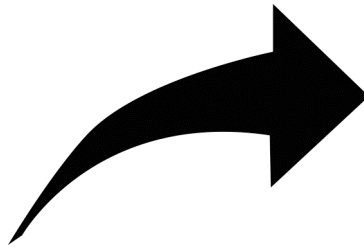


ISAT Essentials



Core Priorities for Grade 4

Center for Urban Education
<http://teacher.depaul.edu>

This guide includes test specifications from ISBE. Those specifications and additional ISAT preparation materials are available at isbe.net.

4th Grade Priorities **READING**

Vocabulary Challenges--Determine word meaning—context, base word, affix

Vocabulary Questions—Stems based on ISAT samples

What does _____ mean in this sentence from the passage?

What is the base word for _____?

What best describes the meaning of _____?

What means the opposite of _____?

How does the prefix pre change the meaning of this base word?

How does the prefix re change the meaning of this word?

Interpret Poems

Challenging Questions Based on ISAT Samples

What is an example of alliteration?

What is an example of consonance?

What is an example of onomatopoeia?

What is the main idea or theme of the poem?

What symbol does the poet use?

What words does the poet use to help you understand it?

Fiction

Analyze questions

—what kind of question is it; how do I answer it?

--how do I choose the best answer?

- Analyze: genre; compare/contrast
- Evaluate: author's techniques
- Infer cause-effect, motive, predictions
- Infer meaning of word from context
- Infer the Main Idea or Theme of a story or fable
- Infer: character traits, setting, plot, motive, prediction
- Summarize

Challenging Questions Based on ISAT Samples

___ and ___ were alike because they both _____.

According to paragraph X, what is _____ doing?

According to the passage, what do?

According to the passage, which of these goes in the empty box (timeline)

This story is mainly about a _____.

What does the author mean in the sentence....?

What does the word _____ mean in this sentence from the passage?

What is a trait of _____?

What is the genre of _____?

What is the problem? How do they solve it?

What is the setting of _____?

What is the theme or main idea?

What was the author's purpose in writing this passage?

What would be another good title for _____?

Which of the following describes the correct order of the passage?

Which of these did the author use in this story? (techniques)

Why didn't _____?

Extended Response Examples from ISAT samples

What lesson can people learn from this story?

Non-Fiction

Analyze questions and answers

—what kind of question is it; how do I answer it?

--how do I choose the most important information

--how do I choose the best answer?

Analyze: compare/contrast; fact/opinion

Identify fact/opinion

Identify the Main Idea and evaluate the importance of information to support it

Infer meaning from context

Summarize—evaluate the information and decide what is important

Challenging Questions Based on ISAT Samples

According to the passage, what do?

According to the passage, which of these goes in the empty box (timeline)

How is ___ different from ___?

This diagram shows What belongs in the empty box?

What best describes the meaning of _____?

What does the author mean in the sentence....?

What does the word _____ mean in this sentence from the passage?

What information is important to know about that idea?

What is the best summary of the article?

What is the genre of _____?

What is the main idea?

What means the opposite of _____?

What was the author's purpose in writing this passage?

What would be another good title for the article?

Which of these did the author use in this story?

Which of these is an opinion?

Which question does the article answer?

How is ___ like ___?

You would most likely find an article like this in a book about—

Extended Response Examples from ISAT samples

What lesson can people learn from this story?

Based on what you read and what you knew, what do you think about _____?

What conclusions can someone draw about _____ based on this passage?

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>

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 and explain the reasons for their choices of strategies.

Math Content	Examples of Questions from ISAT Sample
<p><i>number sense and operations</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> addition <input type="checkbox"/> base-ten number system <input type="checkbox"/> compare <input type="checkbox"/> decimal point <input type="checkbox"/> decimals <input type="checkbox"/> denominator <input type="checkbox"/> division <input type="checkbox"/> equals <input type="checkbox"/> equivalent forms of simple fractions <input type="checkbox"/> equivalent representations of fractions and decimals <input type="checkbox"/> estimate <input type="checkbox"/> estimation <input type="checkbox"/> fractions <input type="checkbox"/> greater than <input type="checkbox"/> less than <input type="checkbox"/> monetary units <input type="checkbox"/> multiplication <input type="checkbox"/> number line <input type="checkbox"/> numerator <input type="checkbox"/> ordered pairs <input type="checkbox"/> place value <input type="checkbox"/> repeating <input type="checkbox"/> representations of numbers to 1 million <input type="checkbox"/> subtraction <input type="checkbox"/> sum <input type="checkbox"/> total <input type="checkbox"/> unit <input type="checkbox"/> value 	<p>What is the value of 6 in 5,360?</p> <p>Which is equal to 7×8?</p> <p>Which number sentence is true?</p> <p>Which is correct (numbers with greater than symbol).</p> <p>Ms. Fields needs 30 cupcakes. There are 4 in each package. How many does she need to get?</p> <p>Lee collected 489 rocks. Sue collected 100 fewer rocks than Lee. How many rocks did Su collect?</p> <p>The average song is 3 minutes long. How many songs can be played in 16 minutes?</p> <p>There are 32 students in a class. There are 13 girls in the class. What fractional part of the class is boys?</p>

Math Content	Examples of Questions from ISAT Sample
<p>geometry</p> <ul style="list-style-type: none"> <input type="checkbox"/> 2-dimensional properties <input type="checkbox"/> 2-dimensional shapes <input type="checkbox"/> 3-dimensional properties <input type="checkbox"/> 3-dimensional shapes <input type="checkbox"/> congruence <input type="checkbox"/> coordinate system <input type="checkbox"/> hexagon <input type="checkbox"/> lines of symmetry <input type="checkbox"/> parallel <input type="checkbox"/> polygon <input type="checkbox"/> rectangle <input type="checkbox"/> reflection/flips <input type="checkbox"/> rotations/turns <input type="checkbox"/> translation/slides <input type="checkbox"/> vertex 	<p>What is the volume of this shape?</p> <p>How many faces does a rectangular prism have in all?</p> <p>Which shape has only 1 line of symmetry?</p> <p>The hexagon is cut by the line m. what is the shape of each piece after it is cut?</p> <p>Exactly how many right angles and vertices does a rectangle have?</p>
<p>measurement</p> <ul style="list-style-type: none"> <input type="checkbox"/> angles <input type="checkbox"/> area <input type="checkbox"/> capacity/volume <input type="checkbox"/> Celsius, Fahrenheit <input type="checkbox"/> elapsed time <input type="checkbox"/> estimate <input type="checkbox"/> gallon <input type="checkbox"/> gram <input type="checkbox"/> height <input type="checkbox"/> inch <input type="checkbox"/> inch, foot, yard <input type="checkbox"/> kilogram <input type="checkbox"/> kilometer <input type="checkbox"/> length <input type="checkbox"/> mass/weight <input type="checkbox"/> money <input type="checkbox"/> non-standard unit <input type="checkbox"/> ounce, pound <input type="checkbox"/> perimeter <input type="checkbox"/> time <input type="checkbox"/> yard 	<p>Use your inch ruler to help you answer this question. How long is the line segment MN?</p> <p>Ben is 1 ½ years old. How many months are equal to 1 ½ years?</p>

Math Content	Examples of Questions from ISAT Sample
<p><i>data analysis and probability</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> chart <input type="checkbox"/> circle graph <input type="checkbox"/> graph <input type="checkbox"/> line graph <input type="checkbox"/> mean/average <input type="checkbox"/> median <input type="checkbox"/> mode <input type="checkbox"/> pattern <input type="checkbox"/> probability and counting principles <input type="checkbox"/> table <input type="checkbox"/> tally, tally chart <input type="checkbox"/> Venn diagram 	<p>Tim's mother put these cookies on a plate. Tim takes one cookie without looking. Which will he most likely get?</p> <p>Sally put these shapes in a box. She dropped the box. One shape fell out. What is the probability that a ball fell out?</p> <p>Tom saves the same amount of money each week. How much money will Tom save by week 4?</p> <p>This graph shows how many students ride bikes to school. Whose class has the most students who ride bikes to school?</p> <p>John's class voted on games they like to play. Which two games got the most votes?</p> <p>Which statement is true about the data in the table?</p>
<p><i>Algebra/algebraic thinking</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> comparison problems <input type="checkbox"/> equations <input type="checkbox"/> number sentences <input type="checkbox"/> pattern problems <input type="checkbox"/> represent mathematical situations using words, tables, graphs 	<p>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?</p> <p>Which is true if $b = 5$?</p> <p>What is the value of M?</p> <p>Raj earns 5 points for each correct answer. Raj gets p correct answers. Which gives the total number of points he earns?</p>

4th GRADE ESSENTIAL 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

<p>FORCE AND MOTION</p> <ul style="list-style-type: none"> <input type="checkbox"/> balance/equilibrium <input type="checkbox"/> friction <input type="checkbox"/> gravity <input type="checkbox"/> magnetism <input type="checkbox"/> simple machines: level, inclined plane, pulley, screw, and wheel and axle—how they function, how they apply forces with advantage, relate to tasks 	<p><i>Inquiring about</i> ENERGY/ELECTRICITY AND LIGHT</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> attraction</td> <td><input type="checkbox"/> electrical energy</td> </tr> <tr> <td><input type="checkbox"/> heat</td> <td><input type="checkbox"/> light</td> </tr> <tr> <td><input type="checkbox"/> magnet</td> <td><input type="checkbox"/> mechanical energy</td> </tr> <tr> <td><input type="checkbox"/> nonmetal</td> <td><input type="checkbox"/> prism</td> </tr> <tr> <td><input type="checkbox"/> repel</td> <td><input type="checkbox"/> static electrical charge</td> </tr> </tbody> </table>	<input type="checkbox"/> attraction	<input type="checkbox"/> electrical energy	<input type="checkbox"/> heat	<input type="checkbox"/> light	<input type="checkbox"/> magnet	<input type="checkbox"/> mechanical energy	<input type="checkbox"/> nonmetal	<input type="checkbox"/> prism	<input type="checkbox"/> repel	<input type="checkbox"/> static electrical charge										
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<p>MATTER</p> <ul style="list-style-type: none"> <input type="checkbox"/> contact <input type="checkbox"/> density <input type="checkbox"/> dissolve <input type="checkbox"/> expand <input type="checkbox"/> gas <input type="checkbox"/> liquid <input type="checkbox"/> particles <input type="checkbox"/> solid <input type="checkbox"/> temperature 	<p><i>Inquiring about</i> BASIC EARTH SCIENCE</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> Air</td> <td><input type="checkbox"/> climate</td> </tr> <tr> <td><input type="checkbox"/> coal, oil</td> <td><input type="checkbox"/> decompose</td> </tr> <tr> <td><input type="checkbox"/> earth's surface and landforms</td> <td><input type="checkbox"/> erosion</td> </tr> <tr> <td><input type="checkbox"/> fossil fuel</td> <td><input type="checkbox"/> igneous</td> </tr> <tr> <td><input type="checkbox"/> land</td> <td><input type="checkbox"/> land formations</td> </tr> <tr> <td><input type="checkbox"/> metamorphic</td> <td><input type="checkbox"/> minerals</td> </tr> <tr> <td><input type="checkbox"/> natural gas</td> <td><input type="checkbox"/> natural resource</td> </tr> <tr> <td><input type="checkbox"/> non-renewable resource</td> <td><input type="checkbox"/> renewable resource</td> </tr> <tr> <td><input type="checkbox"/> water</td> <td><input type="checkbox"/> sedimentary</td> </tr> <tr> <td><input type="checkbox"/> weather</td> <td><input type="checkbox"/> water cycle</td> </tr> </tbody> </table>	<input type="checkbox"/> Air	<input type="checkbox"/> climate	<input type="checkbox"/> coal, oil	<input type="checkbox"/> decompose	<input type="checkbox"/> earth's surface and landforms	<input type="checkbox"/> erosion	<input type="checkbox"/> fossil fuel	<input type="checkbox"/> igneous	<input type="checkbox"/> land	<input type="checkbox"/> land formations	<input type="checkbox"/> metamorphic	<input type="checkbox"/> minerals	<input type="checkbox"/> natural gas	<input type="checkbox"/> natural resource	<input type="checkbox"/> non-renewable resource	<input type="checkbox"/> renewable resource	<input type="checkbox"/> water	<input type="checkbox"/> sedimentary	<input type="checkbox"/> weather	<input type="checkbox"/> water cycle
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<p>INQUIRY</p> <ul style="list-style-type: none"> <input type="checkbox"/> Students observe, analyze, and read <input type="checkbox"/> Continue science topical word wall. <input type="checkbox"/> Students interpret data table or graph <input type="checkbox"/> Students make glossary <input type="checkbox"/> Students write summary <p><i>Inquiry, Data Analysis, forming a hypothesis; observation; Measurement, Evaluation, Content</i></p>	<p>ENVIRONMENT AND INTERACTION OF LIVING THINGS</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> decomposer</td> <td><input type="checkbox"/> ecosystem</td> </tr> <tr> <td><input type="checkbox"/> food chain</td> <td><input type="checkbox"/> food web</td> </tr> <tr> <td><input type="checkbox"/> life cycle</td> <td><input type="checkbox"/> photosynthesis</td> </tr> <tr> <td><input type="checkbox"/> plants, plant growth</td> <td><input type="checkbox"/> producer</td> </tr> <tr> <td><input type="checkbox"/> reproduction</td> <td></td> </tr> </tbody> </table>	<input type="checkbox"/> decomposer	<input type="checkbox"/> ecosystem	<input type="checkbox"/> food chain	<input type="checkbox"/> food web	<input type="checkbox"/> life cycle	<input type="checkbox"/> photosynthesis	<input type="checkbox"/> plants, plant growth	<input type="checkbox"/> producer	<input type="checkbox"/> reproduction											
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4th Grade Science Priorities and ISAT Questions

SCIENCE FOCUS	ISAT Sample Items
<p>SIMPLE MACHINES, FORCE AND MOTION.</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, measure (distances), analyze <input type="checkbox"/> read. <input type="checkbox"/> interpret data table or graph. <input type="checkbox"/> make glossary. <input type="checkbox"/> write summary. <input type="checkbox"/> Take then analyze sample ISAT items about topic. 	<ul style="list-style-type: none"> • • 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?
<p>MATTER</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, measure (weight), analyze <input type="checkbox"/> read <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary <input type="checkbox"/> Take then analyze sample ISAT items about topic. 	<ul style="list-style-type: none"> • 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?
<p>ENERGY/MAGNETISM ELECTRICITY AND LIGHT</p> <ul style="list-style-type: none"> <input type="checkbox"/> Students observe, analyze <input type="checkbox"/> read. <input type="checkbox"/> Students interpret data table or graph <input type="checkbox"/> Students make glossary <input type="checkbox"/> Students write summary <input type="checkbox"/> Take then analyze sample ISAT items about topic 	<ul style="list-style-type: none"> • 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 <i>most</i> light? • Which scientist invented the light bulb?
<p>BASIC EARTH SCIENCE</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze, read <input type="checkbox"/> interpret graph. <input type="checkbox"/> make glossary. <input type="checkbox"/> write summary.. 	<ul style="list-style-type: none"> • 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?

SCIENCE FOCUS	ISAT Sample Items
<p>BASIC ASTRONOMY</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze, <input type="checkbox"/> read <input type="checkbox"/> interpret graph. <input type="checkbox"/> make glossary. <input type="checkbox"/> write summary. 	<ul style="list-style-type: none"> • Since stars give off their own light, they are like the ... • Each year Earth moves once around ...
<p>ENVIRONMENT AND INTERACTION OF LIVING THINGS</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze, <input type="checkbox"/> read. <input type="checkbox"/> interpret graph. <input type="checkbox"/> make glossary. <input type="checkbox"/> write summary. 	<ul style="list-style-type: none"> • 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 <i>most</i> 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?
<p>ISAT SCIENCE PREP— <i>How to succeed on the test: Inquiry, Data Analysis, Measurement, Evaluation, Content</i></p> <p><i>Science Lab Safety and Technology</i></p> <p>SCIENCE RE-VIEW: <i>students do three-minute presentations on core science they have learned.</i></p>	<ul style="list-style-type: none"> • 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 <i>most</i> 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?