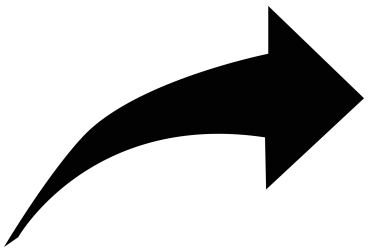
Learning Progress Planner



ISAT PLUS—Learn More

Priorities and Resources

Reading Make Black History Literacy Connections	p. 2
Math	p. 17
Science	p. 39

Polk Bros. Foundation Center for Urban Education
More Resources:
http://teacher.depaul.edu

Reading Skills and Strategies

This is a list of proficiencies that ISBE has identified for all effective readers. They cross grades--you can ask questions about the actions and motives of characters in any book—from Clifford the Big Red Dog through War and Peace. Some are emphasized at intermediate and upper grades—see the CPS Learning Targets to identify what should be emphasized at different grade levels.

- ○ Make and verify predictions based on prior knowledge and text.
- ○ Identify probable outcomes or actions.
- ○ Clarify an understanding of text by creating outlines, notes, or other visual representation
- ○ Use information in illustrations to help understand a reading passage.
- ○ Determine which illustrations support the meaning of a passage.
- ○ Determine the purpose of features of informational text
- ○ Distinguish between minor and significant details in a passage.
- ○ Compare the content and organization of various selections.
- ○ Relate information in the passage to other readings on the same topic.
- ○ Relate information in the passage to other readings.
- ○ Identify explicit and implicit main ideas.
- ○ Distinguish the main ideas and supporting details in any text.
- ○ Draw inferences, conclusions, or generalizations about text and support them with textual evidence and prior knowledge.
- ○ Determine the author's purpose for writing a fiction or nonfiction text
- ○ Explain how the author's choice of words appeals to the senses, creates imagery, suggests mood, and sets tone.
- ○ Identify the author's message or theme.
- ○ Identify setting (i.e., place and time period).
- ○ Recognize points of view in narratives (e.g., first person).
- ○ Determine character motivation.
- ○ Explain how the literary devices (e.g., imagery, metaphor, figurative language dialogue) contribute to the meaning of a literary selection.

READ A STORY THOUGHTFULLY

I can identify genre, analyze actions, infer meaning, trait, motive, and summarize when I read a story ILS1BC

Teacher notes:
The core questions can be applied to any story.
You can use this list as an assessment if students complete it independently.
Then debrief the students—ask them to explain their thinking. For the inferential questions, accept any logical answers that students can support.
Identify an unfamiliar word for students to define for item 6.

If you locate a question that students cannot answer appropriately, use that as a "teachable moment"—for example, think out loud and make a "thinking path"—a step-by-step guide to figuring out how to answer that kind of question.

Exceed and Expand activities are opportunities for students who complete the core questions earlier to think more.

CORE QUESTIONS

1. *Identify genre:* **What is the genre of the passage?**
2. *Evaluate character's importance:* **Name one important character in the story.**
3. *Infer character trait:* **What is one trait you infer that character has?**

3A**. Explain why you think that.**

4. *Identify important action:* **What is something important that character does?**
5. *Infer Motive:* **Why do you infer that character does that?**
6. *Infer meaning from context:* **Your teacher will give you a word to define. What does that word mean as used in this passage?**
7. *Summarize a story:* **Summarize the passage.**
8. *Infer the main idea:* **What is the main idea or theme of the passage?**

8A. **Why do you think that is the main idea or theme?**

9. *Analyze techniques:* **What techniques does the writer use to create a mood? What techniques does the writer use to communicate characters' traits?**

10. *Infer purpose:* **Why did the author write the story?**

Exceed: Extended Response--Infer a Lesson

*Explain a **lesson** that people can learn from this story.*
Include examples from the story and your own experience in your response.

Expand: Create

Choose one of these activities to expand the story

- *Write another part of the story.*
- *Add dialogue—what characters might have said.*
- *Write your own story that tells a lesson.*

Read Fiction Thoughtfully

I can analyze, infer and summarize when I read a story ILS1BC

Story: _____

1. **Identify Sequence:** What happened at the end?

   _____

2. I**nfer Character Traits:** Name one person in the story or history.

   _____

What is one trait you infer that person has? _____

Give evidence: Explain why you think that.

_____

_____

3. **Identify Action:** What is something that person does?

   _____

Infer Motive: Why do you think that person does that?

_____

_____

4. **Summarize** the story.

_____

_____

_____

5. **Infer the main idea:** What is the main idea of the passage?

_____

Why do you think that is the main idea?

_____

Exceed: Write about what you read. Explain what you think is a lesson people can learn from reading this story. Use examples from the story and your own experience.

Connect Literacy and Black History

Non-fiction Readers Learn More.

Poem Readers Think More.

Chicago's First Leader

ILS1B I can use information from a reading to develop and support an idea.

Long before there was a city of Chicago, a brave man moved here. It was tough to live here then. There were no stores. There were no settlers. It was very cold in the winter and hot in the summer. There was a lot of snow in winter, too. So, it was hard to travel. In spring, there was a lot of rain and mud, and that made it hard to travel as well.

Then an early Chicago leader came here. Jean Baptiste Point DuSable was the first non-Native American to choose to settle in this area. This African American leader built a cabin on the Chicago River. He started a business by trading with the Native Americans. He opened a trading post there in the late 1770's. At first, it was just a small home. Jean Baptiste Point DuSable stayed for more than 20 years and added to it. His building became the most important place in the area.

Getting things to Chicago was hard. Chicago was a very small town. It was hundreds of miles away from the closest city. At first, DuSable traded only with the Native Americans and a few explorers. He would trade tools and other goods for things that they grew, hunted, or made. As more explorers came to the area, his trading post became more important. Settlers bought goods as well.

DuSable's trading post allowed explorers to keep going. They could buy supplies at his post and then keep traveling further. That trading post helped start Chicago as a city. When families moved to Chicago to settle, they could get what they needed to live at the trading post.

At the trading post, settlers bought many things. DuSable sold blankets, butter, flour, furs, knives, cloth, hats, guns, and gunpowder. Settlers and Native Americans both traded for these goods or paid money.

DuSable was the first person who helped people to come to Chicago and settle here. So, much later, Chicago declared him the "father" of the city because he made it possible to settle here.

Today there is a harbor and park honoring DuSable. That park is very close to the place he started the first Chicago business. Perhaps the biggest legacy from DuSable is the location of the city. His trading post was the starting point for the building of the town that became today's big city.

Based on what you knew and what you read…

Why is DuSable important to Chicago? Use examples from the reading and your ideas about what he accomplished in your answer.

Read Non-Fiction with Focus

ILS1B I can comprehend a nonfiction passage.

1. What is the topic? _____

2. Infer the main idea: What is the main idea of the first paragraph?

_____

3. Infer the purpose: What is the purpose of the passage?

_____

How do you know that is the purpose?

_____

4. Classify Fact and Opinion: What is an opinion in the passage?

_____

How do you know it is an opinion?

_____

5. What is the main idea of the whole passage?

_____

6. Write a summary. Tell what is most important.

_____

_____

_____

_____

_____

AN AFRICAN AMERICAN POET

ILS1B I can develop and support an idea based on a reading.

Gwendolyn Elizabeth Brooks was an American poet. Her grandfather was a slave who escaped from slavery. That grandfather fought in the Civil War. He was part of an important era in American history.

His son married a teacher, and they lived in Kansas. The family moved to Chicago when she was a baby. Gwendolyn Brooks went to Chicago public schools. She grew up in Chicago and stayed here for the rest of her life. She traveled many places but always came back to Chicago.

Gwendolyn Brooks enjoyed reading and writing. She wrote about her experiences. She wrote about Chicago. When she was just thirteen, a poem she wrote was published in a magazine. In time, she was published in books and then had books published that were only her poems. She became a noted poet, well known in the United States and in other countries. She won awards for her poetry.

It was not easy to get a job in writing. Gwendolyn Brooks worked for a while as a typist. She would type other people's words. But she continued to write her own words. She wrote poems that are important to many people around the world. Her poems inspired them.

In addition to being a poet, she also was a teacher. She taught college students in the Chicago area. She taught them about poetry. She taught them how important it is to make your ideas clear when you write a poem. There are hundreds of people who learned from her in those classes. Probably some of them are writing poems. And most of them also read poems better because of learning from her how to look for the ideas they communicate.

Illinois has a special role called Poet Laureate. Gwendolyn Brooks was named Illinois Poet Laureate in 1968. But that was one year after she was poet laureate for the whole country. She was very clear that what is important is the ideas a poet communicates—more than the prizes a poet may earn. But she earned many prizes. She is recognized today as a great poet and an important African American who influenced many people.

When she was 83, she became ill with cancer. In just a short time, she died. Her death in Chicago in 2000 affected people all over the world. She had accomplished much in her life. Her legacy is part of your heritage.

Based on what you knew and what you read…

explain what you think about the legacy of this African American.
What is this person's greatest contribution to us today?

Harold Washington's Acceptance Speech – April 12th, 1983 Chicago, IL

As transcribed by Hannah Lantos, from http://www.chicagopublicradio.org/Content.aspx?audioID=15929.

ILS5A I can compare two persons based on a reading and prior knowledge.

The following excerpt is from the speech that Mayor Harold Washington made when he won the election in 1983.

Tonight we are here. Tonight we are here to celebrate a resounding victory. We, we have fought a good fight. We have finished our course. And we have kept the faith.

We fought that good fight. We fought it, with unseasoned weapons and with a phalanx of people who mostly have never been involved in a political campaign before. This has truly been a pilgrimage. Our government will be moving forward as well, including more people. And more kinds of people, than any government in the history of Chicago. Today… today… today, Chicago has seen the bright daybreak for this city and for perhaps this entire country. The whole nation is watching as Chicago is so powerful in this! Oh yeah, yeah, they're watching. They're watching.

Out of the crucible… Out of the crucible of this city's most trying election, carried on the tide of the most massive voter turn out in Chicago's history. Blacks. Whites. Hispanics. Jews. Gentiles. Protestant and Catholics of all stripes. Have joined hands to form a new democratic coalition. And… and to begin in this place a new democratic movement.

The talents and dreams of our citizens and neighborhoods will nourish our government the way it should be cherished and feed into the moving river of mankind. And we have kept the faith in ourselves as decent, caring people who gather together as a part of something greater than themselves. We never stopped believing that we were a part of something good and something that had never happened before.

We intend to revitalize and rebuild this city. To open its doors and be certain that its babies are healthy! And its old people are fed and well-housed. We intend, we intend that our city will grow again and bring prosperity to ALL of its citizens. We have been victorious. But I am mindful that there are many other friends and neighbors who were not a part of our campaign. But that's alright! That's alright! That's alright! You never get 'em all! That's why we have a democracy. Because there are many opinions in a city as diverse and multi-ethnic as the city of Chicago.

To those who supported me, I offer my deepest thanks. I will initiate your reforms. But I charge you… I charge each and every one of you to rededicate your efforts to heal the divisions that have plagued us. Each of us must reach out, in open arms. Together we will overcome our problems, and restore Chicago to its proper position as one of the most dynamic cities in all the world!

Based on what you knew and what you read…

How are Barack Obama and Harold Washington alike?

TWO-STEP INFERENTIAL QUESTIONS INSIST THAT STUDENTS THINK MORE

INFERENCE	***QUESTION***	***ANSWER***	***EVIDENCE***
Infer from ***context***	*What does* <u>*pilgrimage*</u> *mean?*		
Infer ***motive***	***Why did*** *some people vote for Harold Washington?*		
Infer ***cause-effect relations***	***What caused*** *problems that the new mayor would face?*		
Infer ***predictions***	***What do you think*** *one of the people who heard the speech* ***did next?***		
Infer ***feelings***	*How do you think Harold Washington* ***felt about*** *the people who had voted for him?*		
Infer ***traits***	***What is a trait of*** *Harold Washington?*		
Infer the ***main idea***	*What is the* ***main idea*** *of the speech?*		

Poem Reader

ILS 2B: I can interpret a writer's techniques.

Draw a picture to show what a poem means.

✓ What is the main idea of the poem?

_____

What words help you understand the main idea of the poem?

_____

✓ What are three techniques the poet used?

_____

_____

_____

EXCEED—Answer More Poetry Questions

Write your answers on another page.

1. What is the point of view of the poet?
2. What is the mood of the poem? How does the poet create it?
3. What is the theme of the poem?
4. How does the writer communicate it?

Your World
By Georgia Douglas Johnson

Your world is as big as you make it.
I know, for I used to abide
In the narrowest nest in a corner,
My wings pressing close to my side.

But I sighted the distant horizon
Where the sky line encircled the sea
And I throbbed with a burning desire
To travel this immensity.

I battered the cordons around me
And cradled my wings on the breeze
Then soared to the uttermost reaches
With rapture, with power, with ease!

What is the main idea of the poem?

_____

What does the poet mean when she writes, “Your world is as big as you make it”?

_____

What does the poet mean when she writes, “I sighted the distant horizon”?

_____

_____

EXCEED—Answer More Poetry Questions
Write your answers on another page.

5. What is the point of view of the poet?
6. What is the mood of the poem? How does the poet create it?
7. What is the theme of the poem?
8. How does the writer communicate it?

Focus ➡ Think More √ Make Progress 

The Gospel Train

ILS2A: I can infer ideas and values represented in a spiritual.

The Gospel train's coming I hear it just at hand I hear the car wheel rumbling And rolling through the land Get on board little children Get on board little children Get on board little children There's room for many more	I hear the train a-coming She's coming round the curve She's loosened all her steam and brakes And straining every nerve The fare is cheap and all can go The rich and poor are there No second class aboard this train No difference in the fare

❖*What is the main idea or theme of the song?*

_____

Underline three parts of the song that support that idea.

❖ *A technique is a way of using words to help people understand an idea. Tell about one technique you find in the song.*

❖*Write the next stanza of the song.*

_____

_____

_____

_____

I've Got Peace Like a River

ILS2A: I can infer ideas and values represented in a spiritual.

I've got peace like a river in my soul
I've got a river in my soul

I've got joy like a fountain in my soul
I've got a fountain in my soul

I've got love like an ocean in my soul
I've got an ocean in my soul

❖*What is the main idea or theme of the song?*

_____

Underline three parts of the song that support that idea.

❖ *A technique is a way of using words to help people understand an idea. Tell about one technique you find in the song.*

❖ *What is the mood of the song?*

How does the writer help you feel that mood?

This Little Light of Mine

ILS2A: I can infer ideas and values represented in a spiritual.

This little light of mine
I'm going to let it shine
Oh, this little light of mine
I'm going to let it shine
Hallelujah
This little light of mine
I'm going to let it shine
Let it shine, let it shine, let it shine

Everywhere I go
I'm going to let it shine
Oh, everywhere I go
I'm going to let it shine
Hallelujah
Everywhere I go
I'm going to let it shine
Let it shine, let it shine, let it shine

All in my house
I'm going to let it shine
Oh, all in my house
I'm going to let it shine
Hallelujah

All in my house
I'm going to let it shine
Let it shine, let it shine, let it shine

I'm not going to make it shine
I'm just going to let it shine
I'm not going to make it shine
I'm just going to let it shine
Hallelujah
I'm not going to make it shine
I'm just going to let it shine
Let it shine, let it shine, let it shine

Out in the dark
I'm going to let it shine
Oh, out in the dark
I'm going to let it shine
Hallelujah
Out in the dark
I'm going to let it shine
Let it shine, let it shine, let it shine

❖*What is the main idea or theme of the song?*

_____

Underline three parts of the song that support that idea.

❖ *A technique is a way of using words to help people understand an idea. Tell about one technique you find in the song.*

❖ *What is the mood of the song?*

Why do you think that?

Focus ➡ Think More √ Make Progress

We Shall Overcome

ILS2A: I can infer ideas and values represented in a spiritual.

We shall overcome, we shall overcome We shall overcome some day Oh, deep in my heart, I do believe We shall overcome some day The Lord will see us through, the Lord will see us through The lord will see us through some day Oh, deep in my heart, I do believe The Lord will see us some day We're on to victory, we're on to victory We're on to victory some day Oh, deep in my heart, I do believe We're on to victory some day We'll walk hand in hand, we'll walk hand in hand We'll walk hand in hand some day Oh, deep in my heart, I do believe We'll walk hand in hand some day	We are not afraid, we are not afraid We are not afraid today Oh, deep in my heart, I do believe We are not afraid today The truth shall make us free, the truth shall make us free The truth shall make us free some day Oh, deep in my heart, I do believe The truth shall make us free some day We shall live in peace, we shall live in peace We shall live in peace some day Oh, deep in my heart, I do believe We shall live in peace some day

❖*What is the main idea of the song?*

_____

Underline three parts of the song that support that idea.

❖ *A technique is a way of using words to help people understand an idea. Tell about one technique you find in the song.*

❖ *What was the purpose for which this song was written?*

PRACTICE PACKS

A Practice Pack is a page you cut into pieces and then use as flash-cards or to play matching games or card games. The more time you take to work with these pieces, the more you know them.

The first Practice Pack page is blank—you fill in the words, letters, or numbers you want to learn.

The next pages have examples you can use to learn more.

You will find many words in the Vocabulary section that you can put into Practice Packs.

PRACTICE PACK

Put the words, letters, or numbers you want to learn into each rectangle. Then cut them out and use them as flash-cards or to play matching games or card games.

PRACTICE PACK: TIME TABLE FACTS

Add more time-table facts to your practice pack. Cut them out and match them.

2 x 4	8
3 x 4	12
4 x 4	16
5 x 4	20
6 x 4	24

PRACTICE PACK: MATH FACTS AND OPERATIONS

Put numbers into the boxes. Then cut them out and make up math problems. Make more parts with other numbers.
Add percentages and decimal signs or algebra symbols for advanced math.

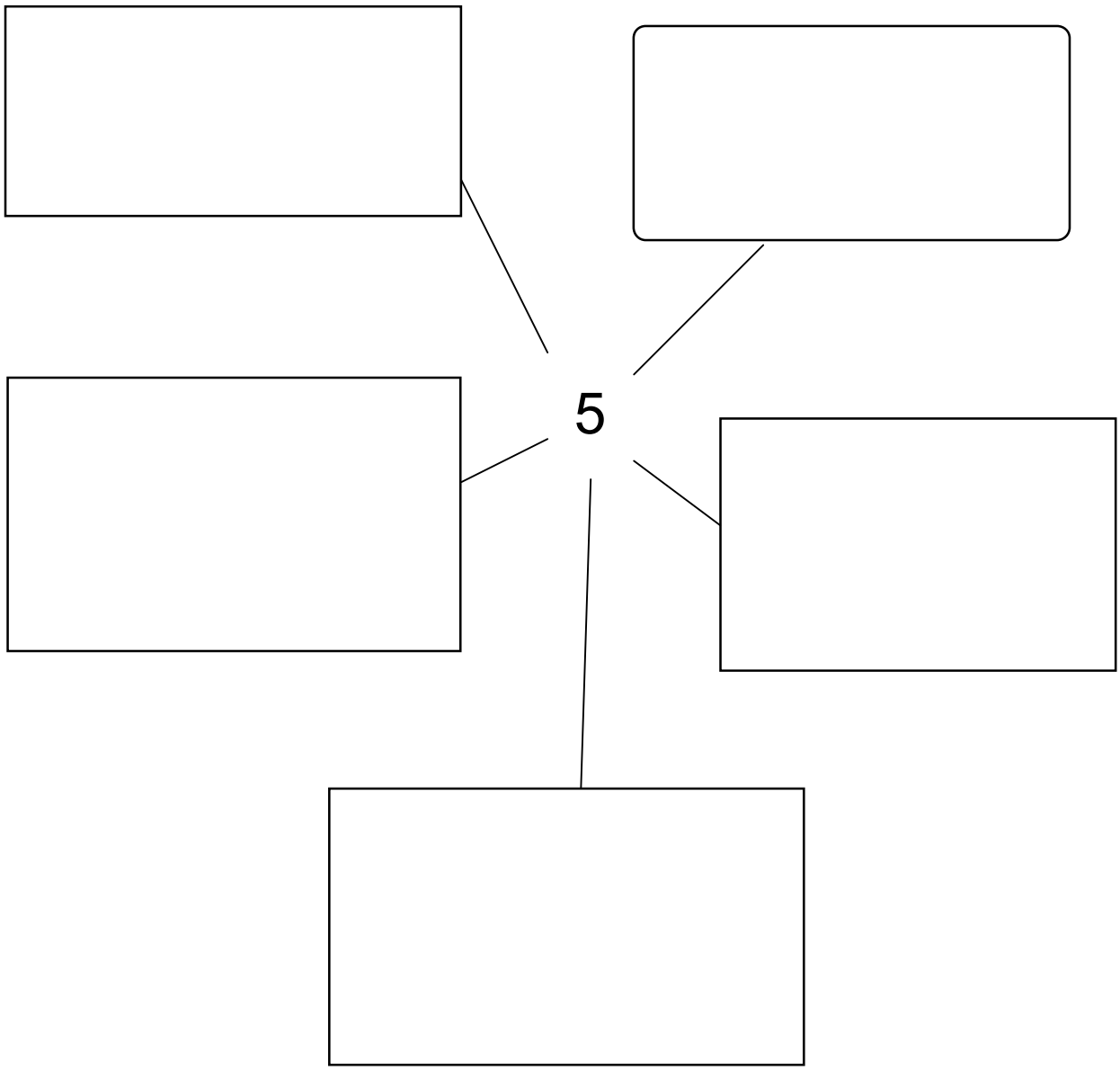
.

+		-	
X		=	
10	5	15	50

Five Ways to Make a Five

ILS6A I know numbers and operations.

In each rectangle put a math operation or an algebraic equation that would result in 5.



My Important Math

This graphic organizer is designed to guide students' clarifying of what they learn in math each week. When done independently it is an assessment.

Skill: _____

What are 3 important words or symbols you need to know to use this math?

Word or Symbol	What It Means

What's important to know about this math? Show and tell what you know.

Math Path

ILS Math Competence: can solve and explain solutions to problems.

Solve a problem on the left side of the arrow.
Explain your strategy on the right side of the arrow.

Why I solved it this way.

Math Problem Solver

ILS1B: I can identify what's important when I read a math word problem.
Plus ILS8: Problem solving strategies

Read a Word Problem. Complete this chart. Then solve the problem.

What is the question asking me to figure out?	
What information do I need to solve it?	
What strategy will I use to solve it?	

PAIR and COMPARE
Share your plan with another student.
Then work together to solve the problem.

MATH PROBLEM SOLVING STEPS

Teachers can use this guide to figure out if a student needs help at different points in Problem Solving.

Write answers to these questions when you solve a math word problem.

Step 1. What are you going to figure out?

Step 2: How will you do it? What will you do to solve the problem?

Step 3. *Underline the information you need to find the answer.*

Step 4. Solve the problem here.

What is your answer? _____

Step 6: Write to explain what you did and why.

What I Did	Why I Solved the Problem This Way

STRATEGIC PROBLEM-SOLVERS

Here are some strategies to solve a problem
__make a model
__see if it will take just one step to solve it or more steps
__guess, check, then correct if I need to
__look for a pattern
__draw a picture or diagram so I could see what I looked like
__figure out what information I need
__underline the information I need and cross out the things I don't need
__make a graph
__choose an operation
__make a list of operations to do
__make a table or chart

SHOW

Solve the problem. Use pictures, graphs, diagrams, lists—other ways to show the problem and how you solve it.

TELL

Tell what you did—and why.
Use as many rows as you need.
We put five rows—you can add more if you need them.
If you don't take five steps, write on only the rows you need to tell what you did.
Be sure to end with checking your work. This is a chart you could use to make sure you tell what you did and why.

What I did	**Why I did it this way**
First, I	to see
Then I	to figure out
Then I	so that
Then I	because
Finally, I	because

3rd Grade ISAT Integration MATH

MATH FOCUS	*ISAT Sample Items—Use as models to create math challenges.*
Number Value and Operations	Lee collected 489 rocks for his science project. Sue collected 100 fewer rocks than Lee. How many rocks did Su collect? Ed has 19 eggs. He has 2 empty egg cartons. Each carton can hold 12 eggs. How many more eggs does Ed need to fill the 2 egg cartons? What number goes in the box to make the number sentence true? 5 x 6 = 30. 50 x 6 = _____ What number goes in the box to make this number sentence true? 12 - ___ = 3. Look at the pattern. 82, 88 94, ___, 106, 112. What is the missing number? Which has 1/3 shaded?
Operations and Knowledge of Time and Money	John buys 2 notebooks. Each notebook costs $1.80. John gives the clerk $5.00. How much changes does he get? A month ends on a Tuesday. On what day does the next month begin? Tom buys 5 toy cars. Each car costs $0.98. Which shows how much money Tom needs?
Analyzing Graphs and Data and probability	What number pair shows the location of the square? A class votes for their favorite kinds of books. How many more students voted for books about adventures than books about sports? A class makes a chart about what kind of pets they have. The class has 24 students. How many students have a cat for a pet? The chart shows the shoe size for six students. What is the mode for the data in the chart? Dan will spin the arrow many times. The arrow is least likely to stop on ____. (Circle with colored sections and spinner.) Holly throws a penny in the air 100 times. The penny falls on the table each time. How many times will the penny probably show tails?
Geometry	What is the area of this figure? What is the perimeter of this square? How many sides does a hexagon have? Which has exactly one vertex? Which shows only a flip across the line? Which lines look parallel? Which shapes look congruent?
Measurement	Use your centimeter ruler. What is the length of this crayon in centimeters? How many oranges equal the same weight as one cube? What is the distance from point M to point N? (on a number line)

THIRD GRADE MATH PRIORITIES

Priorities identified through the ISBE ISAT online resources and CPS Learning Targets
http://www.chicagoteachingandlearning.org/component/content/article/235-learning-targets.html

Problem Solving

Students need to be able to…

- ❑ solve problems in each of these areas of math.
- ❑ show the steps they take
- ❑ explain the reasons for their choices of strategies.

number sense and operations	***measurement***
❑ addition ❑ base-ten number system ❑ decimals ❑ division ❑ equals ❑ equivalent forms of simple fractions ❑ estimation ❑ fractions ❑ monetary units ❑ multiplication ❑ number line ❑ ordered pairs ❑ place value ❑ repeating ❑ representations of numbers to 10,000 ❑ subtraction ❑ value ❑ whole numbers	❑ area ❑ capacity/volume ❑ Celsius, Fahrenheit ❑ elapsed time ❑ estimate ❑ inch, foot, yard ❑ length ❑ mass/weight ❑ money ❑ non-standard unit ❑ ounce, pound ❑ perimeter
geometry	***data analysis and probability***
❑ 2-dimensional shapes ❑ 3-dimensional shapes ❑ congruence ❑ coordinate system ❑ hexagon ❑ lines of symmetry ❑ parallel ❑ polygon ❑ rectangle ❑ reflection/flips ❑ rotations/turns ❑ translation/slides ❑ vertex	❑ chart ❑ circle graph ❑ graph ❑ line graph ❑ mean/average ❑ median ❑ mode ❑ probability and counting principles ❑ table ❑ tally, tally chart
algebra	**Symbols**
❑ comparison problems ❑ equations ❑ number sentences ❑ pattern problems	Operations Equals Greater than Less than

4th Grade ISAT Integration MATH

MATH FOCUS	*ISAT Sample Items—Use as models to create math challenges.*
Operations and Probability	What is the value of 6 in 5,360? Which is equal to 7 x 8? Which number sentence is true? Which is correct (numbers with greater than symbol). Ms. Fields needs 30 cupcakes. There are 4 in each package. How many does she need to get? Lee collected 489 rocks. Sue collected 100 fewer rocks than Lee. How many rocks did Su collect? The average song is 3 minutes long. How many songs can be played in 16 minutes?
Fractions **Decimals and percentages**	There are 32 students in a class. There are 13 girls in the class. What fractional part of the class is boys? Tim's mother put these cookies on a pate. Tim takes one cookie without looking. Which will he most likely get? Sally put these shapes in a box. She dropped the box. One shape fell out. What is the probability that a ball fell out?
Algebraic Thinking	Raj earns 5 points for each question he answers correctly. p is the number of questions Raj has correct. What is the total number of points Raj earns? Which is true if b = 5? What is the value of M? Raj earns 5 points for each correct answer. Raj gets p correct answers. Which gives the total number of points he earns?
Analyzing Graphs and Data	Tom saves the same amount of money each week. How much money will Tom save by week 4? This graph shows how many students ride bikes to school. Whose class has the most students who ride bikes to school? John's class voted on games they like to play. Which two games got the most votes? Which statement is true about the data in the table?
Geometry	What is the volume of this shape? How many faces does a rectangular prism have in all? Which shape has only 1 line of symmetry? The hexagon is cut by the line m. what is the shape of each piece after it is cut? Exactly how many right angles and vertices does a rectangle have?
Measurement	Use your inch ruler to help you answer this question. How long is the line segment MN? Ben is 1 ½ years old. How many months are equal to 1 ½ years?

FOURTH GRADE MATH PRIORITIES

Priorities identified through the ISBE ISAT online resources and CPS Learning Targets
http://www.chicagoteachingandlearning.org/component/content/article/235-learning-targets.html
Smaller size type indicates math developed during 3rd grade and extended in 4th.

Problem Solving
Students need to be able to…
- ❑ *solve problems in each of these areas of math.*
- ❑ *Solve problems using number relationships*
- ❑ *Use ratios to describe problem situations*
- ❑ *show the steps they take*
- ❑ *explain the reasons for their choices of strategies.*

Problem-Solving Strategies
__make a model
__see if it will take just one step to solve it or more steps
__guess, check, then correct if I need to
__look for a pattern
__draw a picture or diagram
__figure out what information I need
__make a graph
__make a list of operations to do

number sense and operations

❑ addition	❑ base-ten number system
❑ compare	❑ decimal point
❑ decimals	❑ denominator
❑ division	❑ equals
❑ equivalent forms of simple fractions	❑ equivalent representations of fractions and decimals
❑ estimate	❑ estimation
❑ fractions	❑ greater than
❑ less than	❑ monetary units
❑ multiplication	❑ number line
❑ numerator	❑ ordered pairs
❑ place value	❑ repeating
❑ representations of numbers to 1 million	❑ subtraction
❑ sum	❑ total
❑ unit	❑ value

measurement

❑ angles	❑ area
❑ capacity/volume	❑ Celsius, Fahrenheit
❑ elapsed time	❑ estimate
❑ gallon	❑ gram
❑ height	❑ inch
❑ inch, foot, yard	❑ kilogram
❑ kilometer	❑ length
❑ mass/weight	❑ money
❑ non-standard unit	❑ ounce, pound
❑ perimeter	❑ time
❑ yard	❑

data analysis and probability

❑ chart	❑ circle graph
❑ graph	❑ line graph
❑ mean/average	❑ median
❑ mode	❑ pattern
❑ probability and counting principles	❑ table
❑ tally, tally chart	❑ Venn diagram

geometry

❑ 2-dimensional properties	❑ 2-dimensional shapes
❑ 3-dimensional properties	❑ 3-dimensional shapes
❑ congruence	❑ coordinate system
❑ hexagon	❑ lines of symmetry
❑ parallel	❑ polygon
❑ rectangle	❑ reflection/flips
❑ rotations/turns	❑ translation/slides
❑ vertex	

Algebra/algebraic thinking
- ❑ comparison problems
- ❑ equations
- ❑ number sentences
- ❑ pattern problems
- ❑ represent mathematical situations using words, tables, graphs

5th Grade ISAT Integration MATH

MATH FOCUS	*ISAT Sample Items—Use as models to create math challenges.*
Operations and Probability	A school has fifty teachers. Six out of every ten teachers have a pet. How many teachers have a pet? Anish went to sleep at 9:00 pm and woke up at 6:30 am. How long did he sleep? (Note: also requires fraction knowledge.) The drawing below is an input-output machine. The input is 5. What is the output (add 7, subtract 3). Tim's mother put these cookies on a plate. Tim takes a cookie without looking. Which will he most likely get? (Cookies of different colors on plate>) The spinner has 6 equal parts. What is the probability that the arrow will land in a space labeled with an odd number?
Fractions **Decimals and percentages**	Sarah runs 100 meters in 10 and sixty-two hundreds seconds. How is this written as a number? Which letter shows 3/4 on the number line? A pizza is cut into 8 equal pieces. Ben eats 2 pieces. Sam eats 3 pieces. What fractional part of the pizza did they eat? A story is having a sale. The items are 50% off regular price. About how much money is needed to buy 1 of each item at sale price?
Algebraic Thinking	What is the value of the expression below when M = 4? Mr. Smith is 36 years old. His son is 8 years old. Mrs. Smith is n years old. Their three ages added together equals 77. Which correctly represents this information? Brandon weighs 58 pounds. Nate weighs less than Brandon. If Nate weighs **n** pounds, which of these is true?
Analyzing Graphs and Data	This graph shows daily temperatures for North Town. What is the difference in the average daily temperatures for Monday and Wednesday? Beth recorded the highest temperature for seven days. 90, 87, 95, 93, 88, 88 degrees. What is the mean (average) temperature? The table shows the area in square miles for 5 states. The total number of square miles for three states is 119,156. Which 3 states are in the total?
Geometry	What is the perimeter of this figure? Which streets (on a diagram) do not intersect? What type of angle is made by the hands of the clock? Which two figures look congruent? The dimensions of a rectangular prism are shown below. What is the volume of this prism? (Volume = l x w x h) Which is true about the prism (answers include intersects, parallel, perpendicular lines)
Measurement	Use your centimeter ruler to answer this question. Which is closest to the perimeter of this triangle? What is the distance from point G to point H (on a number line). On Todd's map, 1 inch = 200 miles. It is 5 ¼ inches from Todd's house to his friend's house on the map. How many miles it is from Todd's house to his friend's house?

FIFTH GRADE MATH PRIORITIES

Priorities identified through the ISBE ISAT online resources and CPS Learning Targets
http://www.chicagoteachingandlearning.org/component/content/article/235-learning-targets.html
Smaller size type indicates math developed during 4th grade and extended in 5th.

Problem Solving Students need to be able to…

- ❑ solve problems **in each of these areas of math.**
- ❑ Solve problems using number relationships
- ❑ Use ratios to describe problem situations
- ❑ show the steps they take
- ❑ explain the reasons for their choices of strategies.

number sense and operations

❑ commutative	❑ compare and order numbers
❑ decimals	❑ denominator
❑ distributive	❑ equals
❑ equivalent forms of simple fractions	❑ equivalent representations of fractions and decimals
❑ estimate	❑ formula
❑ fractions	❑ greater than
❑ identity	❑ less than
❑ monetary units	❑ number line
❑ numerator	❑ order of operations
❑ percents	❑ proportional reasoning
❑ value	

geometry

❑ 2-dimensional properties	❑ 2-dimensional shapes
❑ 3-dimensional properties	❑ 3-dimensional shapes
❑ angles—acute, obtuse, right, straight	❑ congruence
❑ coordinate system	❑ cube
❑ cylinder	❑ diameter
❑ equilateral triangle	❑ hexagon
❑ isosceles triangle	❑ intersecting lines
❑ line segments	❑ lines of symmetry
❑ parallel	❑ perpendicular lines
❑ polygon	❑ perimeter
❑ ray	❑ reflection/flips
❑ rotations/turns	❑ sphere
❑ translation/slides	❑ vertex, vertices

measurement

❑ angles	❑ area
❑ capacity/volume	❑ Celsius, Fahrenheit
❑ estimate	❑ height
❑ length	❑ mass/weight
❑ money	❑ non-standard unit
❑ perimeter	❑ scale

data analysis and probability

❑ chart	❑ circle graph
❑ graph	❑ line graph
❑ line plot	❑ mean/average
❑ median	❑ mode
❑ pattern	❑ predict
❑ probability and counting principles	❑ range
❑ table	❑ tally, tally chart
❑ Venn diagram	

Algebra/algebraic thinking

- ❑ equations
- ❑ expressions
- ❑ input-output tables
- ❑ inverse relations
- ❑ number sentences
- ❑ pattern problems
- ❑ represent mathematical situations using words, tables, graphs
- ❑ unknown quantities

6th Grade ISAT Integration MATH

MATH FOCUS	*ISAT Sample Items—Use as models to create math challenges.*
Operations and Probability	What number goes in the box (given a multi-step number problem)? Greg took five tests. Each test is worth 100 points. Here are Greg's scores: 85, 87, 87, 89, 9. What is his mean score for these five tests? Which spinner is most likely to have the arrow stop on B?
Fractions, Decimals, Percentages	Ann runs 100 meters in ten and sixty-two hundredths seconds. What is her time written as a number? There are 50 beans in a bag. Twenty percent are red. How many are red? Look at Tom's work list. How much time does it take to do all of his work?
Analyzing Graphs and Data	Students voted for their favorite books. How many more students voted for books about adventures than books about sports (based on bar graph). The Venn Diagram shows how many more students play baseball and football. How many students play baseball but not football? Carl has 16 books. The bar graph shows the number of each type of books. Which circle graph best shows the types of books Carl has?
Algebra	Mike has x baseball cards. Tyrone has 3 times as many. Frank has baseball cards. Which expression represents how many cards they have in all? What is the value of the expression below when x = 6 and y = 2? What value of n makes the equation below true? Which correctly describes the rule between x and y? Which table best fits the equation. The graph shows a linear equation. If x is 7 on the graph, what is y? Jan has 18 cards, Ray gives her v cards. She now has less than 30 cards. Which best describes her cards?
Geometry and Measurement	Use your ruler to answer the question. About how long and wide is the rectangle? Which rectangle has an area of 24 square units and a perimeter of 20 units? Which is closest to the measure of angle XYZ? What should be the value for x in the triangle shown? Lines w and x intersect lines y and z to make a rectangle. What is true? Which streets do not intersect? What solid figure will this pattern make when it is folded on the dotted lines. Triangle RST is similar to triangle XYZ. Line RS corresponds to which side of triangle XY? Use your centimeter ruler. How far is it, in feet, from the tree to the swing?

SIXTH GRADE MATH PRIORITIES

Priorities identified through the ISBE ISAT online resources and CPS Learning Targets
http://www.chicagoteachingandlearning.org/component/content/article/235-learning-targets.html
Smaller size type indicates math developed during 5th grade and extended in 6th.

Problem Solving

Students need to be able to…

- ❑ solve problems in each of these areas of math.
- ❑ Use probability in problem-solving situations
- ❑ Make predictions
- ❑ Use ratios to describe problem situations
- ❑ show the steps they take
- ❑ justify a concept or relationship
- ❑ explain the reasons for their choices of strategies.
- ❑ explain the reasons for their choices of strategies.

number sense and operations

❑ approximation	❑ commutative
❑ distributive	❑ equivalent representation of numbers
❑ estimate	❑ formula
❑ number systems	❑ order of operations
❑ properties	❑ proportional reasoning
❑ square	

Measurement

❑ angles	❑ area
❑ capacity/volume	❑ Celsius, Fahrenheit
❑ estimate	❑ height
❑ length	❑ mass/weight
❑ money	❑ non-standard unit
❑ perimeter	❑ scale

data analysis and probability

❑ chart	❑ circle graph
❑ graph	❑ line graph
❑ line plot	❑ mean/average
❑ median	❑ mode
❑ pattern	❑ predict
❑ probability	❑ range
❑ table	❑ tally, tally chart
❑ Venn diagram	

geometry

- ❑ area
- ❑ conversion
- ❑ coordinate system
- ❑ cube
- ❑ line segment
- ❑ rectangular pyramid
- ❑ scale
- ❑ square prism
- ❑ three dimensional
- ❑ transformations
- ❑ triangular prism
- ❑ two-dimensional
- ❑ vertex
- ❑ vertices

algebra

- ❑ Associative property
- ❑ equations
- ❑ expressions
- ❑ inequalities
- ❑ inverse relations
- ❑ linear equation
- ❑ number sentences
- ❑ pattern problems
- ❑ table of values
- ❑ unknown quantities
- ❑ variable

7th Grade ISAT Integration MATH

MATH FOCUS	*ISAT Sample Items—Use as models to create math challenges.*
Operations, Number Value, Probability	Several students bought pencils to share equally. How many pencils did they buy? Mike has 2 red apples and 3 green in his bag. He takes 2 apples. What is the probability that he takes 2 red? A restaurant has 5 different hamburgers and 4 different drinks. How many combinations are possible? Toby divides 12.9 by 8.6. His answer is 1.5 How can he check his answer?
Fractions, Decimals, Percentages	Jo needs an 85% average on her five math tests. She earned xx, xx, xx and xx on her first four tests. What score must she earn on her fifth test to have an average of exactly 85% for all five tests? There are 18 girls in a class. The ratio of girls to boys in the class is 3 to 2. How many boys are in the class
Analyzing Graphs and Data	The table shows the pattern between the number of ___ and the number of ___. Which can be used to find the number of ___ needed for n ____? Which point is at (3, -2) Points K, L, and M are vertices on rectangle KLMN. What are the coordinates of vertex N? Which set of bars represents the data in the circle graph? Which graph shows a line of best fit?
Algebra	Which is equal to 3x + 5 + x + 10 + 2y? Which inequality represents the graph? What value of x makes the inequality true? A cheese pizza costs $6. Each topping costs $.85. Which gives the cost of a cheese pizza with t toppings? Jen uses two steps to multiply 7(52). What property is she using? Which is equal to 5(2a + 9)
Geometry and Measurement	Use your ruler to help you answer this question. Which is the perimeter of triangle PQR? What is the area of the polygon? What is the area of the square in square feet? What is the surface of this rectangular prism? Points M, N, Q, Z and X are all on circle P. Which represents the diameter? The dimensions of rectangle N are ½ of rectangle M. Which must be true of the two angles? Triangle PQT is similar to triangle PRS. What is the length of SR?

SEVENTH GRADE MATH PRIORITIES

Priorities identified through the ISBE ISAT online resources and CPS Learning Targets
http://www.chicagoteachingandlearning.org/component/content/article/235-learning-targets.html
Smaller size type indicates math developed during 6th grade and extended in 7th.

Problem Solving

Students need to be able to…

❑ solve problems in each of these areas of math.	❑ Use probability in problem-solving situations
❑ Make predictions	❑ Use ratios to describe problem situations
❑ show the steps they take	❑ justify a concept or relationship
❑ explain the reasons for their choices of strategies.	

number sense and operations

❑ absolute value	❑ approximation
❑ commutative	❑ distributive
❑ equivalent representation of numbers	❑ estimate
❑ factors	❑ greatest common factor
❑ formula	❑ number systems
❑ order of operations	❑ properties
❑ proportional reasoning	❑ square
❑ square root	

geometry

❑ area	❑ complementary angles
❑ conversion	❑ coordinate system
❑ cube	❑ isosceles trapezoid
❑ line segment	❑ pyramid (regular)
❑ rectangular prism	❑ right cylinder
❑ rectangular pyramid	❑ scale
❑ square prism	❑ surface area
❑ three dimensional	❑ transformations
❑ trapezoid	❑ triangular prism

Measurement

❑ angles	❑ area
❑ capacity/volume	❑ Celsius, Fahrenheit
❑ estimate	❑ height
❑ length	❑ mass/weight
❑ perimeter	❑ scale

data analysis and probability

❑ chart	❑ circle graph
❑ graph	❑ line graph
❑ line plot	❑ mean/average
❑ median	❑ mode
❑ pattern	❑ predict
❑ probability	❑ range
❑ table	❑ tally, tally chart
❑ Venn diagram	

algebra

❑ Additive identity property	❑ Additive inverse property
❑ Associative property	❑ Balance
❑ Compound inequality	❑ Equations
❑ exponent	❑ expressions
❑ function	❑ inequalities
❑ inverse relations	❑ linear equation
❑ permutation	❑ prime factorization
❑ rational number	❑ scientific notation
❑ table of values	❑ variable

Algebraic Thinking

❑ Represent, simplify, and solve mathematical relationships and situations with expressions, equations, and inequalities.

Represent, translate, and interpret relationships between equations and/or inequalities and graphs in the coordinate plane.

8th Grade ISAT Integration MATH

MATH FOCUS	*ISAT Sample Items—Use as models to create math challenges.*
Operations, Probability, and Number Knowledge	Which point best represents the square root of 10 on a number line? Look at the additional patterns below. Using this pattern, how many numbers must be added to equal 64? Mike as 2 red apples and 3 green apples. Without looking, he takes two apples. What is the probability that Make takes two red apples? Math books have between 200 and 600 pages. Which number line shows this?
Fractions, Decimals, Percentages	A school had N students last year. There are n% more this year. How many students are there? Amy has n/X of a yard of string to make bracelets. She needs n/Y of a yard to make each one. What is the most number of bracelets she can make? The circle graph represents a total of 240 animals. The shaded area represents the number of monkeys. How many of the animals are monkeys?
Analyzing Graphs and Data	Which graph shows y = 3? The graph of a line contains the points (5, 3) and (5, =1_. Which must be true about the graph of this line? Which graph shows a line of best fit?
Algebra	Which equation shows the relationship between x and y? If it is true that 16n < 16 and p > 0 and P < 16, what is true about n? The inequality 70 degrees < x < 80 degrees represents the range of best water temperature for Sammy's fish. Which statement is true about the water temperature? What is the value of x? Which is equivalent to the expression below?
Geometry and Measurement	Which is the closest to the circumference of the circle? How many milliliters are in N liters? What is the surface area of the prism? In a triangle, given two angles' degrees and x-5 for the third angle, what is the value of x? Triangle XYZ is similar to triangle RST. What is the length of ST? A cylinder is N inches tall. It has a radius of y inches. Which is the closest to the volume of the cylinder? This picture is a scale drawing of an __. What is the height? Line l intersects parallel lines m and n as shown. Which list contains all the angles that are congruent to angle 1? Which drawing represents the top view of this solid? KLMN is an isosceles trapezoid. The perimeter is 32cm. What is the area?

EIGHTH GRADE MATH PRIORITIES

Priorities identified through the ISBE ISAT online resources and CPS Learning Targets
http://www.chicagoteachingandlearning.org/component/content/article/235-learning-targets.html
Smaller size type indicates math developed during 6th-7th grades and extended in 8th.

Problem Solving

Students need to be able to…

❑ solve problems in each of these areas of math.	❑ Use probability in problem-solving situations
❑ Make predictions	❑ Use ratios to describe problem situations
❑ show the steps they take	❑ justify a concept or relationship
❑ explain the reasons for their choices of strategies.	❑

number sense and operations

❑ absolute value	❑ approximation
❑ commutative	❑ distributive
❑ equivalent representation of numbers	❑ estimate
❑ factors	❑ greatest common factor
❑ formula	❑ number systems
❑ order of operations	❑ properties
❑ proportional reasoning	❑ square
❑ square root	❑

geometry

❑ area	❑ complementary angles
❑ conversion	❑ coordinate system
❑ cube	❑ isosceles trapezoid
❑ line segment	❑ pyramid (regular)
❑ rectangular prism	❑ right cylinder
❑ rectangular pyramid	❑ scale
❑ square prism	❑ surface area
❑ three dimensional	❑ transformations
❑ trapezoid	❑ triangular prism

Measurement

❑ angles	❑ area
❑ estimate	❑ mass/weight
❑ measurable attributes	❑ scale

data analysis and probability

❑ chart	❑ circle graph
❑ graph	❑ line graph
❑ line plot	❑ mean/average
❑ median	❑ mode
❑ pattern	❑ predict
❑ probability	❑ range
❑ table	❑ tally, tally chart
❑ Venn diagram	

algebra

❑ Additive identity property	❑ Additive inverse property
❑ Associative property	❑ Balance
❑ Compound inequality	❑ Equations
❑ exponent	❑ expressions
❑ function	❑ inequalities
❑ inverse relations	❑ linear equation
❑ permutation	❑ prime factorization
❑ rational number	❑ scientific notation
❑ table of values	❑ variable

Algebraic Thinking

- ❑ Identify a relationship and make generalizations from linear or non-linear sequences
- ❑ Represent, simplify, and solve mathematical relationships and situations with expressions, equations, and inequalities.
- ❑ Identify, interpret, represent, and solve functions in a coordinate system.

WEATHER WORD BANK

I can use context clues and prior knowledge to understand new words. (1A)

INITIAL CONSONANT BLENDS **TOPIC: WINTER WEATHER**

WORD	Show what it means. Draw a picture.	Translate the word: Write another word that tells what this word means.
slosh		
slush		
sleet		
slip		
slide		
snow		
sneeze		

Use your word bank to:
> Write about this topic.
> Make up word games about this topic.

Ecology Vocabulary **You will find science terms for core content at teacher.depaul.edu**

Here are some of the terms students need to know about ecology. Choose the words that your class will learn. Add more words, too.

K-1	2	3	4	5	6-8
air = *aire* alive = *vivo* animal = *animal* behind = *detrás de* bird = *pájaro* blue = *azul* body = *cuerpo* body = *cuerpo* brown = *marrón* cloud = *nube* day = *día* far = *lejos* fish = *pez* flower = *flor* green = *verde* in front = *en frente* less = *menos* more = *mas* near = *cercano* night = *noche* plant = *planta* rainbow = *arco iris* sunshine = *sol* tree = *árbol* water = *agua* yellow = *amarillo*	autumn = *otoño* different = *diferente* dinosaur = *dinosaurio* earth = *tierra* eat = *come* farm = *granja* forest = *bosque* frog = *rana* insect = *insecto* lake = *lago* lakeshore = *orilla* measure = *medida* nature = *naturaleza* park = *parque* rain = *lluvia* river = *rio* season = *temporada* seed = *semilla* spring = *primavera* summer = *verano* weather = *tiempo* winter = *invierno*	climate = *clima* degree = *grado* desert = *desierto* environment = *ambiente* egg = *huevo* fern = *helecho* food chain = *cadena de alimiento* fruit = *fruta* gas = *gas* grassland = *prado* hatch = *trampa* leaf = *hoja* life cycle = *ciclo vital* liquid = *liquido* migrate = *emigre* mineral = *mineral* moss = *musgo* planet = *planeta* pollen = *polen* root = *raiz* solid = *solido* stem = *tallo* survive = *sobreviva* vegetable = *verdura*	amphibian = *anfibio* backbone = *espina dorsal* bacteria = *bacterias* biology = *biologia* biome = *biome* cactus = *cacto* carbon dioxide = *bióxido de cerbono* cartilage = *cartílago* conservation = *conservación* decay = *decaimiento* decompose = *descompóngase* energy = *energia* food web = *tela de alimiento* fossil = *fósil* fuel = *combustible* function = *función* habitat = *habitat* incisor = *incisivo* mammal = *mamífero* molar = *muela* ocean habitat = *habitat del océano* organism = *organismo* oxygen = *oxígeno* niche = *lugar* reptile = *reptil*	adapt = *adáptese* algae = *algas* amoeba = *ameba* behavior = *comportamiento* botany = *botánica* carnivore = *carnívoro* cell = *célula* chlorophyll = *clorfila* cold-blooded = *de sangre fría* ecosystem = *ecosistema* extinction = *extinción* glacier = *glaciar* herbivore = *herbívoro* inherit = *herede* instinct = *instinto* marsupial = *marsupial* membrane = *membrana* nucleus = *núcleo* omnivore - *omnívoro* photosynthesis = *fotosíntesis* protein = *proteína* pupa = *crisálida* rain forest = *selva tropical* response = *respuesta* spore = *espora* stimulus = *estímulo* warm-blooded = *de sangre caliente*	anatomy = *anatomía* chloroplast = *cloroplasto* coniferous = *conífero* deciduous = *caducas* evergreen = *árbol de hoja perenne* fungus = *hongo* germination = *germinación* homeostasis = *homeostasis* host = *anfitrión* invertebrate = *invertebado* metamorphosis = *metamorfosis* permafrost = *permafrost* pistil = *pistilo* protozoan = *protozoario* reproduction = *reprodución* respiration = *respiración* rhizome = *rizoma* savannah = *sabana* scavenger = *animal que se alimenta de carroña* stamen = *estambre* symbiosis = *simbiosis* taxonomy = *taxonomía* temperate forest = *bosque templado* vertebrate = *vertebrado*

Scientists use the Scientific Method

ILS11A I can explain the scientific method.

What is it?

STEPS	EXAMPLE

Why do scientists use it?

Scientists Follow Rules for the Safe Science Lab

ILS11C I can explain safe science procedures.

Safe Practice	Why?	What could happen if you don't follow this practice?

Science Writer

ILS5A I can explain a topic.

Topic: _____

What are some important words to know to understand this topic?

Word	What It Means

What's important to know about this science topic?

_____

_____

_____

_____

_____

_____

4th GRADE ISAT SCIENCE CONTENT

Based on the Illinois Learning Standards and ISAT Samples and Specifications

SCIENCE IS THINKING:

- ❑ *inquiry*
- ❑ *data Analysis*
- ❑ *forming a hypothesis*
- ❑ *observation*
- ❑ *measurement*
- ❑ *evaluating an outcome*

Science is Knowing and Applying Concepts and Content

FORCE AND MOTION

- ❑ balance/equilibrium
- ❑ friction
- ❑ gravity
- ❑ magnetism
- ❑ simple machines: level, included plane, pulley, screw, and wheel and axle—how they function, how they apply forces with advantage, relate to tasks

***Inquiring** about*
ENERGY/ELECTRICITY AND LIGHT

❑ *attraction*	❑ *electrical energy*
❑ *heat*	❑ *light*
❑ *magnet*	❑ *mechanical energy*
❑ *nonmetal*	❑ *prism*
❑ *repel*	❑ *static electrical charge*

MATTER

- ❑ *contact*
- ❑ *density*
- ❑ *dissolve*
- ❑ *expand*
- ❑ *gas*
- ❑ *liquid*
- ❑ *particles*
- ❑ *solid*
- ❑ *temperature*

***Inquiring** about*
BASIC EARTH SCIENCE

❑ *Air*	❑ *climate*
❑ *coal, oil*	❑ *decompose*
❑ *earth's surface and landforms*	❑ *erosion*
❑ *fossil fuel*	❑ *igneous*
❑ *land*	❑ *land formations*
❑ *metamorphic*	❑ *minerals*
❑ *natural gas*	❑ *natural resource*
❑ *non-renewable resource*	❑ *renewable resource*
❑ *water*	❑ *sedimentary*
❑ *weather*	❑ *water cycle*

BASIC ASTRONOMY

❑ *constellation*	❑ *galaxy*
❑ *lunar eclipse*	❑ *mass of a planet*
❑ *order of planets from the sun*	❑ *relative positions*
❑ *revolution*	❑ *rotation*
❑ *solar eclipse*	❑ *sunlight*

LIVING THINGS

❑ *amphibian*	❑ *bird*
❑ *characteristics*	❑ *inherited*
❑ *living*	❑ *needs*
❑ *non-living*	❑ *reptile*

INQUIRY

- ❑*Students observe, analyze, and read*
- ❑*Continue science topical word wall.*
- ❑*Students interpret data table or graph*
- ❑*Students make glossary*
- ❑*Students write summary*

Inquiry, Data Analysis, forming a hypothesis; observation; Measurement, Evaluation, Content

ENVIRONMENT AND INTERACTION OF LIVING THINGS

❑ *decomposer*	❑ *ecosystem*
❑ *food chain*	❑ *food web*
❑ *life cycle*	❑ *photosynthesis*
❑ *plants, plant growth*	❑ *producer*
❑ *reproduction*	

4th Grade ISAT Topics and Sample Questions

SCIENCE Topics	*ISAT Sample Items*
SIMPLE MACHINES, FORCE AND MOTION. ❑*observe, measure (distances), analyze* ❑ *read.* ❑*interpret data table or graph.* ❑*make glossary.* ❑*write summary.* ❑*Take then analyze sample ISAT items about topic.*	A force that slows down or stops the motion of a bicycle is … Pat found a wooden box in his grandparents' garage. The top was nailed shut. He used a crowbar to pry off the top. What type of simple machine did Pat use? Which scientist discovered the laws of motion that describe how forces make objects move?
MATTER ❑ *observe, measure (weight), analyze* ❑ *read* ❑ *interpret data table or graph* ❑*make glossary* ❑*write summary* ❑*Take then analyze sample ISAT items about topic.*	A student conducted an experiment to find out how temperature affects air in a balloon. He drew a line around the center of the balloon and measured the length of the line around the balloon. According to the chart, what conclusion can be made about how temperature affects air in a balloon? Which word is under the wrong heading? Brent noticed that when he held a piece of cork under water and then let it go, the cork rose to the surface. This occurred because the cork is less dense than water. Which of these is most similar to what happened to the cork?
ENERGY/MAGNETISM ELECTRICITY AND LIGHT ❑*Students observe, analyze* ❑ *read.* ❑*Students interpret data table or graph* ❑*Students make glossary* ❑*Students write summary* ❑*Take then analyze sample ISAT items about topic*	What happens when two negatively charged particles are next to each other? Which will be attracted to a magnet? An object is placed on a table. A magnet is slowly moved toward it. The object moves away from the magnet. The object is most likely … Each picture shows a battery, a bulb, and a switch. Which bulb will light when the switch is closed? John has a red apple in his lunch. Why does the apple look red to him? A student places four T-shirts outside on a sunny day. Which color shirt will reflect the *most* light? Which scientist invented the light bulb?
BASIC EARTH SCIENCE ❑*observe, analyze, read* ❑*interpret graph.* ❑*make glossary.* ❑*write summary..*	Look at the diagram for the days Monday through Thursday. Which best describes the relationship between temperature and pressure for those days? What could be done to make this kite fly better? In this student's lunch bag, which item would decompose the quickest? Which of these is a renewable resource? This rock was brought to school. The class found fossils of water plants and shells in the rock. What does this tell us about the rock? How does freezing water cause the weathering of rocks? Which would slow erosion?

4th Grade ISAT Topics and Sample Questions

SCIENCE FOCUS	ISAT Sample Items
BASIC ASTRONOMY ❑*observe, analyze,* ❑*read* ❑*interpret graph.* ❑*make glossary.* ❑*write summary.*	Since stars give off their own light, they are like the … Each year Earth moves once around …
ENVIRONMENT AND INTERACTION OF LIVING THINGS ❑*observe, analyze,* ❑ *read.* ❑*interpret graph.* ❑*make glossary.* ❑*write summary.*	If a scientist wanted to find out how tall a plant grows each day, the scientist would… Nine bean plants were grown in varying amounts of light. What conclusion can be drawn from the graph? The fish, dog, and bird are alike in many ways. One way is that they all have… All of the following are needed for a fish to live in an aquarium except… A girl found the skull of an animal. She did not know what the animal was, but she was sure that it preyed on other animals for its food. Which clue led to her conclusion? Decomposers are helpful to the food chain because they… Which of these skulls is from a dinosaur that was probably a carnivore? Which bird beak would be most helpful for a bird that eats insects in the bark of trees? What do these animals have in common? A town passes a law that makes it illegal to hunt deer. Which will *most* likely happen during the following year in the town's forests? Which of these survives harsh winters by traveling to a warmer climate? Which is most similar to the skin of a human?
ISAT SCIENCE PREP— *How to succeed on the test: Inquiry, Data Analysis, Measurement, Evaluation, Content* *Science Lab Safety and Technology* *SCIENCE RE-VIEW: students do three-minute presentations on core science they have learned.*	Which pieces of laboratory equipment are used for safety? Robert Hooke was one of the first people to identify cells. Which invention did he use in order to see cells? What does the school nurse use to measure body temperature? Students were assigned to measure the length of the hallway outside their classroom in feet. Some tiles in the hall were 7 inches wide and others were 8 inches wide. Which technique for measuring the hall is the *most* accurate? Which is a learned behavior? Why is it so important for medical doctors to be able to use a microscope? Erin wants to make a tool that can be dipped into a bubble solution and used to blow bubbles. Which item would work best?

7th GRADE ISAT SCIENCE CONTENT

Based on the Illinois Learning Standards and ISAT Samples and Specifications

SCIENCE IS THINKING:

- ❑ *inquiry*
- ❑ *data Analysis*
- ❑ *forming a hypothesis*
- ❑ *observation*
- ❑ *measurement*
- ❑ *evaluating an outcome*

Biology, Genetics, and Reproduction

❑ *amoeba*	❑ *bacteria*
❑ *bio (prefix)*	❑ *carnivorous*
❑ *carnivore*	❑ *cell*
❑ *classification*	❑ *disease*
❑ *dominant*	❑ *euglena*
❑ *flagellum*	❑ *heredity*
❑ *meiosis*	❑ *mitosis*
❑ *omnivore*	❑ *organism*
❑ *osmosis*	❑ *population*
❑ *recessive*	❑ *reproduction*
❑ *relate*	❑

Botany

- ❑ *carbon dioxide*
- ❑ *classification*
- ❑ *efficient*
- ❑ *food chain*
- ❑ *herb*
- ❑ *herbivore*
- ❑ *osmosis*
- ❑ *oxygen*
- ❑ *palmate*
- ❑ *solar energy*
- ❑ *structure*

Matter and Energy

❑ *acids*	❑ *bases*
❑ *buoyancy*	❑ *chemical energy*
❑ *compound*	❑ *electricity*
❑ *diffuse*	❑ *diffraction*
❑ *energy*	❑ *friction*
❑ *heat*	❑ *light*
❑ *light waves*	❑ *magnetism*
❑ *property*	❑ *reflection*
❑ *refract*	❑ *solution*
❑ *substance*	❑

The Earth's Structure and Processes, including ecosystems

❑ *biodegradable*	❑ *condensation*
❑ *consume*	❑ *climate*
❑ *crust*	❑ *distribution*
❑ *ecosystem*	❑ *erode*
❑ *food web*	❑ *fossil*
❑ *habitat*	❑ *igneous*
❑ *layer*	❑ *metamorphic*
❑ *parasite*	❑ *rock cycle*
❑ *sedimentary*	❑ *water cycle*

ASTRONOMY

❑ *air mass*	❑ *atmosphere*
❑ *constellation*	❑ *gravity*
❑ *hemisphere*	❑ *mass*
❑ *orbit*	❑ *planets*
❑ *rotation*	❑ *solar system*
❑ *star*	❑ *weight*

Science, Technology, Society, and Safety

❑ *average*	❑ *biodegradable*
❑ *conclusion*	❑ *estimate*
❑ *experiment*	❑ *investigate*
❑ *measure*	❑ *rate*
❑ *recycle*	❑ *research*
❑ *strategy*	❑ *visual observation*

7th Grade ISAT Topics and Sample Questions

Science Topics	Questions from ISAT Sample
Biology and Genetics ❑*observe, measure (distances)* ❑*analyze* ❑*read* ❑*measure and report data* ❑*interpret data table or graph* ❑*make glossary* ❑ *write summary.*	These graphs show the rate at which four different disease-producing bacteria grow. Which bacterium would produce a disease in the shortest amount of time? What is the function of the flagellum? An amoeba divides into two identical daughter cells. They have exactly the same characteristics as the parent amoeba. Which best describes the amoeba's division? This is a diagram of a genetic cross. In guinea pigs, black hair color is dominant (B) and white hair color is recessive (b). What hair color are the guinea pigs' offspring? DNA testing is important in …
Astronomy ❑*observe, measure* ❑*analyze* ❑ *read.* ❑*interpret data table or graph* ❑ *make glossary* ❑*write summary.*	What does the color of a star indicate? Why are different constellations of stars seen during different seasons? As seen from Earth, at which position would the moon appear to be full? In Illinois, the constellation Orion can be seen in the night sky in winter. Why can this constellation not be seen in the summer? At which position in Earth's orbit are daytime and nighttime equal?
Matter ❑*observe, analyze* ❑*read* ❑*interpret data table or graph* ❑*make glossary* ❑*write summary*	If the volume of the rock immersed in the graduated cylinder is 60 mL, what will the level of the water be after the rock is removed? You need to put a metal rod into a hole in a metal cylinder. It is too tight. Which would be the best strategy to make the rod fit? Which is the best method for a student to identify a solution as an acid or a base?
Earth's Structure and Processes and Astronomy ❑*observe, analyze* ❑*read* ❑*interpret data table or graph* ❑*make glossary* ❑*write summary*	The graph shows how the number of radioactive nuclei in an isotope decreases over time. How many days did it take for half of the nuclei to decay? If these four identical balls are dropped at the same time and from the same height, which ball will land first? An object is weighed at point A and carried up to point B and weighed again. Why does the object weigh less at point B? Which of these parts of an animal would be most likely to form a fossil? Which rock layer is probably the oldest? A red ball weighs more than a blue ball. This requires that… What type of rock is formed in layers? Wind occurs when air masses move from one place to another. What causes the movement of air masses? Erosion occurs at …

7th Grade ISAT Topics and Sample Questions

Science Topics	ISAT sample questions
Energy, Electricity, Light, Magnetism ❑*observe, analyze* ❑*read.* ❑*interpret data table or graph* ❑*make glossary* ❑*write summary*	What property of light waves can be observed as light waves pass from one medium to another and change speed? Most of the chemical energy of the gasoline burned in a car is not used to move the car but is changed into… Applying the brakes on this bicycle causes it to slow down because the brakes — Which pole arrangement of the four magnets will hold the cabinet door shut most tightly when it is closed?
Environment and Botany ❑*observe, analyze* ❑*read.* ❑*interpret data table or graph* ❑*make glossary* ❑*write summary*	How much more rain fell in February than in November? An experiment was conducted to determine the feeding rate at which two different water beetles eat frog eggs. The data are shown in the following graph. How many frog eggs did Beetle B eat in the first 4 minutes? What is the name of this plant? In a food chain, which are the most efficient users of solar energy? Why were these animals placed into these groups? Green plants are important to animals because the plants… Snakes feed on mice. The mice eat grain crops. When the crops are plentiful, what will happen? If foxes and hawks are removed from this food web, one result will be — Green plants are important to animals because the plants… Which best describes the characteristics of this leaf? According to the soil profile, in which layer are most of the soil's nutrients most likely found?
ISAT SCIENCE STRATEGIES— *How to succeed on the test: Inquiry, Data Analysis, Measurement, Evaluation, Content* *Science and technology*	A student wants to perform an experiment to test how much water bean plants need for good growth. Which factor should be changed? Which statement is a direct visual observation? Two companies make golf balls, and each claims that its ball goes farther. Which would provide the *best* scientific evidence to help determine which ball goes farther? When modern disease-controlling medicines and practices are introduced in developing countries, the first major change is that… Karen just bought a new battery for her car. What should she do with the old battery? New studies on a drug that regulates blood pressure show that it can cause harmful side effects if used for many years. What should the manufacturer do?