

• Talk about how writers write for different purposes (to explain something, to inform, to persuade etc.).

• Before writing a piece, have your son/daughter explain the purpose.

• Have your son/daughter keep a journal of their own life.

• Have your son/daughter keep a journal of important things they learned at school. (This can be bullet points of information.)

• When reading to your child, talk about who the characters are in the story, where the story takes place and what are the important events in the story.

• Ask your child how characters in their books or stories changed over time.

• Ask your child about the conflicts that characters had in the story.

• Talk to your child about themes that seem to come up often in stories and books.

• Discuss who the narrator is in the story. How would the story change if it were told by another character?
• When reading to your child in a series book, talk about what is similar and what is different in terms of plots, characters and settings. (Example: The Series of Unfortunate Events, by Lemony Snicket).
• Check out books in the library on the same non-fiction subject (example: the Titanic) and identify facts that are the same and some that are different between the texts.
• Have your child identify cause and effect relationships between subjects. (For example: How the transcontinental railroad influenced the development of the West).
• Create a writing center in your home. Supply your child with paper, stationery, envelopes, etc. Encourage your child to write letters, notes to others, fictional stories, poetry, raps, video game directions, movie reviews, newspaper articles, comics, and stories to share with others.
• When reading to your child, talk about why the text might be important to its reader. Have your child practice giving his or her opinion on why the story or text is important and to whom the story or information might be useful.
• Ask your child if the information in an article is the author’s opinion or is it factual.
• Ask your child about any evidence in the text that the author uses to support their information.
• Have your child identify who the author’s target audience might be.
• Ask your child to find the places in the text where the author uses words, personal opinions and facts to try and sway the reader.
• After reading a story, ask your child what can be learned from the characters.
• Share with your child how you read information in newspapers, magazines, or the Internet that helps you to make better decisions in your everyday life. (Example: An article about farmers' markets in the city helps you to save money by shopping for fresh breads, fruits and vegetables.)
• Talk about different things your child can write about, pick one, and have them write about it. Take this piece of writing and over time have your child add more details to it including dialogue, setting, action, and descriptions.
• Practice changing a simple sentence such as, "Tran didn't like to be interrupted." to a more elaborate sentence: "Tran, busy with his homework, didn't hear the telephone at first. Although he wanted to keep working, Tran took the call. He kept it short."
• Write some free verse poetry with your child. Free verse doesn't have to rhyme but can have some repeated sentence beginnings.
• Have your child always reread what he/she has written, making sure that there are spaces between words, capital letters are used appropriately, letters are formed correctly and their handwriting is easy to read (cursive or print).

Additional Resources

**Dinosaur Days Game/Fourth and Fifth Grade Skills**

Materials needed:
- 1 Game Marker for each player (button, penny, dried bean, dried noodle, etc.)
- 1 Die
- 1 Game Board (2 pages that fit together)
- Dinosaur Information Sheets

Number of Players: 2-3

**Object of the game:** to reach the FINISH space first.

How to play:
--Each player selects a dinosaur and places it on the space labeled, “START”.
--Players take turns. For each turn:
  1. The player rolls the die and moves the number of spaces shown on the die.
  2. If …
     * the player lands on a blank space: he/she remains there and it is the next person’s turn.
     * the player lands on a space that has a question: the player looks for the answer in the Information Sheet that has the dinosaur figure (or book symbol) which matches the figure on the space he/she landed on.

![Dinosaur Figures]

* Then the player proceeds to step 3.
  3. The player has 2 minutes to read through the Information Sheet with the correct figure and locate the answer to the question. Then he/she reads that section out loud to the other players. Players should be able to locate the answer to their question on the Information Sheet. *(Optional: players may help each other find the answers.)*
  4. If …
     * the player cannot locate the needed information on the Information Sheet or cannot answer the question; he/she remains on that square until his/her next turn.
     * the player can answer the question and can locate the needed information on the Information Sheet, he/she moves forward to the next blank space.

--After this sequence, it is the next player’s turn.
--The play continues until one of the players reaches the space marked “FINISH” and answers the last question in that space. Players may land on “FINISH” when the roll of their die takes them to that space or beyond.

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<table>
<thead>
<tr>
<th>What is a predator? (1)</th>
<th>What is prey? (2)</th>
<th>How long were T-Rex’s jaws? (3)</th>
<th>Which was a carnivore? (8)</th>
<th>What were sauropods? (7)</th>
<th>What is an herbivore? (5)</th>
<th>Is the life of a predator easy? (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is a carnivore? (8)</td>
<td>How did they defend themselves? (9)</td>
<td>Which was an herbivore and which was a carnivore? (11)</td>
<td>Name another animal that lived at the same time. (10)</td>
<td>Which was larger? (12)</td>
<td>What does it mean to be extinct? (13)</td>
<td>Did these dinosaurs exist at the same time? (14)</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
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<tr>
<td>How much could a T-Rex eat in one bite?</td>
<td>(16)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Which weighed less?</td>
<td>(18)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which dinosaur was more intelligent?</td>
<td>(17)</td>
<td></td>
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<tr>
<td>Did any people ever see a live dinosaur?</td>
<td>(20)</td>
<td></td>
<td></td>
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<tr>
<td>Were meat eating dinosaurs necessarily mean?</td>
<td>(21)</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Which dinosaur was human-sized?</td>
<td>(26)</td>
<td></td>
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<tr>
<td>What evidence suggests that this dinosaur was a “Good Mother?”</td>
<td>(22)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Which of these animals was not a dinosaur?</td>
<td>(23)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why do we think dinosaurs became extinct?</td>
<td>(24)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many fingers did they have?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Which dinosaur was human-sized?</td>
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<tr>
<td>When the events that caused the extinction of the dinosaurs began, which type of dinosaurs would have survived longer, herbivore or carnivore? Why?</td>
<td>(27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish</td>
<td></td>
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</tbody>
</table>
Dinosaurs

The word dinosaur comes from Latin words and means “terrible lizard.” Dinosaurs survived on Earth for more than 150 million years, and then disappeared off the face of the Earth in the most mysterious extinction ever. Many of them were gigantic but some were tiny, the size of a chicken. Dinosaurs were reptiles, just like the living iguana lizard. But unlike the lizard, which has short sprawling legs, dinosaurs had long legs tucked under their bodies, which meant that they could move much more efficiently. Many other reptiles shared the dinosaur world, swimming in the ocean and flying in the air, but dinosaurs lived only on land. We know about them today because their bones and teeth have been preserved in rock as fossils.

Some dinosaurs were herbivores and ate only plants; others were carnivores who ate other animals. Like the ancestors of our loveable cats and dogs, some dinosaurs were predators (meat eaters). Predators are part of nature. Unlike cats and dogs today, carnivorous dinosaurs did not have humans to prepare and give them their food. Hunting was the only way they could get their food.

It is not only hard to be prey (the animal that gets eaten) but it is also hard to be a predator, or hunter. Being a predator is dangerous. Predators can get hurt or killed by their prey. This is why meat-eaters often attack prey that is weak, sick, or young.

Extinction of Dinosaurs

What does it mean to be extinct? A kind of animal or plant is extinct when every single one has died. Dinosaurs became extinct about 65 million years ago. A catastrophic asteroid colliding with Earth probably caused this extinction. It is thought that an asteroid 4-9 miles (6-15 km) in diameter hit the Earth off the coast of Mexico. The impact probably penetrated the Earth's crust, scattering dust and debris into the atmosphere, and causing huge fires, volcanic activity, tsunamis, and severe storms with high winds and highly acidic rain. The impact could have caused chemical changes in the Earth's atmosphere, increasing concentrations of sulfuric acid, nitric acid, and fluoride compounds. The heat from the impact's blast wave would have incinerated all the life forms in its path.

The dust and debris thrust into the atmosphere would have blocked most of the sunlight for months, and lowered the temperature globally. Those organisms that could not adapt to the temperature and light changes would die out. Since plants' energy is derived from the sun, they would likely be the first to be affected by changes in climate. Many families of phytoplankton and plants would die out, and the Earth's oxygen levels may well have dramatically decreased, both on land and in the oceans, suffocating those organisms, which were unable to cope with the lower oxygen levels. Major changes in the food chain would result from all of these environmental upheavals. The herbivores (plant eaters) who fed on plants that were dying out would soon starve. Then, at the top of the food chain, the carnivores (meat eaters) like T. rex, having lost their prey, would have to eat each other, and eventually die out too. Their large carcasses could have provided smaller animals with food for a while after.  

DINOSAUR TIMELINE

<table>
<thead>
<tr>
<th>Dinosaurs, mammals evolve</th>
<th>Birds evolve</th>
<th>Dinosaurs go extinct</th>
<th>People evolve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triassic Period</td>
<td>Jurassic Period</td>
<td>Cretaceous Period</td>
<td>Cenozoic Era</td>
</tr>
<tr>
<td>248 mya</td>
<td>206 mya</td>
<td>144 mya</td>
<td>65 mya</td>
</tr>
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Millions of Years Ago
STEGOSAURS were large, herbivores (they ate only plants) with lots of big, bony plates sticking up from their backs. Each plate was a slightly different shape. Stegosaurs also had long, sharp spikes on their tails. They could swing their tails sideways to scare off attackers.

Stegosaurs were big and heavy, and could only move slowly. They also had very small brains. Their bodies were almost as big as a bus, but their brains were the size of a walnut. Because their brains were so small, some people think that they were not very smart. But stegosaurs’ brains were obviously big enough for their needs, since they managed to survive for 10 million years.

STEGASAR’S FOOD AND ITS PREDATORS  A Stegosaur must have eaten a large amount of low-calorie plant material each day to sustain its bulk, probably using its toothless beak to get food. There is debate on whether or not Stegosaurus could rear up on its rear legs to forage for vegetation. If it couldn’t rear up, it was limited mostly to plants no taller than about 3 feet (1 m) tall. This would have included ferns, smaller club mosses, cycads, horsetails, and bushy conifers. It isn’t known with any certainty, but possible predators of Stegosaurus include all the large meat-eaters from western North America during the late Jurassic Period. Some of these meat-eaters included Allosaurus, and maybe even packs of smaller meat-eaters like Ornitholestes.

WHEN STEGOSAURUS LIVED  Stegosaurus lived during the late Jurassic Period, about 156-140 million years ago. There was no polar ice during the last two-thirds of the Jurassic. The climate was warm and moist and the sea levels high. There were vast flooded areas, temperate and subtropical forests, and coral reefs. The extensive water moderated the seasonality.

TYRANNOSAURS were massive carnivore (meat-eating) dinosaurs that walked around on two legs. Tyrannosaurus Rex had a more powerful bite than any animal that lives on land today. They had long powerful legs for charging at enemies. Tyrannosaurus Rex had very short arms, each with two fingers. The tail was used as a counterbalance for its enormous head, for agility and for making quick turns.

TYRANNOSAURUS REX lived during the late Cretaceous period, about 85 million to 65 million years ago. T. rex lived in a humid, semi-tropical environment, in open forests where its prey (plant-eating dinosaurs) could find plenty of food. The seasons were mild.

TEETH AND JAWS  T. rex's jaws were up to 4 feet (1.2 m) long and had 50 to 60 thick, conical, bone-crunching teeth that ranged in size from very small to over 9 inches (23 cm) long. An adult had a variety of sizes of teeth in their jaws at one time, as teeth were broken and new (smaller) ones grew in to replace them. One T. rex was found with some teeth up to 13 inch (33 cm) long. T. rex could eat up to 500 pounds (230 kg) of meat and bones in one bite!

The Tyrannosaurus rex was too heavy to run very fast when it was hunting. Instead of chasing other dinosaurs, it took them by surprise. First, it hid quietly somewhere. Then it charged out with its jaws wide open.

SENSES  Sight: T. rex had large visual lobes in its brain that processed visual information. T. rex also had depth perception (since both eyes faced forwards on the front of its skull, and not placed on the sides), but it was not the only dinosaur that had depth perception. In general, predators (hunters) often have depth perception to help them hunt their prey. Animals that are hunted (like the plant-eating dinosaurs) usually have eyes located on the sides of their head (having no depth perception); this lets them see predators approaching from both sides. Smell: T. rex's brain had a very large area in the brain for processing odors.
PTEROSAURS were reptiles with wings. They lived at the same time as dinosaurs but they were not dinosaurs. The smallest Pterosaurs were the size of ducks, but the biggest ones were the size of a small plane. Pterodactyls had a short tail. This helped it to twist and turn in the air as it chased insects. The Pteranodon had no teeth. It caught fish, and then kept them in a pouch in its mouth. Later, it swallowed them whole.

ANATOMY

Pteranodons were flying reptiles (pterosaurs) that were about 6 feet (1.8 m) long, had a 25-33 foot (7.8-10 m) wingspread, and weighed about 35 pounds; its standing height was about 6 feet (1.8 m). This wing-span is longer than any known bird. Pteranodons had hollow bones, were lightly built, had almost no tail, and small bodies; they may have had fur. They had large brains and good eyesight. Some pteranodons had long, lightweight, bony crests on their heads that may have acted as a rudder or stabilizer when flying. They had no teeth.

Pteranodon wings were covered by a leathery membrane. This thin but tough membrane stretched between its body, the top of its legs and its elongated fourth fingers, forming the structure of the wing. Claws protruded from the other fingers.

Pachycephalosaurus (Boneheads) were dome-headed dinosaurs. Its huge head housed an incredibly thick skull, a tiny brain, and large eyes. Its rounded skull was up to 10 inches thick (25 cm).

Pachycephalosaurus grew to be about 15 feet long (4.6 m) and may have weighed roughly 950 pounds (430 kg). Pachycephalosaurus probably had a good sense of smell. It had bumpy knobs on its snout and along the rear of its skull. This plant-eater had short forelimbs and a stiff tail.

PACHYCEPHALOSAURUS BEHAVIOR Pachycephalosaurus were herding dinosaurs that lived in small groups in coastal and upland regions. Running was probably the first line of self-defense. It had long been thought that Pachycephalosaurus' huge dome may have been used for ramming rivals during combat or as a last-ditch self-defense against predators. But paleontologists, after analyzing pachycephalosaur skulls, have found no evidence of healed scars. Also, under close analysis, the thick skull bone is not rigid and solid, but porous and fragile when put under extreme pressure. “It certainly wouldn't be in their own best interests to ram heads in a fight,” said Goodwin, a paleontologist. “They would have killed each other, and a couple of bowling balls would hardly make good targets.” It is more likely that Pachycephalosaurus butted other animals’ sides (flank-butting), rather than their heads. This would inflict damage on the other animal and not injure the Pachycephalosaurus.

WHEN PACHYCEPHALOSAURUS LIVED Pachycephalosaurus lived during the late Cretaceous period, about 76 to 65 million years ago, toward the end of the Mesozoic, the Age of Reptiles. Among its contemporaries were Troodon, Maiasaura, Tyrannosaurus rex, Ankylosaurus (an armored herbivore), Parasaurolophus, Corythosaurus (a crested dinosaur), and Dryptosaurus (a leaping dinosaur).
PARASAUROLOPHUS was a long-crested, duck-billed dinosaur. Its extremely long, backwards-leaning, hollow, bony crest was bigger than the rest of its skull and may have been used to produce a low-frequency, foghorn-like sound, enhance its sense of smell, and/or used in courtship displays. The crest was up to 6 feet (1.8 m) long. Parasauroplophus was an herbivore, eating pine needles, leaves, and twigs. It grew to be about 40 ft (12 m) long and 8 feet (2.8 m) tall at the hips. It weighed about 2 tons. It had pebbly-textured skin, a spoon-shaped beak, and a pointy tail. Its sight and hearing were keen, but it had no natural defenses. It had a toothless, horny beak and numerous cheek teeth.

PARASAUROLOPHUS BEHAVIOR Parasauroplophus may have been a herding animal; it may have migrated from shorelines to higher ground to reproduce. There is no evidence that Parasauroplophus spent much time in the water. It used to be thought that its crest was used as a snorkel-like device, indicating that the animal spent much time in the water, but since the crest has no nostril at the top, this theory has been dismissed. Also, fossilized stomach contents have been found, consisting mostly of land plants which is also evidence that Parasauroplophus spent most of its time on land. Parasauroplophus was an ornithopod, whose intelligence (as measured by its relative brain to body weight, or EQ) was midway among the dinosaurs.

WHEN PARASAUROLOPHUS LIVED Parasauroplophus lived during the late Cretaceous period, about 76-65 Million years ago, toward the end of the Mesozoic, the Age of Reptiles. Among the contemporaries of Parasauroplophus in the late-Cretaceous (in North America) were Albertosaurus, Troodon, and Pachycephalosaurus.

ALLOSaurus, “Different Lizard", was a large carnivore (meat-eating) dinosaur. It was the biggest meat-eater in North America during the late Jurassic period, about 154 to 144 million years ago. (But it was smaller than the Tyranosaurus Rex which lived later, during the late Cretaceous Period.) The intelligence of the Allosaurus (as measured by its relative brain to body weight, or EQ) was high among the dinosaurs.

ANATOMY Allosaurus was a powerful predator that walked on two powerful legs, had a strong, S-shaped neck, and had vertebrae that were different from those of other dinosaurs (hence its name, the “different lizard”). It had a massive tail, a bulky body, and heavy bones. Its arms were short and had three-fingered hands with sharp claws that were up to 6 inches (15 cm) long. Allosaurus was up to 38 feet long (12 m) and 16.5 feet tall (5 m). It weighed about 1400 kg. It had a 3 feet long (90 cm) skull with two short brow-horns and bony knobs and ridges above its eyes and on the top of the head.

DIET AND TEETH Allosaurus may have hunted in groups. In groups, Allosaurus could ambush even the very large sauropods (like Diplodocus and Camarasaurus). It probably also preyed upon stegosaurus and iguanodons. Allosaurus was the most abundant predator in late Jurassic North America. It was equipped with large, powerful jaws with long, sharp, serrated teeth 2 to 4 inches (5 to 10 cm) long. Allosaurus was a large, fierce predator that could kill medium-sized sauropods (or sick or injured large sauropods like Apatosaurus or Brachiosaurus) and many others of its contemporaries. An Apatosaurus (a large sauropod) vertebra was found with Allosaurus tooth marks on it. Allosaurus may also have been a scavenger. This theropod was the biggest meat-eater in its habitat.
BRACHIOSAURUS, “Arm Lizard”, was a sauropod. Sauropods were large, four-legged, herbivorous dinosaurs. The Brachiosaurus was one of the tallest and largest dinosaurs yet found. It had a long neck, small head, and relatively short, thick tail. Brachiosaurus walked on four legs and its front legs were longer than its hind legs. These unusual front legs together with its very long neck gave Brachiosaurus a giraffe-like stance and great height, up to 40-50 feet (12-16 m) tall. Brachiosaurus was about 85 feet (26 m) long, and weighed about 33-88 tons.

Brachiosaurus was an herbivore, a plant eater, with chisel-like teeth and probably ate the tops of tall trees. It swallowed its food whole, without chewing it, digesting the plant material in its gut. Its nostrils were on the top of its head, and it had large nasal openings indicating that it may have had a good sense of smell. Brachiosaurus was (as measured by its relative brain to body weight, or EQ) was among the lowest of the dinosaurs.

WHEN BRACHIOSAURUS LIVED AND POSSIBLE PREDATORS Brachiosaurus lived in the middle to late Jurassic period, about 156-145 million years ago, near the middle of the Mesozoic Era, the Age of Reptiles. Some dating estimates have Brachiosaurus surviving until 140 million years ago, during the dawn of the Cretaceous period. Sauropod life spans may have been in the order of 100 years. A healthy, adult Brachiosaurus probably had no predators. Among the largest-known meat-eaters from that time (the late Jurassic period) and place (N. America and Africa) were Allosaurus. These theropods were less than half the size of Brachiosaurus, and probably had much easier prey to hunt (like smaller sauropods and stegosaurs).

BEHAVIOR Brachiosaurus probably travelled in herds and may have migrated when they depleted their local food supply. Brachiosaurus may have hatched from eggs, like other sauropods. Sauropod eggs have been found in a linear pattern and not in nests; presumably the eggs were laid as the animal was walking. It is thought that sauropods did not take care of their eggs.

MAIASAURA, “Good Mother Lizard”, was a large, plant-eating, duck-billed dinosaur. Maiasaura was the first dinosaur that was found alongside its young, eggs, and nests. This suggests that Maiasaura nurtured its young. This herbivore (plant-eater) had a toothless beak, cheek pouches, and many self-sharpening cheek teeth. It would eat about 200 pounds of leaves, berries and seeds per day. The hands each had four fingers and the feet had hoof-like claws. Maiasauras grew to be about 30 feet long (9 m), 6-8 feet tall, weighing roughly 3-4 tons. Maiasaura walked on four legs, and was a relatively fast dinosaur. When they ran, they probably used only their back legs, with the tail providing balance. Running was their only means of escaping carnivores like the Troodon. Maiasaura was an ornithopod, whose intelligence (as measured by its relative brain to body weight, or EQ) was midway among the dinosaurs.

SOCIAL BEHAVIOR Maiasauras nests were holes scooped out of the ground, about 6-7 feet in diameter (1.8-2 m), and contained up to 25 grapefruit-sized eggs each. Newborns were about a foot (0.3 m) long. Nests are about 25-30 feet apart, just about the size of an adult Maiasaura. In Montana, Maiasaura fossils have been found in a huge group of about 10,000, strongly suggesting herding behavior. These Maiasauras were buried in volcanic ash. The existence of herds might also suggest the necessity of seasonal migratory movements to feed such a large group of animals.

WHEN MAIASAURA LIVED Maiasaura lived during the late Cretaceous period, about 80 to 65 million years ago, toward the end of the Mesozoic, the Age of Reptiles. It was among the last of the dinosaur species to evolve before the Cretaceous-Tertiary extinction 65 million years ago. Among the contemporaries of Maiasaura were Velociraptor, Albertosaurus and Troodon (carnivores that probably preyed upon Maiasauras), Tyrannosaurus rex (a larger version of Albertosaurus), Ankylosaurus (an armored herbivore), Parasaurolophus, Corythosaurus (a crested dinosaur), and Dryptosaurus (a meat-eating dinosaur).
**TROODON**, “Wounding Tooth” was a human-sized, fast, long-legged bipedal (walked on two legs) meat eater with serrated teeth and long, slim jaws. It was a theropod 6.5-11.5 ft (2-3.5 m) long, about 3 ft (1 m) tall at the hips; it may have weighed about 110 pounds (50 kg).

This light-weight dinosaur had long hind legs and a stiff tail. Troödon had large eyes and may have had a good sense of hearing. It had a large, sickle-shaped toe claw on its second toe, and smaller ones on the other. Troödon walked on two slender, bird-like legs; it must have been a fast runner, considering its legs and light weight. When it ran, it rotated its huge middle-toe-claw upwards and ran on the other toes. It had three long, clawed fingers that were ideal for grasping prey.

**WHEN TROODON LIVED**
Troödon lived during the late Cretaceous period, about 76-70 million years ago.

**DIET AND TEETH**
Troödon was a carnivore, a meat eater. It probably ate just about anything it could slash and tear apart with its sharp teeth, long clawed fingers and toes.

**INTELLIGENCE**
Troödon may have been the smartest dinosaur, having the largest brain in proportion to its body weight (as smart as a modern bird).

**TRICERTOPS**, “Horrible Three-horned Face”, was a rhinoceros-like dinosaur. It walked on four sturdy legs and was relatively slow. It had three horns on its face along with a large bony plate projecting from the back of its skull (a frill). One short horn above its parrot-like beak and two longer horns (over 3 feet or 1 m long) above its eyes probably provided protection from predators. It had a large skull, up to 10 feet (3 m) long, one of the largest skulls of any land animal ever discovered. Its head was nearly one-third as long as its body. Triceratops hatched from eggs. Triceratops was about 30 feet long (9 m), 10 feet tall (3 m), and weighed up to 6-12 tons. It had a parrot-like beak, many cheek teeth, and powerful jaws.

**WHEN TRICERTOPS LIVED**
Triceratops lived in the late Cretaceous period, about 72 to 65 million years ago, toward the end of the Mesozoic, the Age of Reptiles. It was among the last of the dinosaur species to evolve before the Cretaceous-Tertiary extinction 65 million years ago. Among the contemporaries of Triceratops were *Tyrannosaurus rex* which probably preyed upon Triceratops.

**BEHAVIOR**
Triceratops was probably a herding animal, like the other *Ceratopsians*. When threatened by predators, Triceratops probably charged into its enemy like the modern-day rhinoceros does.

**DIET, TEETH, AND ITS POSITION IN THE FOOD CHAIN**
Triceratops was an herbivore, a plant eater (a primary consumer). It probably ate cycads and other low-lying plants with its tough beak. Triceratops could chew well with its cheek teeth (like other Ceratopsians, but unlike most other dinosaurs). Triceratops was hunted and eaten by T. rex.

**INTELLIGENCE**
Triceratops was a ceratopsian, whose intelligence (as measured by its relative brain to body weight, or EQ) was intermediate among the dinosaurs.
NEW MATHEMATICS REQUIREMENTS

Washington State has adopted new math standards called the Common Core State Standards (CCSS). These math standards focus on core conceptual understandings and procedures starting in the early grades, thus enabling teachers to take the time needed to teach core concepts and procedures well—and to give students the opportunity to master them. All state assessments will be based on these standards starting in the 2014-2015 school year. Students in 6th – 8th grade are already transitioning to the new standards according to the Seattle Public Schools’ roll-out plan. The full set of Common Core State Standards for Mathematics can be found at:

http://www.corestandards.org/

The National PTA has provided resources to help parents and guardians understand the new Common Core State Standards.

http://pta.org/content.cfm?ItemNumber=2796

The Council of The Great City Schools has also put together a Road Map brochure to help parents learn about the transition to Common Core State Standards.

http://www.cgcs.org/Page/244

Until 2014-2015, students will be assessed on the Washington State performance expectations (also called learning standards or benchmarks), which identify what students should be able to do as they progress from Kindergarten through 12th grade. A complete set is online at:

Standards for Mathematical Practice

The Standards for Mathematical Practice describe the kinds of “habits of mind” that students should be developing and using while learning and doing mathematics. They represent the important processes students use to learn and do math successfully. There are eight Standards for Mathematical Practice that students are developing from kindergarten through high school.
MATH: Fifth Grade Common Core State Standards

In fifth grade, students will focus their attention on three critical areas:

1. developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions);
2. extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to the hundredths, and developing fluency with whole number and decimal operations; and
3. developing understanding of volume.

For example, by the end of fifth grade, your child should be able to demonstrate the following skills:

- Use the meaning of fractions, of multiplication and division, and the relationship of these operations to explain why multiplying and dividing fractions makes sense (division is limited to unit fractions and whole numbers).
- Develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations.

- Apply their understanding of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths.

- Understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps.
How to engage your child in mathematics at home:

- Ask your child to help you find the “best buy” when shopping or purchasing snacks at a movie theatre by comparing the cost per unit of different sizes. Example: a 10 ounce popcorn for $3.50 versus a 15 ounce bag of popcorn for $5.95.

- Ask your child to mentally divide anything and everything that needs to be shared equally among family members. Example: $20 to spend at the garage sale divided equally among 3 children. When your child answers, ask her to explain how she solved the problem, what should be done with any leftovers, and if her answer is reasonable. Explaining her strategy is an important skill to develop and will help her to identify any errors she made.

- Have your child calculate the amount of change you should receive when paying for clothing purchases or a restaurant bill.

- Use a Hershey’s chocolate bar (which consists of 12 small rectangular pieces) to help your child practice adding and subtracting fractions. Give her 1/4 of the bar (3 of the 12 pieces) and then give her 1/6 of the bar (2 pieces). Help her to see that to add fractions with unlike denominators she must first rename the fractions 1/4 and 1/6 to fractions with common denominators (3/12 and 2/12) and then add them together. You can use a real chocolate bar or draw a picture of one and cut into 12 pieces.

- Discuss the idea of angles with your child. In looking at a clock face, if 360 degrees is the full measure around, what measure would each 5 minute segment be? 15 minute? Ask her to calculate various angle measures together. In watching games or sports, ask her what the combination of angles on a playing field or court would be. What do the four 90 degree measures of a goal box in soccer add up to? Will this be true of all rectangular spaces? What about hexagonal or triangular spaces?

- Ask your student to write an algebraic expression to describe everyday occurrences. In terms of time, what would the expressions be for New York, Tokyo, and Sydney, Australia? Example: Chicago’s time in relation to Seattle’s could be expressed as “x + 2” where “x” is Seattle.
Fraction Track

Materials:
- Number cards 0-10 (4 of each) *(If using regular playing cards, choose one of the face cards to be "0".)*
- Fraction track gameboard(s) *(Gameboard 1: 0 - 1 on page 35 and Gameboard 2: 1 - 2 on page 37)*
- Number card board *(page 33)*
- Counters (7 counters per person—for instance, one person could use pennies and the other person could use nickels)

Players: 2
Skill: equivalence and addition of fractions

Objective To move all 7 counters across the board (to either 1- or 2-whole).

Game preparation: Separate the cards into two piles on the number card board. In the denominator pile, place 2 each of the 2, 3, 4, 5, 6, 8, and 10 cards. Place all other cards in the numerator pile. Shuffle both sets of cards, placing them number side down on the left side of the board. In order to play Fraction Track to 2-whole, the second game board will need to be cut out of the book and taped to the first track, 0-1.

Directions:
1. Before play begins, each player places seven counters on the gameboard, one on each track, at any fraction point less than \(\frac{3}{4}\). Use different color counters so that each player can distinguish his/her counter from the other player’s. (counters may share a dot)
2. Players take turns. Each turn, the player turns over a numerator and denominator card to form a fraction. Next the player, moves either one counter the fractional amount shown, or breaks the fraction up in order to move 2 or more counters.
   Example: If the fraction is \(\frac{3}{5}\), the player can move \(\frac{3}{5}\) on the fifths line, \(\frac{3}{5}\) on the tenths line, or a combination on two or more lines such as \(\frac{1}{2}\) and \(\frac{1}{10}\), \(\frac{1}{5}\) and \(\frac{4}{10}\), or \(\frac{1}{3}\), \(\frac{1}{6}\), and \(\frac{1}{10}\). The fraction a player draws is the total that he/she can move for that turn.
3. There are two possible end points. One is if the players try to move all seven counters to 1-whole. The second is if the players decide to try to move all seven counters to 2-whole.
4. When a player reaches either 1- or 2-whole, remove the counter from the gameboard.
5. If a player cannot move the total of the fraction drawn, then no counters may be moved and play continues to the next player.
6. The first player to collect all 7 counters wins.

Strategies
As students try to determine how to break apart a fraction to use two or more counters in one turn, suggest that they use the gameboard itself to find equivalent fractions. For example, by looking straight down from the fraction $\frac{1}{2}$, a student will see all the equivalents to $\frac{1}{2}$.

Therefore, if the student is working with the fraction $\frac{6}{8}$, he/she may notice that it is equivalent to $\frac{3}{4}$, and/or notice along the eighths track that $\frac{4}{8}$ is equivalent to many other fractions, leaving $\frac{2}{8}$ to work with after using the $\frac{1}{2}$.

If a student is good at converting an improper fraction to a mixed number, then play the game to 2-whole. If not, stick to 1-whole until he/she develops this skill further.
(Fraction Track) Number Card Board

NUMERATOR PILE
Place cards number side down
When all cards are used, shuffle & replace

NUMERATOR PILE
Play each card number side up

DENOMINATOR PILE
Place cards number side down
When all cards are used, just replace
DO NOT SUFFLE!

DENOMINATOR PILE
Play each card number side up
Fraction Track Gameboard (1)
Fraction Track Extended Gameboard (2)
Multiple Divisor

Materials
Number cards 0-9 (4 of each) DRAW CARDS
Number cards 2, 3, 5, 6, 9, and 10 (2 of each) DIVISOR CARDS
(If using regular playing cards you will need 2 decks. Choose a face card to represent "0").

Players
2 or 3

Skill
Reviewing divisibility, factors/multiples

Objective
To discard all cards

Directions
1. Shuffle the DIVISOR cards and place them number side down on the table. Shuffle the DRAW cards and deal 8 to each player. Place the remaining DRAW cards number side down on the table.
2. For each round, turn the top DIVISOR card number side up. Players take turns.
   When is it your turn:
   • Use the cards in your hand to make 2-digit numbers that are multiples of the DIVISOR card showing. Make as many numbers as you can.
   • Place all the cards you used to make 2-digit numbers in a discard pile.
   • If you cannot make a 2-digit number that is a multiple of the DIVISOR card, you must take a card from the DRAW pile. Your turn is over. Now it is the next player’s turn to make 2-digit numbers that are multiples of the same DIVISOR card (using the cards from his/her hand.)
3. Any player may challenge that a 2-digit number is not a multiple of the DIVISOR card. Conduct a divisibility test by dividing the 2-digit number by the given DIVISOR to determine if it is. Any numbers that are not multiples of the DIVISOR card must be returned to the player’s hand.
4. If the DRAW pile or DIVISOR cards should run out, just reshuffle and put back in play.
5. The first player to discard all of his or her DRAW cards wins.

Strategies:
As the student tries to match 2-digit numbers to the divisor, ask him/her to think out loud and tell you which ones they are thinking of. If he/she can’t find a combination of two cards in his/her hand (but there is a combo that will work), ask him/her the following:
• If you “skip count” by the divisor, what numbers would you say? Are any of those numbers in your hand?
• Can you make this a multiplication problem with a missing factor? For example, if the divisor is 4, “what times 4 equals a two-digit number in my hand?”
• Can you make (divisor) equal groups of any number in your hand?
Lucia and Dennis decide to play Multiple Divisor. After dealing 8 cards out to each other from the DRAW card pile, they set up the game for play (as seen above). To start, they turn over the top card from the DIVISOR pile, which is a 3. Lucia gets to go first. Here are her cards:

1 2 3 5 7 7 8 9

Lucia uses her cards to make 2 numbers that are multiples of 3:

1 5 3 9

There’s one more combination. Can you find it? After Lucia goes, Dennis gets to name all the multiples of 3 in his hand. Then they move on to round 2 with a new divisor card.
Math Websites and Other Math Resources

Websites

Seattle School District: www.seattleschools.org

OSPI (Office of Superintendent of Public Instruction): http://www.k12.wa.us/CoreStandards/Mathematics/default.aspx

PTA Websites: www.pta.org/parents/content & www2.ed.gov/parent/academic/help/math

Math Activities: www.mathisfun.com & www.ixl.com/math

Flash Cards: www.xtramath.org

PBS Kids Lab: www.pbskids.org/lab/games/


Max's Math Adventures: www.teacher.scholastic.com/max/

Figure This! Math Challenges for Families: www.figurethis.org

Math Illuminations—National Council of Teachers of Mathematics: www.illuminations.nctm.org/ActivitySearch.aspx

A+ Math: www.aplusmath.com

Math for Kids: www.kidsnumbers.com

Khan Academy: www.khanacademy.org

Board Games

Sorry Dominos Yahtzee Chess Backgammon Monopoly
Blokus Trouble Checkers Uno Pay Day Cribbage
Life, and other games where you earn and spend money

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You can see the science standards at this website:
http://www.k12.wa.us/Science/pubdocs/WAScienceStandards.pdf

Land & Water Science Unit – Fifth Grade

Land and Water is the earth science unit for 5th grade. (The other two fifth grade science units are: Models & Designs and Microworlds.) Students use models filled with soil and pour water into them to investigate how flowing water changes land. They learn about erosion and deposition of soil and ways to limit the amount of erosion.

State standards are addressed and embedded in this science unit. Here is a link to the State Science Standards:

We know that children do better in school when their families are actively involved in their learning. Here is one activity that you can do with your child at home to promote close observation and to strengthen your child’s understanding of the interactions between land and water.

Family Activity: During or after a rainstorm, take a walk with your child(ren) around your yard and your neighborhood. Look for places where the rain and flowing water have washed away soil. Investigate where this soil that has been washed away is ending up. Is the soil being washed onto the street or sidewalks? Is it being washed down a storm drain? Talk about how everything that gets washed down a storm drain ends up in a stream and eventually may end up in the Puget Sound. Talk about how the plants and animals in the stream and in the Puget Sound are harmed by excess soil and other substances that flow into them. Finally, ask your child(ren) what s/he thinks you can do as a family to prevent soil from being washed away in your neighborhood or yard.
Microworlds Science Unit – Fifth Grade

In the Microworlds science unit, students will be learning about properties of nonliving objects and the characteristics of living things. Students will be using small microscopes to observe objects and organisms and learn about identifying living and nonliving things. (The other two fifth grade science units are: Land & Water and Models & Designs.)

State standards are addressed and embedded in this science unit. Here is a link to the State Science Standards:

We know that children do better in school when their families are actively involved in their learning. Here is one activity that you can do with your child at home to strengthen your child’s understanding of how microorganisms exist all around us.

Family Activity: Investigate where in your kitchen is the best place to store your bread. Take several pieces of bread and put each in a plastic baggie. Put each baggie in a different location in your kitchen. Try putting one in a light place (by the window but out of direct sunlight) and one in a dark place (a drawer), one in a cold place (the refrigerator) and one in a warm place (in the sunlight). Observe the pieces of bread every day for a couple of weeks. As you observe with your child, talk about these questions: Does the bread look different? If so, how? Why do you think this is happening? Have him/her describe the changes that s/he sees. Have your child draw simple illustrations of the pieces of bread every few days. After a couple of weeks, discuss your results: In what location did the bread grow the least mold? Where did it grow the most? Why do you think this happened? Where do you think the mold came from? Where is the best place in your kitchen to store bread? Explain why you think this.
**Models & Designs Science Unit - Fifth Grade**

In the *Models & Designs* science unit, students will be learning about scientific models, designing, and engineering. Students will be investigating black boxes as well as constructing humdingers and go-carts! (The other two fifth grade science units are: *Land & Water* and *Microworlds*.)

State standards are addressed and embedded in this science unit. Here is a link to the State Science Standards:

http://www.k12.wa.us/Science/pubdocs/WAScienceStandards.pdf

We know that children do better in school when their families are actively involved in their learning. Here is one activity that you can do with your child at home to strengthen your child's understanding of models.

**Family Activity:** With your child, look around your home for models. Look for anything that represents a bigger or more complicated object, such as a globe, map, toy truck, airplane, or even a doll. Ask your child: *How do we use these objects in our everyday lives? How are these models the same as the "real" objects? How are they different from them? Why don't we use the "real" objects instead of these models in our everyday lives?* Encourage your child to continue looking for and thinking about models in the world around us.
Other Family Strategies for Supporting Science

Suggestions below support your child's science understandings at school, at home, and around the Seattle area.

At School
- Talk to your child's science teacher about how your child is doing in class.
- Chaperone a science field trip.
- Volunteer to inventory a science kit for the teacher.
- Volunteer in your child's science class.

At Home
- Encourage your child to ask questions about the world as much as possible, and avoid giving answers. Encourage observation, exploration, investigation, or research instead.
- Ask your child thoughtful questions that promote the scientific skills of observing, comparing and logical thinking. Examples of question starters:
  - What have you noticed about…?
  - How does it look/feel/smell…?
  - How are these the same or different…?
  - Which is longer/stronger/heavier?
  - How could you…?
  - What do you mean when you say…?
  - What makes you think so…?
- Teach your child to provide evidence for her thinking by using the word "because" in her explanation (I think the fish is dead because it is floating upside down).
- Encourage your child to draw detailed, colorful, labeled illustrations of things he is observing at home or school.
- Read non-fiction books together in your family's home language.
- Read the newspaper together: talk about a science-related article.
- Talk about the natural history of your country of heritage (e.g., Mt. Pinatubo in the Philippines, Mt. Fuji in Japan, tsunami in southeast Asia, Himalayas in India, Great Rift Valley in Eastern Africa).
- Cook together: talk about what you are doing as you are cooking.
- Work together in the garden: plant vegetables, start a family compost or a worm bin.
- Go through a kitchen cabinet: talk about which foods are good for you and which aren't; look at the ingredients and nutritional information on labels.
- Have your child help with small (and safe) repairs around the house.
- Find safe experiments to do together at home.
  (www.exploratorium.edu/science_explorer/ has a great list)
- Listen to "Science Friday" on National Public Radio together.
  (Fridays, 8-10pm on KUOW 94.9 FM)
- Choose appropriate science-related programs on TV to watch with your child:
  - Public Television (KCTS, Channel 9)
  - Discovery Channel
  - Animal Planet Channel
  - National Geographic Channel
Choose appropriate science-related websites to view with your child:

- Bill Nye, The Science Guy (www.nylabs.com)
- How Stuff Works (www.howstuffworks.com)
- Cool Science for Curious Kids (www.hhmi.org/coolscience)
- Extreme Science (www.extremescience.net)
- Cool Cosmos (http://coolcosmos.ipac.caltech.edu)
- Science News for Kids (www.sciencenewsforkids.com)
- Mt. St. Helen's Cam (http://www.fs.fed.us/gpnf/volcanocams/msh/)

In the Seattle Area

- Go for a walk around your neighborhood: talk about how people have changed the natural environment in positive and negative ways; come up with ideas for how your family could make more positive changes in your neighborhood; talk about the landforms you see and how they were formed (e.g., Mt. Rainer).
- Go to the public library: find books about animals, insects, inventions, electricity, natural disasters, space.
- Go to the beach at low tide (e.g., Lincoln Park, Alki Beach, Carkeek Park).
- Take a trip to the…
  - Pacific Science Center 206.443.2001 (www.pacificsciencecenter.org)
  - Woodland Park Zoo 206.684.4800 (www.zoo.org)
  - Seattle Aquarium 206.386.4300 (www.seattleaquarium.org)
  - Seattle Children's Museum 206.441.1768 (www.thechildrensmuseum.org)
  - Museum of Flight 206.764.5720 (www.museumofflight.org)
    - Admission is free the first Thursday of every month
  - Science Fiction Museum 206.724.3428 (www.sfhomeworld.org)
    - Admission is free from 5-8pm the first Thursday of every month
  - Burke Museum 206.543.5590 (www.washington.edu/burkemuseum/)
  - Mount Saint Helens 360.449.7800 (www.fs.fed.us/gpnf/mshnm/)
  - Mt. Rainier National Park 360.569.2211 (www.nps.gov/mora/)
  - Univ. of WA Arboretum 206.543.8800 (http://depts.washington.edu/wpa/)
    - Tours at 1pm on first and third Sundays each month (meet at Graham Visitor's Center).
    - Information about rental of self-guided packs on-line.
  - Volunteer Park Conservatory 206.684.4743
    (www.cityofseattle.net/parks/parkspaces/VolunteerPark/conservatory.htm)

Camps & Classes

- Find out about the Pacific Science Center camp every summer in Seattle. Scholarships are available. (206.443.2925)
  www.cmiregistration.com/user/org/category.jsp?id=2367&org=135
- Coyote Central offers year-round classes for 5th-9th grade students that include science and technology-related activities such as cooking, building soapbox derby cars, welding, glass blowing, robotics, and lots more. Scholarships are available. (206.323.7276)
  www.coyotecentral.org/
Family Literacy, Math, and SCIENCE Tool Kits

We would like to acknowledge the following District departments and committees for their relentless commitment to engage all our families and their communities in our students’ learning, to increase academic achievement for all:

♦ Curriculum and Instruction
  * Literacy Program Manager and Coaches
  * Math Program Manager and Coaches
  * Science Program Manager and Coaches
♦ School Family Partnerships
♦ Communications
♦ ELL and International Programs/Title III
  * District Translation/Interpretation Team
♦ Title I
♦ School Family Partnerships Advisory Committee to the Superintendent (PAC)

A very special acknowledgement to all SPS staff—without their hard work and support these toolkits would not have been possible.

For additional copies and information, please contact Bernardo Ruiz, Director, Department of School Family Partnerships
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