

7th Grade ISAT Topics and Sample Questions

| Science Topics | Questions from ISAT Sample |
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| <p>Biology and Genetics</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, measure (distances) <input type="checkbox"/> analyze <input type="checkbox"/> read <input type="checkbox"/> measure and report data <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary. | <p>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 ...</p> |
| <p>Astronomy</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, measure <input type="checkbox"/> analyze <input type="checkbox"/> read. <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary. | <p>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?</p> |
| <p>Matter</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze <input type="checkbox"/> read <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary | <p>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?</p> |
| <p>Earth's Structure and Processes and Astronomy</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze <input type="checkbox"/> read <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary | <p>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 ...</p> |

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| <p>Energy, Electricity, Light, Magnetism</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze <input type="checkbox"/> read. <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary | <p>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?</p> |
| <p>Environment and Botany</p> <ul style="list-style-type: none"> <input type="checkbox"/> observe, analyze <input type="checkbox"/> read. <input type="checkbox"/> interpret data table or graph <input type="checkbox"/> make glossary <input type="checkbox"/> write summary | <p>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?</p> |
| <p>ISAT SCIENCE STRATEGIES— <i>How to succeed on the test: Inquiry, Data Analysis, Measurement, Evaluation, Content</i></p> <p><i>Science and technology</i></p> | <p>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 <i>best</i> 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?</p> |