Welcome to 4th Grade!

Dear Future Fourth Graders,

Summer is an exciting time for all of us. It is time to reflect on what we have learned from our previous teachers and begin making new learning goals for our futures. This summer we would like you to read every day for at least 20 minutes.

In order to better prepare you for the transition into fourth grade, we are asking you to read one fiction and one nonfiction book. We have provided a book list for ideas, but you can read any books you like. Next, you must complete the attached book reports for the 2 books you read. PLEASE READ THE DIRECTIONS CAREFULLY. All work must be completed and returned on the first day of school. Additionally, the packet will be uploaded onto the Lafayette St. School website.

Reading to learn is an important strategy practiced by growing readers. I look forward to traveling with you as this journey is an exciting one. Enjoy your summer and the new information you discover as a reader!

Please understand you MUST:

- Complete fiction and non-fiction book reports
- Return all work in September
- Have fun learning 😊

With Regards,

Mrs. Paiva and Ms. Aguirre
Suggested Summer Reading List for Students Entering 4th Grade

Beverly Cleary books
Johanna Hurwitz books
Hoot by Carl Hiaasen
Because of Winn-Dixie by Kate DiCamillo
Friends: Making Them and Keeping Them by Patty Kelley Criswell
The 39 Clues series
The Lightening Thief series
Where the Mountain Meets the Moon by Grace Lin
Drita, My Homegirl by Jenny Lombard
The Winner's Walk by Nancy Ruth Patterson
Rickshaw Girl by Mitali Perkins
Tofu Quilt by Ching Yeung Russell
The Nina, the Pinta, and the Vanishing Treasure by Jill Santopolo (goes with our explorer unit)
Oggie Cooder by Sarah Weeks
Lincoln and His Boys by Rosemary Wells
Earthquake Terror by Peg Kehret (goes with our weather unit)
My Side of the Mountain by Jean Craighead George
Baseball Saved Us by Ken Mochizuki
She Touched the World by Sally Hobart Alexander
Give me Liberty! The Story of the Declaration of Independence by Russell Freedman
Fourth Grade Celebrity, Gift Of The Pirate Queen, Girl Who Knew It All, Left-Handed Shortstop, Rat Teeth, Winter Worm Business, Nory Ryan's Song, Lily's Crossing, (and others) by Patricia Reilly Giff
Harry Potter books by J.K. Rowling
A Series of Unfortunate Events books by Lemony Snicket
Dear America books, My America books, and My Name is America (various authors)
The Spiderwick Chronicle series by Tony DiTerlizzi
The Miraculous Journey of Edward Tulane by Kate DiCamillo
Math Curse by Jon Scieszka (a book for math phobics)
50 Simple Things Kids Can Do to Save the Earth by the EarthWorks Group
Natural Disasters by Claire Watts (goes with our weather unit)
Top Secret: A Handbook of Codes, Ciphers, and Secret Writing by Paul B. Janeczko (goes with our communication unit)
### Fourth Grade Summer Reading List with Lexile Levels

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Lexile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westward to Home: Joshua's ...</td>
<td>Patricia Hermes</td>
<td>320</td>
</tr>
<tr>
<td>Hey, New Kid</td>
<td>Betsy Duffey</td>
<td>420</td>
</tr>
<tr>
<td>Nasty, Stinky Sneakers</td>
<td>Eve Bunting</td>
<td>510</td>
</tr>
<tr>
<td>Tiger Rising</td>
<td>Kate DiCamillo</td>
<td>520</td>
</tr>
<tr>
<td>The Secret School</td>
<td>Avi</td>
<td>540</td>
</tr>
<tr>
<td>Music of the Dolphins</td>
<td>Karen Hesse</td>
<td>560</td>
</tr>
<tr>
<td>Skinnybones</td>
<td>Barbara Park</td>
<td>590</td>
</tr>
<tr>
<td>Five Smooth Stones</td>
<td>Kristiana Gregory</td>
<td>640</td>
</tr>
<tr>
<td>How to Eat Fried Worms</td>
<td>Thomas Rockwell</td>
<td>650</td>
</tr>
<tr>
<td>My Dog, My Hero</td>
<td>Betsy Byars</td>
<td>670</td>
</tr>
<tr>
<td>Homework Machine</td>
<td>Dan Gutman</td>
<td>680</td>
</tr>
<tr>
<td>Clementine</td>
<td>Sara Pennypacker</td>
<td>790</td>
</tr>
<tr>
<td>Room One: A Mystery or Two</td>
<td>Andrew Clements</td>
<td>840</td>
</tr>
<tr>
<td>Missing May</td>
<td>Cynthia Rylant</td>
<td>980</td>
</tr>
</tbody>
</table>

Any books on the following topics that your child would enjoy (and are on their level):

- Multiple Intelligences
- Government
- Communication Systems
- Water and how it is used
- Natural Occurrences
- Presidents
- United States
- Rocks and Minerals
- Explorers
- Oceans/Sea Life
- Natural Resources (fossil fuels, renewable energy)
Non-Fiction Report

Topic I am researching:

What I already know about this subject:

Three questions I want to answer:

Bibliography:
1. Book Title: ___________________ Author:__________________________
   Publisher: ___________________ Year Published:____________________

2. Book Title: ___________________ Author:__________________________
   Publisher: ___________________ Year Published:____________________
My Question: ________________________________  Answer to Question 1: ________________________________

My Question: ________________________________  Answer to Question 2: ________________________________

My Question: ________________________________  Answer to Question 3: ________________________________

What else I learned: ________________________________
Book Report

Book Title: ____________________________________________________________

Author: ______________________________________________________________

Main Character

Who is the main character of this story?

What are they like?

What is their greatest asset and biggest flaw?

Did you like this character or not?

Why do you think the author chose this character?

Supporting Characters

Are there supporting characters in this story? Who are they?

Is there a villain? A best friend? A mentor?

Why do you think the author added these characters?

Where these characters important to the story or just extras?

Setting

Where & when is this story set? Would you have set it in the same time/place?
<table>
<thead>
<tr>
<th><strong>Problem / Conflict</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>What did the character want?</td>
</tr>
<tr>
<td>What was the main problem or conflict they faced? Was this an internal or external problem?</td>
</tr>
<tr>
<td>Was it realistic within the storyline?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Resolution</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>How did the character overcome the challenges they faced? Was the solution realistic with the storyline?</td>
</tr>
<tr>
<td>Did solving their problem or conflict change their character? For better or for worse?</td>
</tr>
<tr>
<td>How would you have solved this problem?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Personal Connection</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Could you relate to the experience of the characters in this story?</td>
</tr>
<tr>
<td>How did this story make you feel?</td>
</tr>
<tr>
<td>Who was this book written for? Did the author do a good job of making this story relevant to them?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Evaluation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you like this story? Why or why not?</td>
</tr>
<tr>
<td>Would you change anything?</td>
</tr>
<tr>
<td>Will you recommend this book to your friends?</td>
</tr>
</tbody>
</table>
2019
4th Grade
Summer Math Packet
Belongs To
Dear Fourth Grade Mathematicians and Parent,

The fourth grade teachers are so excited to meet you in September!

Attached is the summer math packet that we are asking you to complete and return on the first day of school. Please show your work and complete this assignment carefully, since it will count as your first math grade for the year.

In addition, we are including a multiplication table for you to study for your fluency drills.

We are looking forward to meeting you in September and we hope that you are ready to learn more about multiplication, division, fractions, decimals and many more math skills.

Have a great summer...and don’t forget...math is everywhere! So practice, and turn in your math summer assignment on the first day of school.

Enjoy your summer!

Your future 4th grade math teachers 😊
1. Find the sum:
   
   \[
   \begin{array}{c}
   278 \\
   + 674 \\
   \hline
   \end{array}
   \]

2. Find the difference:
   
   \[
   \begin{array}{c}
   952 \\
   - 738 \\
   \hline
   \end{array}
   \]

3. Find the product:
   
   \[8 \times 9 = \]

4. Find the quotient:
   
   \[64 \div 8 = \]

5. 6 groups of \(\square\) is the same as 48.

6. Round to the nearest hundred:
   
   450

7. What is the space between two intersecting lines called?
   - A vertex
   - B angle
   - C corner

8. The students were asked to read during the summer. The total number of books read was 83. If 322 were fiction and the rest were nonfiction, how many nonfiction books were read?

9. Put the fractions in order from least to greatest:
   
   \[
   \frac{2}{3}, \frac{1}{2}, \frac{1}{4}
   \]

10. The bookshelf in our classroom is three and a half feet tall. How many inches tall is it?
1. Find the sum:
   \[
   \begin{array}{c}
   5 \\
   + 2 \\
   \underline{\hline}
   \end{array}
   \begin{array}{c}
   3 \\
   \end{array}
   \]

2. Find the difference:
   \[
   \begin{array}{c}
   8 \\
   - 4 \\
   \underline{\hline}
   \end{array}
   \begin{array}{c}
   2 \\
   \end{array}
   \]

3. Find the product:
   \[
   7 \times 7 =
   \]

4. Find the quotient:
   \[
   63 \div 9 =
   \]

5. List the multiples of six that are less than twenty:

6. What is the largest number that can be made with these numerals?

7. Partition the shape into 4 equal parts.

8. The teacher passed out math books. The length is 10 inches and the width is 8 inches. What is the perimeter of each book?

9. Add the fractions:
   \[
   \frac{2}{4} + \frac{1}{4} =
   \]

10. How many more green markers does Ben have than blue markers?
1. Find the sum:
   \[
   \begin{align*}
   3 & \quad 3 & \quad 2 \\
   + & \quad 5 & \quad 3 & \quad 9 \\
   \end{align*}
   \]

2. Find the difference:
   \[
   \begin{align*}
   6 & \quad 4 & \quad 4 \\
   - & \quad 2 & \quad 0 & \quad 7 \\
   \end{align*}
   \]

3. Find the product:
   \[
   7 \times 4 =
   \]

4. Find the quotient:
   \[
   32 \div 4 =
   \]

5. What number comes next in this sequence?
   \[
   9, 18, 27, 36, \ldots
   \]

6. Solve:
   \[
   50 \times 3 =
   \]

7. What type of lines are shown?

8. Ed is helping his teacher organize the class library by putting 150 books back on the shelf. Seventy-five are biographies, 32 are poetry books and the rest are fiction. How many fiction books does he need to put on the shelf?

9. Are \( \frac{9}{12} \) and \( \frac{3}{4} \) equivalent fractions?

10. What is the perimeter of the rectangle?
   \[
   \text{5 feet}
   \]
   \[
   \text{4 feet}
   \]

   \[
   \text{5 feet}
   \]
   \[
   \text{4 feet}
   \]
1. Find the sum: 405 + 235
2. Find the difference: 701 - 346
3. Find the product: 7 × 5 =
4. Find the quotient: 24 ÷ 8 =
5. Complete the equation: $\frac{1}{4} \times ? = 32$
6. Put these numbers in order from greatest to least: 939, 934, 439
7. How many right angles does this shape have?
8. The class was doing a science experiment. They needed to pour $\frac{3}{4}$ of a cup of water into a powder. They already poured $\frac{1}{4}$ of a cup in. How much more water do they need to add?
9. True or False: $\frac{3}{2} > \frac{8}{3}$
1. Find the sum:
   \[ \frac{2 \, 9 \, 8}{2 \, 9 \, 8} + \frac{5 \, 4 \, 2}{5 \, 4 \, 2} \]

2. Find the difference:
   \[ \frac{5 \, 4 \, 3}{5 \, 4 \, 3} - \frac{2 \, 3 \, 4}{2 \, 3 \, 4} \]

3. Find the product:
   \[ 8 \times 4 = \]

4. Find the quotient:
   \[ 81 \div 9 = \]

5. Is the 2nd number a multiple of the 1st number?

6. What is the value of the digit 9 in this number?

7. This is a triangle because it has...
   A. 3 sides
   B. 3 angles
   C. 3 vertices
   D. All of the above

8. The teacher's crayon has a mass of 20 grams. Her bottle of glue is 65 grams more than the crayon. What is the mass of the glue?
1. Write an equation that can be used to solve this problem:

   \[5 \div \boxed{6} = 8\]

2. Find the sum:
   \[5 + 6 = 11\]

3. Find the difference:
   \[9 - 7 = 2\]

4. Find the product:
   \[6 \times 8 = 48\]

5. Which fraction is more than half?
   \[\frac{5}{6}\]

6. Round to the nearest ten:
   \[236\]

7. How many of these polygons are quadrilaterals?
   - 4 squares
   - 2 rectangles
   - 1 diamond
   - 1 triangle
   Total: 8

8. The fourth grade math book has 10 pages. Each page includes 15 problems to solve. If the students complete 3 problems each school day, how many school days will it take to finish the book?
   - It will take 10 school days.
1. Find the quotient: \( \frac{90}{9} = \frac{8}{0} \)

4. Find the product: \( 4 \times 8 = \)

3. Find the product: \( 6 \times 3 = \frac{4}{7} \)

2. Find the difference: \( 37 \) \( \frac{7}{4} \) \( 55 \)

5. Which number is not a multiple of 7? 21, 28, 34, 42

6. What is the greatest number that can be made with these numerals? [ ]

7. Is this a parallelogram? [ ]

8. Kevin ordered a small pizza and ate \( \frac{2}{3} \) of it. Jessica ordered a small pizza and ate \( \frac{3}{4} \) of it. Who ate more pizza?

9. Joe began reading at 4:00. He read for 47 minutes. What time did he finish reading?

10. The symbol x represents what fraction of the number line? [ ]

Date: 

# answer
1. Find the sum: \[ \frac{3}{2} + \frac{4}{8} \]
2. Find the difference: \[ \frac{8}{6} - \frac{3}{7} \]
3. Find the product: \[ 6 \times 9 = \]
4. Find the quotient: \[ 28 \div 7 = \]
5. What number comes next in this sequence? 125, 130, 135, 140, ...
6. Write the number in standard form: 500 + 30 + 2
7. What is this called? A rhombus, B hexagon, C pentagon, D trapezoid
8. On Sunday, Lindsey rode her bike 3 times as far as she did on Saturday. On Saturday, she rode 3 miles. How far did she ride on Sunday?
1. Find the sum: 5 6 7 + 2 8 4

2. Find the difference: 7 8 9 - 6 7 4

3. Find the product: 4 x 9 =

4. Find the quotient: 49 ÷ 7 =

5. List the first 3 multiples for the number: 8

6. Which number below has the greatest value? 576, 675, 657

7. How many sides does this shape have? (Star)

8. Julia helped the teacher clean the tables in the classroom. She noticed that \( \frac{1}{4} \) of the tables are blue and \( \frac{2}{3} \) of the tables are red. There are eight tables in all. How many are red?

9. Compare the fractions. Use >, <, or = to make the statement true. \( \frac{4}{6} \bigcirc \frac{2}{3} \)

10. Tyler measured crayons and made this line plot to show the results. How many were shorter than 2 and a half inches?
1. Write the fraction as a whole number: \( \frac{6}{3} \)

2. Find the sum: \[
\begin{array}{c}
4 \ 7 \ 8 \\
+ \ 3 \ 7 \ 4 \\
\hline
\end{array}
\]

3. Find the difference: \[
\begin{array}{c}
6 \ 7 \ 8 \\
- \ 3 \ 4 \ 9 \\
\hline
\end{array}
\]

4. Find the product: \[9 \times 7 = \]

5. Find the quotient: \[63 \div 9 = \]

6. Is this comparison true or false? \( 456 > 456 \)

7. Which is the correct label for this figure? A hexagon, B rhombus, C trapezoid, D pentagon

8. Dave's fourth grade classroom has a rug that is 32 square feet. The length is 8 feet. What is the width of the classroom rug?
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 1 = 1</td>
<td>2 x 1 = 2</td>
<td>3 x 1 = 3</td>
<td>4 x 1 = 4</td>
</tr>
<tr>
<td>1 x 2 = 2</td>
<td>2 x 2 = 4</td>
<td>3 x 2 = 6</td>
<td>4 x 2 = 8</td>
</tr>
<tr>
<td>1 x 3 = 3</td>
<td>2 x 3 = 6</td>
<td>3 x 3 = 9</td>
<td>4 x 3 = 12</td>
</tr>
<tr>
<td>1 x 4 = 4</td>
<td>2 x 4 = 8</td>
<td>3 x 4 = 12</td>
<td>4 x 4 = 16</td>
</tr>
<tr>
<td>1 x 5 = 5</td>
<td>2 x 5 = 10</td>
<td>3 x 5 = 15</td>
<td>4 x 5 = 20</td>
</tr>
<tr>
<td>1 x 6 = 6</td>
<td>2 x 6 = 12</td>
<td>3 x 6 = 18</td>
<td>4 x 6 = 24</td>
</tr>
<tr>
<td>1 x 7 = 7</td>
<td>2 x 7 = 14</td>
<td>3 x 7 = 21</td>
<td>4 x 7 = 28</td>
</tr>
<tr>
<td>1 x 8 = 8</td>
<td>2 x 8 = 16</td>
<td>3 x 8 = 24</td>
<td>4 x 8 = 32</td>
</tr>
<tr>
<td>1 x 9 = 9</td>
<td>2 x 9 = 18</td>
<td>3 x 9 = 27</td>
<td>4 x 9 = 36</td>
</tr>
<tr>
<td>1 x 10 = 10</td>
<td>2 x 10 = 20</td>
<td>3 x 10 = 30</td>
<td>4 x 10 = 40</td>
</tr>
<tr>
<td>1 x 11 = 11</td>
<td>2 x 11 = 22</td>
<td>3 x 11 = 33</td>
<td>4 x 11 = 44</td>
</tr>
<tr>
<td>1 x 12 = 12</td>
<td>2 x 12 = 24</td>
<td>3 x 12 = 36</td>
<td>4 x 12 = 48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 x 1 = 5</td>
<td>6 x 1 = 6</td>
<td>7 x 1 = 7</td>
<td>8 x 1 = 8</td>
</tr>
<tr>
<td>5 x 2 = 10</td>
<td>6 x 2 = 12</td>
<td>7 x 2 = 14</td>
<td>8 x 2 = 16</td>
</tr>
<tr>
<td>5 x 3 = 15</td>
<td>6 x 3 = 18</td>
<td>7 x 3 = 21</td>
<td>8 x 3 = 24</td>
</tr>
<tr>
<td>5 x 4 = 20</td>
<td>6 x 4 = 24</td>
<td>7 x 4 = 28</td>
<td>8 x 4 = 32</td>
</tr>
<tr>
<td>5 x 5 = 25</td>
<td>6 x 5 = 30</td>
<td>7 x 5 = 35</td>
<td>8 x 5 = 40</td>
</tr>
<tr>
<td>5 x 6 = 30</td>
<td>6 x 6 = 36</td>
<td>7 x 6 = 42</td>
<td>8 x 6 = 48</td>
</tr>
<tr>
<td>5 x 7 = 35</td>
<td>6 x 7 = 42</td>
<td>7 x 7 = 49</td>
<td>8 x 7 = 56</td>
</tr>
<tr>
<td>5 x 8 = 40</td>
<td>6 x 8 = 48</td>
<td>7 x 8 = 56</td>
<td>8 x 8 = 64</td>
</tr>
<tr>
<td>5 x 9 = 45</td>
<td>6 x 9 = 54</td>
<td>7 x 9 = 63</td>
<td>8 x 9 = 72</td>
</tr>
<tr>
<td>5 x 10 = 50</td>
<td>6 x 10 = 60</td>
<td>7 x 10 = 70</td>
<td>8 x 10 = 80</td>
</tr>
<tr>
<td>5 x 11 = 55</td>
<td>6 x 11 = 66</td>
<td>7 x 11 = 77</td>
<td>8 x 11 = 88</td>
</tr>
<tr>
<td>5 x 12 = 60</td>
<td>6 x 12 = 72</td>
<td>7 x 12 = 84</td>
<td>8 x 12 = 96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 x 1 = 9</td>
<td>10 x 1 = 10</td>
<td>11 x 1 = 11</td>
<td>12 x 1 = 12</td>
</tr>
<tr>
<td>9 x 2 = 18</td>
<td>10 x 2 = 20</td>
<td>11 x 2 = 22</td>
<td>12 x 2 = 24</td>
</tr>
<tr>
<td>9 x 3 = 27</td>
<td>10 x 3 = 30</td>
<td>11 x 3 = 33</td>
<td>12 x 3 = 36</td>
</tr>
<tr>
<td>9 x 4 = 36</td>
<td>10 x 4 = 40</td>
<td>11 x 4 = 44</td>
<td>12 x 4 = 48</td>
</tr>
<tr>
<td>9 x 5 = 45</td>
<td>10 x 5 = 50</td>
<td>11 x 5 = 55</td>
<td>12 x 5 = 60</td>
</tr>
<tr>
<td>9 x 6 = 54</td>
<td>10 x 6 = 60</td>
<td>11 x 6 = 66</td>
<td>12 x 6 = 72</td>
</tr>
<tr>
<td>9 x 7 = 63</td>
<td>10 x 7 = 70</td>
<td>11 x 7 = 77</td>
<td>12 x 7 = 84</td>
</tr>
<tr>
<td>9 x 8 = 72</td>
<td>10 x 8 = 80</td>
<td>11 x 8 = 88</td>
<td>12 x 8 = 96</td>
</tr>
<tr>
<td>9 x 9 = 81</td>
<td>10 x 9 = 90</td>
<td>11 x 9 = 99</td>
<td>12 x 9 = 108</td>
</tr>
<tr>
<td>9 x 10 = 90</td>
<td>10 x 10 = 100</td>
<td>11 x 10 = 110</td>
<td>12 x 10 = 120</td>
</tr>
<tr>
<td>9 x 11 = 99</td>
<td>10 x 11 = 110</td>
<td>11 x 11 = 121</td>
<td>12 x 11 = 132</td>
</tr>
<tr>
<td>9 x 12 = 108</td>
<td>10 x 12 = 120</td>
<td>11 x 12 = 132</td>
<td>12 x 12 = 144</td>
</tr>
</tbody>
</table>
4th Grade Summer Packet
Energy

Energy is the ability to do work. Energy has the ability to cause motion or create a change. A relationship exists between energy, motion, and change. Basic forms of energy include heat, light, chemical, sound, mechanical, and electrical. How do these forms of energy cause change?

Heat energy causes change in matter. Heat can cause a physical change. The right amount of heat changes solids to liquids and liquids to gases. It can also cause a chemical change when cooking food. Tiny particles in eggs and meat change when they are cooked, and they cannot be changed back to their raw form.

Light energy causes change as well. Plants use light from the sun to make food in a process called photosynthesis. The light energy allows the plant to change carbon dioxide and water into food for the plant.

Chemical energy is energy stored in chemicals, such as food, batteries, or gasoline. Food has stored energy that is released during digestion. The food's chemical energy gives us the energy to run, jump, and play.

Have you ever felt a speaker? Sound energy causes vibrations in your parents' car speakers. If the music is loud enough, you can feel those vibrations when you touch the door or dashboard.

Mechanical energy is the energy of motion. It is stored at a position and released in motion. If you have ever observed a fidget spinner spinning, you have witnessed a change in the fidget spinner. The position changed due to mechanical energy.

Electrical energy causes changes that could be very dangerous. Lightning is an example of electrical energy. The electrical energy in lightning can cause trees to split in half or catch on fire.

Heat, light, chemical, sound, mechanical, and electrical energy have the ability to cause motion or create change. All changes happen because of some type of energy.
1. What is energy?

2. Energy has the ability to cause _______ and create _______.

3. How can heat energy cause change?

4. How can light energy cause change?

5. Give three examples of chemical energy.

6. How can sound energy cause motion?

7. What is mechanical energy?

8. How can mechanical energy cause change?

9. How can electrical energy cause change?

Apply the concepts:

10. LeBron James and Kobe Bryant discussed energy and playing basketball. LeBron said that the game of basketball could not exist without energy. Kobe said energy has nothing to do with playing basketball. Help LeBron explain one type of energy involved with playing basketball and how the energy creates change or motion.
Object Types

Some objects completely block light while others let some, or all, light through. Draw examples for the following object types:

**Opaque**: Objects that let no light through.

**Translucent**: Objects that let some light through.

**Transparent**: Objects that let most light through.
Plant Structures and Function

External Structures

Directions: Write the structures next to their function.

Word bank: flower, leaves, stem, roots

<table>
<thead>
<tr>
<th>Structure</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Support the leaves, flowers, and fruit</td>
</tr>
<tr>
<td></td>
<td>• Help the plant stay in place, absorbs and transports water and nutrients</td>
</tr>
<tr>
<td></td>
<td>• the main site of photosynthesis, where sugars are made from water and carbon dioxide, using sunlight energy</td>
</tr>
<tr>
<td></td>
<td>• The site of pollination, the place where fruits grow, aids in reproduction</td>
</tr>
</tbody>
</table>

Internal Structures

Parts of a Flower

- Petal: Attracts insects and other pollinators
- Anther: Makes pollen
- Stamen: Provides support
- Sepals: Formerly protected the flower bud
- Stigma: Traps pollen
- Pollen travels through here
- Pistil: Contains egg cells
- Ovary
Directions: Fill in the blanks using the correct vocabulary term. Use the diagrams to help you.

<table>
<thead>
<tr>
<th>Ovule</th>
<th>Internal</th>
<th>Pistil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stamen</td>
<td>Anther</td>
<td>Style</td>
</tr>
<tr>
<td>Ovary</td>
<td>Pollen</td>
<td>Stigma</td>
</tr>
<tr>
<td>Pollination</td>
<td>Reproduction</td>
<td>Filament</td>
</tr>
</tbody>
</table>

The __________________ structure of a plant supports the plant’s ______________. Some plants have both male and female parts. The male parts are the ______________ and ______________. Together, we call this the ______________.

The ______________ from the anther must get to the ______________ from the female part in order for the plant to reproduce. This happens by ______________. Bees, hummingbirds, and other animals help pollinate the plant.

The female part of the plant is called the ______________. It consists of the ______________, ______________, ______________, and ______________. The ______________ helps trap the pollen, where it travels down the ______________ to the ______________. The reproductive cycle begins again when the ovule becomes a seed and the seed forms new plants.
Pollination

Directions: Find the main idea of the paragraph. Explain how it is supported by details.

Pollen can't get from the **anthers** to the **ovules** on its own, so pollination relies on other things to move the pollen. The wind or animals, especially insects and birds, pick up pollen from the male anthers and carry it to the female stigma. Flowers have different shapes, colors, and smells, and often sugary nectar and nutritious pollen, to encourage animals to visit and pollinate them. Did you ever wonder why flowers were so bright and colorful? It is to attract bees, birds, and other animals to help pollinate!

<table>
<thead>
<tr>
<th>Main Idea:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How do the details support the main idea?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The details give us more information about</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The External Structure of Plants

**Directions:** Find the main idea of the paragraph. Explain how it is supported by details.

Each external structure of the plant has an important function. For example, the flowers of the plant are bright and colorful in order to attract animals to help pollinate it. This helps the plant reproduce. Leaves are also very important plant structures. Their broad surface absorbs light. The light helps plants break down carbon dioxide and water to make sugar, the plant’s food. The plant’s stems hold up the flower and the leaves and also help the plant resist wind by bending. Last but not least, are the roots of the plant. The plant’s roots have many functions. They absorb water and nutrients. They also anchor the plant to the soil so that it won’t get blown away. Roots like carrots also help store food and nutrients for the plant.

<table>
<thead>
<tr>
<th>Main Idea:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How do the details support the main idea?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The details give us more information about</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Force and Friction

Have you ever wondered what causes things to move? Today, you get to discover exactly what sets everything into motion, something called force. A force is a push or a pull. A harder push or pull means objects will travel farther. Today we are also going to learn about other things that affect force, such as friction. Friction can make objects slow down, and no friction can help objects speed up.

Your group has a car in front of you. You are going to measure how far each of these cars travel on different types of surfaces. The surfaces you will be measuring are: cardboard, a blanket, a towel and a rug.

Record in the table below how far your car traveled on each surface:

<table>
<thead>
<tr>
<th>Surface Material</th>
<th>Distance Traveled (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard</td>
<td></td>
</tr>
<tr>
<td>Blanket</td>
<td></td>
</tr>
<tr>
<td>Towel</td>
<td></td>
</tr>
<tr>
<td>Rug</td>
<td></td>
</tr>
</tbody>
</table>

1. Which material allowed the car to travel the farthest?

2. Which material did not allow the car to travel as far?
3. What types of forces can affect objects?

4. How can force affect the position or motion of an object?

5. How does friction affect the motion of an object?

6. Why did the car travel farther on some materials and not as far on others?