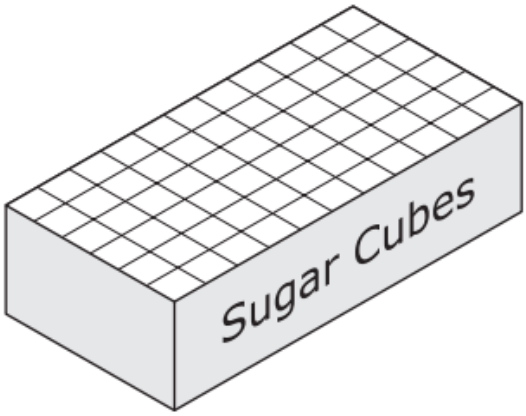
Objective	Students will create a table chart describing the oil production compared to the renewable resources, from 1900-1950.
TEKS	**§111.2. Kindergarten, Adopted 2012.** (b) Knowledge and skills. (1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (A) apply mathematics to problems arising in everyday life, society, and the workplace; (B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution; (8) Data analysis. The student applies mathematical process standards to collect and organize data to make it useful for interpreting information. The student is expected to: (A) collect, sort, and organize data into two or three categories; (B) use data to create real-object and picture graphs; and (C) draw conclusions from real-object and picture graphs. **§111.3. Grade 1, Adopted 2012.** (b) Knowledge and skills. (1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (E) create and use representations to organize, record, and communicate mathematical ideas; (F) analyze mathematical relationships to connect and communicate mathematical ideas; and (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication. (7) Geometry and measurement. The student applies mathematical process standards to select and use units to describe length and time. The student is expected to: (B) illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other; (C) measure the same object/distance with units of two different lengths and describe how and why the measurements differ; (E) tell time to the hour and half hour using analog and digital clocks. **§111.4. Grade 2, Adopted 2012.** (a) Introduction. (4) The primary focal areas in Grade 2 are making comparisons within the base-10 place value system, solving problems with addition and subtraction within 1,000, and building

	foundations for multiplication. (B) Students identify situations in which addition and subtraction are useful to solve problems. Students develop a variety of strategies to use efficient, accurate, and generalizable methods to add and subtract multi-digit whole numbers. (b) Knowledge and skills. (10) Data analysis. The student applies mathematical process standards to organize data to make it useful for interpreting information and solving problems. The student is expected to: (A) explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category; (B) organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more; **§111.5. Grade 3, Adopted 2012.** (b) Knowledge and skills. (1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems; (D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate; (E) create and use representations to organize, record, and communicate mathematical ideas; (4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to: (K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts. **§111.6. Grade 4, Adopted 2012.** (b) Knowledge and skills. (8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: (A) identify relative sizes of measurement units within the customary and metric systems; (B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table; and (C) solve problems that deal with measurements of length, intervals of time, liquid

	volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate. (9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: (A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and (B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot. **§111.7. Grade 5, Adopted 2012.** (3) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: (A) estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division; (B) multiply with fluency a three-digit number by a two-digit number using the standard algorithm; (C) solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm; (D) represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models; (4) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: (A) identify prime and composite numbers; (B) represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity;
STAAR	

A	**3** Emily has a box shaped like a rectangular prism that is full of sugar cubes. • Each sugar cube has a volume of 1 cubic centimeter. • The top layer has a width of 6 cm and a length of 11 cm. • There are 3 layers of sugar cubes.  How many sugar cubes are in the box? **A** 198 **B** 66 **C** 594 **D** 99

C

5 The relationship between numbers in List X and List Y follows the rule $y = x + 2.05$. Which diagram shows this relationship?

A

List X	List Y
29.1 →	31.6
34.1 →	36.6
39.1 →	41.6
44.1 →	46.6

C

List X	List Y
29.1 →	31.15
34.1 →	36.15
39.1 →	41.15
44.1 →	46.15

B

List X	List Y
31.15 →	33.15
33.2 →	35.2
35.25 →	37.25
37.3 →	39.3

D

List X	List Y
31.15 →	29.1
36.15 →	34.1
41.15 →	39.1
46.15 →	44.1

A

7 The stem and leaf plot shows the numbers of minutes the members of a team jumped rope during practice.

Practice Times

Stem	Leaf
1	9 9
2	0 1 3
3	3 4 6 7
4	1 1 3 5 9 9
5	0 4 2
6	3 5 6

3|6 means 36 minutes.

What is the difference between the least number of minutes jumped and the greatest number of minutes jumped?

A 47

B 9

C 5

D 49

G

10 The table shows the heights and masses of a male gorilla and a female gorilla at a zoo.

Gorillas

	Height (m)	Mass (kg)
Male	1.68	158.757
Female	1.448	95.25

Based on the table, which statement is true?

F The combined mass of the male gorilla and the female gorilla is 253.782 kg.

G The mass of the male gorilla is 63.507 kg greater than the mass of the female gorilla.

H The female gorilla is 1.28 m shorter than the male gorilla.

J The combined height of the male gorilla and the female gorilla is 2.028 m.

G

24 Which table represents the equation $y = 3x$?

F

x	y
3	1
6	2
15	5
18	6

H

x	y
1	1
3	3
5	5
7	7

G

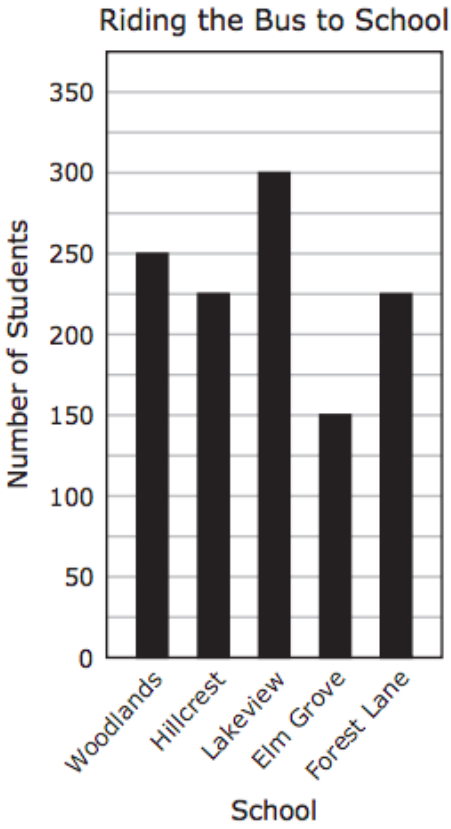
x	y
1	3
3	9
4	12
7	21

J

x	y
1	3
4	9
6	12
7	18

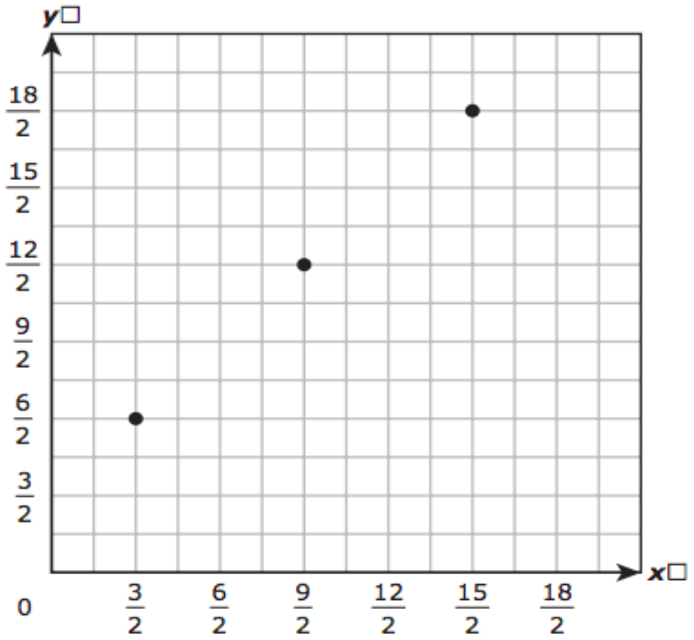
775

28 The graph shows the number of students at five schools who ride the bus to school.



Based on the graph, how many students ride the bus to the Woodlands, Hillcrest, and Lakeview schools?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

J	**34** Three points are plotted on the coordinate grid.  Which table represents the data plotted in the graph? **F** | x | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{18}{2}$ | | y | $\frac{3}{2}$ | $\frac{9}{2}$ | $\frac{15}{2}$ | **H** | x | $\frac{3}{2}$ | $\frac{6}{2}$ | $\frac{9}{2}$ | | y | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{18}{2}$ | **G** | x | $\frac{3}{2}$ | $\frac{9}{2}$ | $\frac{15}{2}$ | | y | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{15}{2}$ | **J** | x | $\frac{3}{2}$ | $\frac{9}{2}$ | $\frac{15}{2}$ | | y | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{18}{2}$ |
Struggling Learners	• The struggling learners only have to create a chart from 1900-1925. • The struggling learners only have to use the data from the oil production.
Advanced Learners	• The advanced learners will analyze and record the data from 1900-2000. • The advanced learners will compare the data from oil production, renewable resources, and oil spills.
Helpful Links	Oil and Gas

Mathematics Lesson Plan Elementary School

Engage	The students will be show what a table chart and how it can be used to understand data. The students will also be taught what is data and how to analyze it for a clearer understanding of numbers.
Explore	The students will learn what a table chart is and how it can be used. The will be given a practice table chart that is already created, they will simply fill it in, at their table tops. The students will work as an independent group for five minutes. The teacher will be in the power zone while they are working.
Explain	The students will create a table chart describing the oil production compared to the renewable resources, from 1900-1950. They will be given the information to complete the chart. There should be three to four students at a tabletop group.
Elaborate	The students will each have a different piece that will complete the chart. The students must collaborate as a team to complete the table. There are equations and math problems on each person's paper that the team must work out and find the correct answer before they will be able to move on to the next step.
Evaluate	Considering that each student has different problem to work on and provide the team with the correct answer, the true test would be to see what the table looks like. If the table chart does not look like the example chart, one of the team members did not do the correct math.