

Parallel Questions - Different Grades

28

Example Forty-Three

42. A magazine cost \$3.75. Lenny gave the clerk \$20 for the magazine. How much change should Lenny have received from the clerk?

Bennett 5th grade Pg 304
6th grade Pg 306

- A. \$17.75
- B. \$17.35
- C. \$17.25
- D. \$16.25
- E. Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

SM 08J.7 97-98

Example Forty-Five

43. Byron bought some groceries. The total was \$17.44, including tax. If he paid with a \$20 bill, how much change did he receive?

- F. \$2.44
- G. \$2.56
- H. \$3.44
- J. \$3.56
- K. Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

SM 08J.7 96-97

Example 69

51. Ms Foster put \$10.32 worth of gasoline into her car. If she gives the gas station attendant a \$20 bill, how much change should she receive?

- A \$10.72
- B \$10.68
- C \$9.68
- D \$9.32
- E Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

6th 085.7 98-99

Example 71

46 Mrs. Vargas pumped \$5.67 worth of gasoline into her car. If she gives the gas station attendant a \$10 bill, how much change should she get?

- A \$5.67
- B \$5.43
- C \$5.33
- D \$4.67
- E Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

6th 085.7 95-96

29

29

20

30

Example 146

46. At a restaurant Steve ordered food totaling \$6.85. If he paid with a \$20 bill, how much change should he receive?

A \$13.15

B \$13.25

C \$14.15

D \$14.85

E Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?
10th
O&T.7
97-98

Example Twelve

14. The performing arts center sold 970 concert tickets on Wednesday, 1,749 tickets on Thursday, 1,173 tickets on Friday and 1,781 tickets on Saturday. Which shows the number of tickets sold in order from greatest to least?

- F. 1,781 1,173 970 1,749
- G. 1,749 1,173 1,781 970
- H. 970 1,173 1,749 1,781
- J. 1,781 1,749 1,173 970

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

4th OBT. 1 98-99

Bennett 3rd Pg 293

31

31

Example 59

8. Carla measured the volume of 4 different containers. Which is the correct order of these volumes in ounces from least to greatest?

- A. 0.836 oz 7.1 oz 6.09 oz 5.24 oz
- B. 7.1 oz 6.09 oz 5.24 oz 0.836 oz
- C. 0.836 oz 5.24 oz 6.09 oz 7.1 oz
- D. 6.09 oz 5.24 oz 7.1 oz 0.836 oz

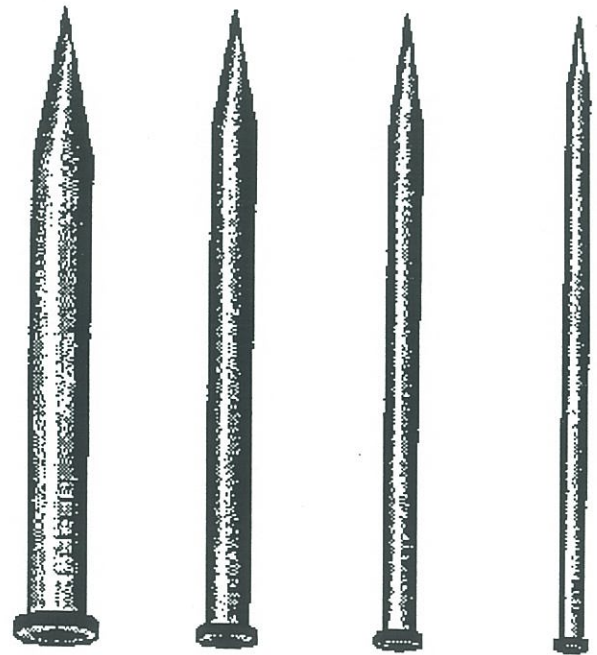
This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

6th OBT. 1 96-97

Bennett, 4th Page 300

Example 84

6. Nails are sold in several sizes. At a hardware store the nails are arranged by width. Which shows the widths in correct order from least to greatest?



A	0.127in	0.115in	0.102in	0.083in
B	0.083in	0.127in	0.115in	0.102in
C	0.102in	0.083in	0.115in	0.127in
D	0.083in	0.102in	0.115in	0.127in

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared? *1/4* **0.85** *96-97*

Bennett - 4th - Pg 300

32

32

Example 102

10. A popular videotape was advertised at 4 different stores for \$17.80, \$17.95, \$17.87 and \$17.69. Which of the following shows the prices from least to greatest?

- A \$17.69 \$17.87 \$17.95 \$17.80
- B \$17.80 \$17.95 \$17.87 \$17.69
- C \$17.69 \$17.80 \$17.87 \$17.95
- D \$17.95 \$17.87 \$17.80 \$17.69

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

8th 0801 97-98

33

33

Example 119

15. Which shows the lengths in order from shortest to longest?

- A 1.025 m 1.241 m 0.368 m 0.837 m
- B 0.368 m 1.241 m 0.837 m 1.025 m
- C 1.025 m 0.368 m 1.241 m 0.837 m
- D 0.368 m 0.837 m 1.025 m 1.241 m

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

10th 0801 98-99

7

Example 104

34

34

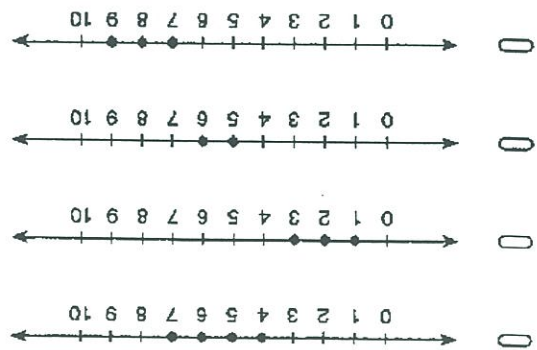
9. What is 28.47 rounded to the nearest tenth?
F 28 Bennett - ~~4/5~~ grade 1, p. 300

- J 30
- H 28.5
- G 28.4
- F 28

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?
815 08T1 95-96

Example Two

15. Which number line shows the graph of all whole numbers that are greater than 4 and less than 7? Mark your answer.



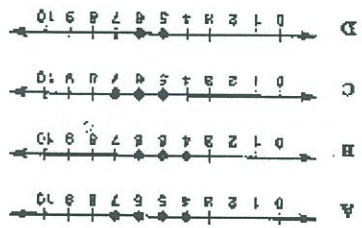
This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

3rd

OBT. 2 96-97

Example Thirteen

16. Which number line shows the graph of all whole numbers that are greater than 4 and less than 7?



This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

4th

OBT. 2 97-98

Grade 4
97-98

975

35

35

36 SAME Situation

Example 57

2. How is the product $3 \times 3 \times 4 \times 4 \times 4$ expressed in exponential notation?

A. 12^5

B. $3^2 \times 4^3$

C. $3^3 \times 4^4$

D. $2^3 \times 3^4$

~~A~~

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

6th OBT. 1 97-98

Example 79

9. How is the product $3 \times 3 \times 4 \times 4 \times 4$ expressed in exponential notation?

F. $3^2 \times 4^3$

G. $2^3 \times 3^4$

H. $3 \times 2 \times 4 \times 3$

I. $3^5 \times 4^5$

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

7th OBT. 1 98-99

36

37

37

Example 103

13. According to an almanac, the population of Los Angeles, California is 3,485,398. What is the population of Los Angeles rounded to the nearest thousand?

F 3,485,000

G 3,486,000

H 3,490,000

J 3,500,000

Bennett - 4th - Pg 301

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

8th

O&T 1 97-98

Example 122

4. The total attendance recorded at the 1984 Summer Olympic Games in Los Angeles, California was 5,797,923. What is this number rounded to the nearest thousand?

A. 5,797,000

B. 5,797,900

C. 5,798,000

D. 5,800,000

Bennett 4th Page 301

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

10th

O&T 1

95-96

Example 62

1. Sharra found 4 pine cones. Her friend Evie gave her some more and then she had 12. To find out how many pine cones she was given, Sharra wrote:

$p + 4 = 12$

What is the value of p?

F. 3

G. 8

H. 16

J. 48

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

6th

OK! 2

95-96

Example 104

9. What is 28.47 rounded to the nearest tenth?

F. 28

G. 28.4

H. 28.5

J. 30

Bennett - ~~4th~~ grade, Pg. 300

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

8th

OK! 1

95-96

38

38

Example Forty-One

43. Amanda bought 4 books for \$2.95, \$11.49, \$17.50 and \$24.85, not including tax. How much did the 4 books cost, not including tax?

- A. \$44.69
- B. \$54.69
- C. \$56.79
- D. \$60.79
- E. Not Here

5LE CRT. 98-99

2
085.6

Example 111

45. Including tax, Sandy paid \$24.95 for a sweater, \$22.49 for shoes and \$6.89 for earrings. How much did she spend altogether?

- A. \$42.13
- B. \$44.33
- C. \$52.13
- D. \$54.33
- E. Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared? 8th CRT. 98-99

59

40

40

Example 93

50. A trip for a school band will cost \$425. The band students have raised \$98.46. Exactly how much do they still need to raise?

- A. \$523.46
- B. \$327.46
- C. \$326.54
- D. \$102.71
- E. Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

10th OBT, 7 97-98

Example 151

60. Ashley had \$127.34 in her savings account. After withdrawing \$48.65, how much remained?

- A. \$78.69
- B. \$78.71
- C. \$81.31
- D. \$175.99
- E. Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

10th OBT, 7 94-95

Example Nineteen

45. On Friday 4,058 fans attended a game. At the Saturday game there were 937 more fans than on Friday. How many fans attended the Saturday game?

- F. 3,121
- G. 4,981
- H. 4,995
- J. 5,095

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

4th 085.6 99-98

Example Forty

41. As part of a fund-raiser, Daniel sold 85 candy bars, Sue sold 135 candy bars and Jamilla sold 98 candy bars. How many candy bars were sold?

~~308~~ ~~135~~ ~~98~~ ~~85~~

- A. 308
- B. 220
- C. 135
- D. 108
- E. Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

5th 085.6 98-99

41

41

Example 112

49. While planning for their wedding, Mary invited 198 people and Raul invited 209 other people. How many people in all did Mary and Raul invite to their wedding?

A 407

B 397

C 307

D 298

E Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

8th

OBJ. 6 98-99

Bennett 3rd grade - Page 294 ?

HA

HA

Example 114

46. Helen flew 3894 miles to visit her cousin's house, she then flew 2278 miles to her grandparents' house. How many miles did Helen fly?

F 6172 mi

G 6182 mi

H 6272 mi

J 6622 mi

K Not Here

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

8th

OBJ. 6 98-99

Bennett 3rd grade Page 294 ?

Parallel Questions - Different Grades

43

Example 86

4. There were 18 students present in Monica's class on Monday, 23 on Tuesday, 21 on Wednesday and 18 on Thursday. What was the mean (average) number of students present for these 4 days?

A. 22
Bennett - 5th grade - Pg 304
6th grade - Pg 307

- A. 22
- B. 21
- C. 20
- D. 18

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

7th 08T 5 97-98

Example 87

11. Gloria bowled 4 games. Her scores were 93, 105, 84 and 110. What was the mean (average) of Gloria's 4 scores?

F. 97
Bennett
5th 6th 304
307

- F. 97
- G. 98
- H. 99
- J. 392

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

7th 08T 5 97-98

43

Example 109

6. Carla's midterm grades were 93 in English, 88 in mathematics, 81 in social studies and 82 in science. What was her mean (average) grade in the 4 subjects?

- A 84
- B 85
- C 86
- D 87

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

8th OBT 5 97-98

Bennett 5th Grade 304
6th Grade 307

114

114

Example 134

6 Ms Bateman recorded her weekly grocery bill for 4 weeks. The amounts were \$90, \$85, \$115 and \$90. What was the mean average of the grocery bills?

- F \$85
- G \$90
- H \$95
- J \$100

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

10th OBT 5 98-99

Bennett 5th Grade 304
6th Grade 307

Example Three

45

46

17. A park in the shape of a rectangle is 50 yards wide and 100 yards long. What is the perimeter of the park? Mark your answer.



- 100 yd
- 150 yd
- 200 yd
- 300 yd

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

3rd 4 98-99

Example Seven

46

8. A fence 9 feet high is to be built around a rectangular field. How many feet of fencing will be needed?

47



Mark your answer.

6,480 ft

348 ft

183 ft

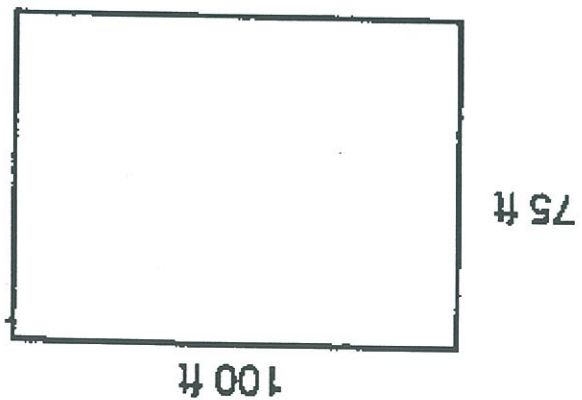
174 ft

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?
308 08511 94-85

Example Thirty-Seven

47

10. Paul walked around the perimeter of a garden. The garden measures 75 feet by 100 feet. How far did Paul walk?



200

- A. 175 ft
- B. 250 ft
- C. 350 ft
- D. 750 ft

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

5th

084

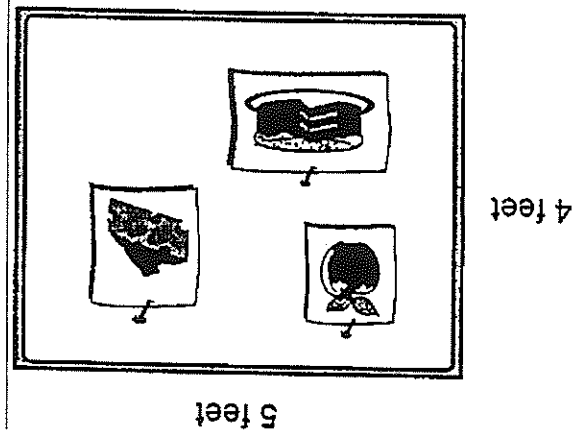
96-97

48

48

Example Four

8. How much ribbon is needed to go all the way around the bulletin board shown below? Mark your answer.



- 9 ft
- 14 ft
- 18 ft
- 20 ft

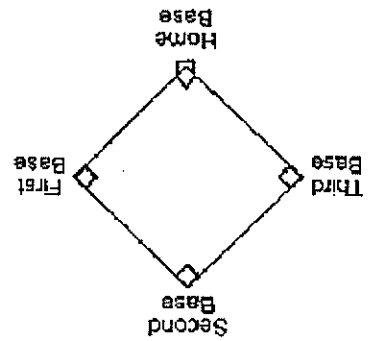
This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

3rd
0874
91-98



Example Fourteen

16. The softball diamond measures 60 feet between each base. If Laquita starts at home base and runs all the way around the bases in order, how many feet will she have to go to get back to home base?



- F. 60 ft
- G. 120 ft
- H. 240 ft
- J. 360 ft

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

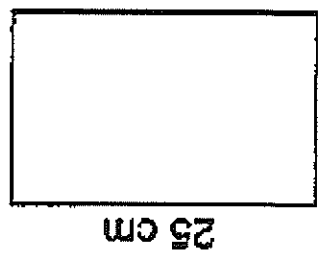
4th
0854
98-99

49



This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared? *6th*

- A. 410 centimeters
- B. 400 centimeters
- C. 82 centimeters
- D. 41 centimeters



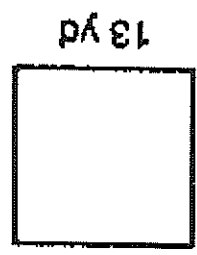
$$\begin{array}{r} 50 \\ \hline 32 \end{array}$$

6. What is the perimeter of this rectangle?

Example 64

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared? *5th*

- A. 26 yd
- B. 39 yd
- C. 52 yd
- D. 169 yd



$$\begin{array}{r} 13x \\ 4 \\ \hline 52 \end{array}$$

5. What is the perimeter of this square?

Example Thirty-Six

50



Example 130

51

13. Devon's house is on a rectangular block that is 330 yards long and 1120 yards wide. What is the distance around this block?

- J. ~~330~~ yards
- H. 900 yards
- G. 570 yards
- F. 450 yards

3900 yds (my type)

This is an actual question from a TAAS Test. Can you identify on which grade level it appeared?

10th

ORIT 4 96-97

$$\begin{array}{r}
 330 \\
 \times 12 \\
 \hline
 660 \\
 2240 \\
 \hline
 2900
 \end{array}$$

$$\begin{array}{r}
 330 \\
 \times 2 \\
 \hline
 660 \\
 2240 \\
 \hline
 2900
 \end{array}$$

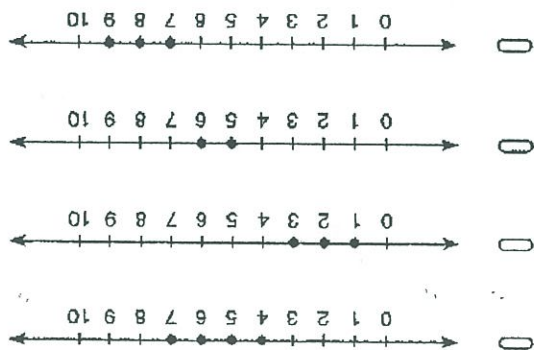


EM

52

Example Two

15. Which number line shows the graph of all whole numbers that are greater than 4 and less than 7? Mark your answer.

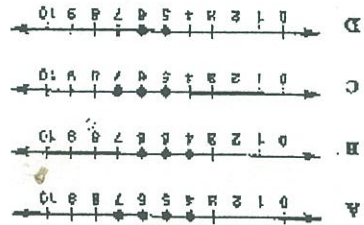


This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared? *3rd*

OBT. 2 96-97

Example Thirteen

16. Which number line shows the graph of all whole numbers that are greater than 4 and less than 7?



This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared? *4th*

OBT. 2 97-98

Barnett m book
1300
0883
9/13/96
Why?
R. M. M. M.

53

Example 103

13. According to an almanac, the population of Los Angeles, California is 3,485,398. What is the population of Los Angeles rounded to the nearest thousand?

- F. 3,485,000
- G. 3,486,000
- H. 3,490,000
- J. 3,500,000

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

8th

O&T 1 97-98

Example 122

4. The total attendance recorded at the 1984 Summer Olympic Games in Los Angeles, California was 5,797,923. What is this number rounded to the nearest thousand?

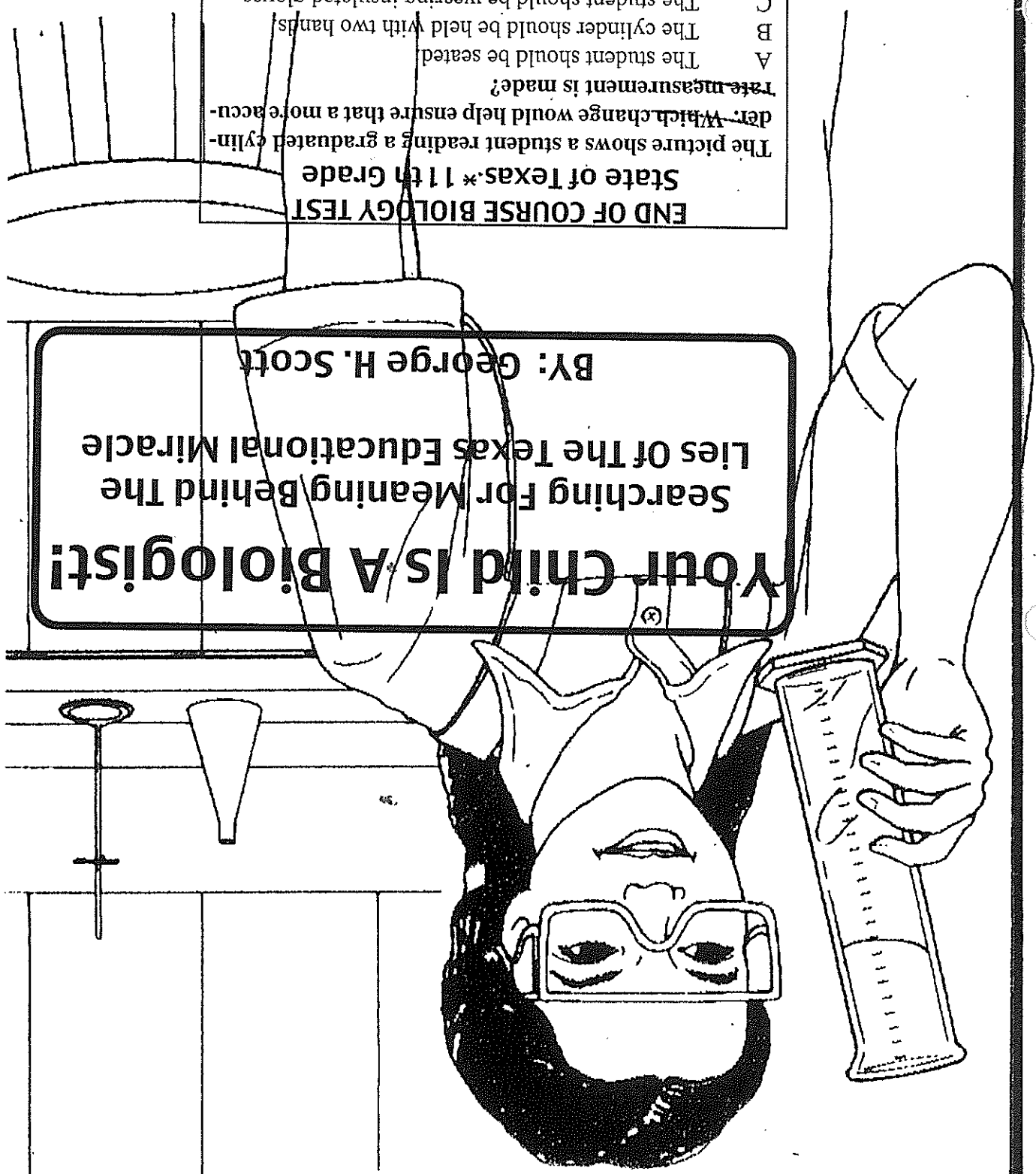
- A. 5,797,000
- B. 5,797,900
- C. 5,798,000
- D. 5,800,000

Bennett Mrs Page 301

This is an actual question from a TAAS Test. Can you identify on which grade level test it appeared?

10th O&T 1 95-96

Congratulations Texas!



Your Child Is A Biologist!
Searching For Meaning Behind The
Lies Of The Texas Educational Miracle
BY: George H. Scott

END OF COURSE BIOLOGY TEST
State of Texas * 11th Grade
The picture shows a student reading a graduated cylinder. Which change would help ensure that a more accurate measurement is made?
A The student should be seated.
B The cylinder should be held with two hands.
C The student should be wearing insulated gloves.
D The cylinder should be on a flat surface.

A	100	0
B	85	15
C	70	30
	55	45
	40	60
	25	?

55

What number should go in place of the “?” in Column C?

This is a simple question that many could solve on sight in less than 2-3 seconds. Some might quickly observe that columns B and C add up to 100, or that each successive number in Column B declines by 15 while Column C numbers increase by 15 progressively.

Now take a look at question 42 on the EOC Biology test administered in spring, 2001.

Sunflower Blossoms in a Meadow

Day	Time	Closed Buds (%)	Open Blossoms (%)
1	6:00 A.M.	100	0
	12:00 NOON	85	15
	6:00 P.M.	70	30
2	6:00 A.M.	55	45
	12:00 NOON	40	60
	6:00 P.M.	25	??

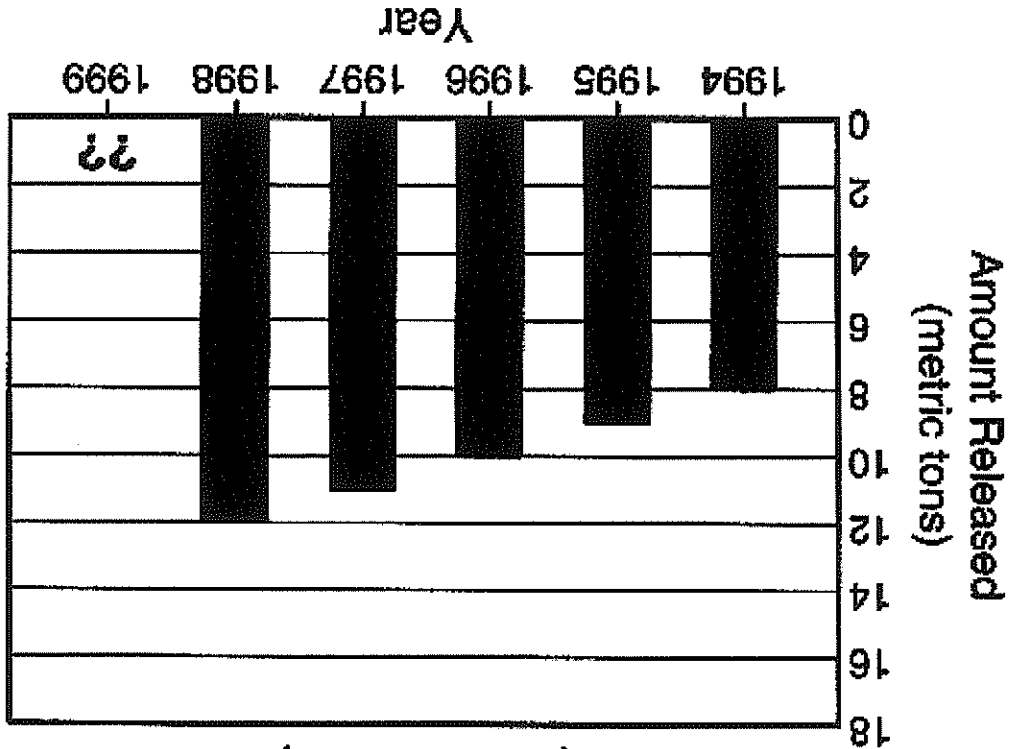
For purposes of this analysis, the actual question doesn't really matter. This is part of the secret of why Texas shows such outstanding EOC Biology results. It's not the most egregious example. You'll see others. However, the teacher who rated the 84 questions concluded that a student would not need to have an ounce of understanding of biological principles to answer this question.

She concluded that this was a low-level math problem with a title and phraseology that allowed the State of Texas to pretend the problem tested biology.

The numbers of examples of these types of problems that ask students to determine the next number in a sequence are spread throughout the entire EOC Biology testing program. These are the types of questions one has seen on TAAS junior high math tests given the terms of biology as headers or categories thus transformed to science questions. Here's another example from the 2000 administration of EOC Biology.

56

Shrimp Farm Stocking Program (1994-1998)



It is not irrelevant that you don't even need to know the actual question to the above "biology problem" to know that the correct answer is "13."

I could spend this column and the next on this category of questioning alone. I am not pulling just two questions out of context.

The numbers of examples of these types of problems spread throughout the EOC Biology testing program are significant.

The next question I am going to show you is a variation of this type of question, but it is much fancier and prettier. If I gave you the following factual information in the next "sample" question, would it imply that you had an ounce of knowledge about the "Early Development of a Vertebrate Embryo"?

What do you need to know about a zygote, fertilized eggs or cleavage? The answer is 16. You don't need to know anything about science or biology to know the answer. You don't even need to know the biology question.

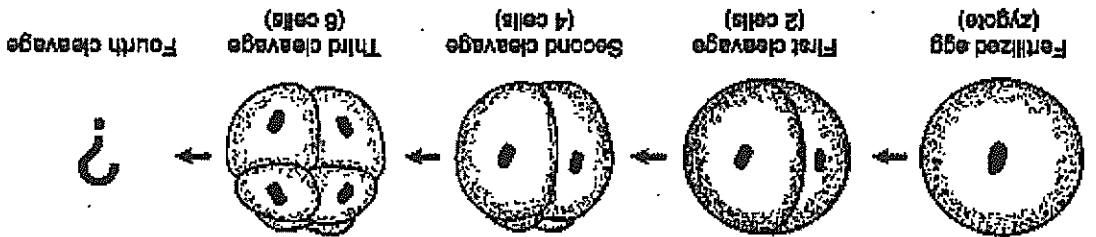
SAMPLE QUESTION

Original	1
Next Next	2
Next Next	4
Next Next	8
Next	?

What number should go in place of the "??"

Here's the actual "biology" problem as it appeared in the most recent (2002) EOC Biology exam.

Early Development of a Vertebrate Embryo



57

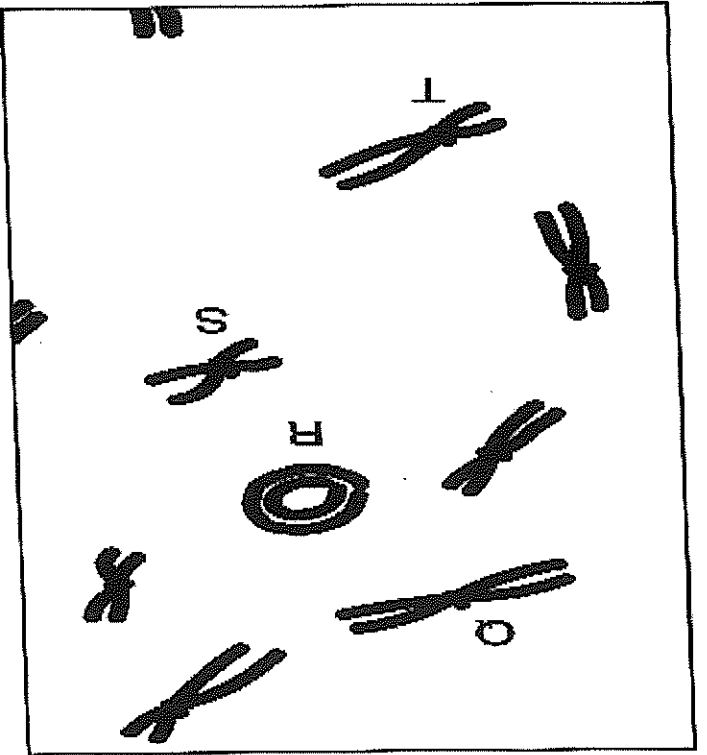
Just for your intellectual amusement, the question was this: "how many cells will be present in the fourth cleavage?"

Does the fact that 94% of Texas students got this question correct translate to the "grade level" biology skills much less mastery of biology?

As you look at the next graphic, see if you can figure out the answer without knowing the subject or the question.

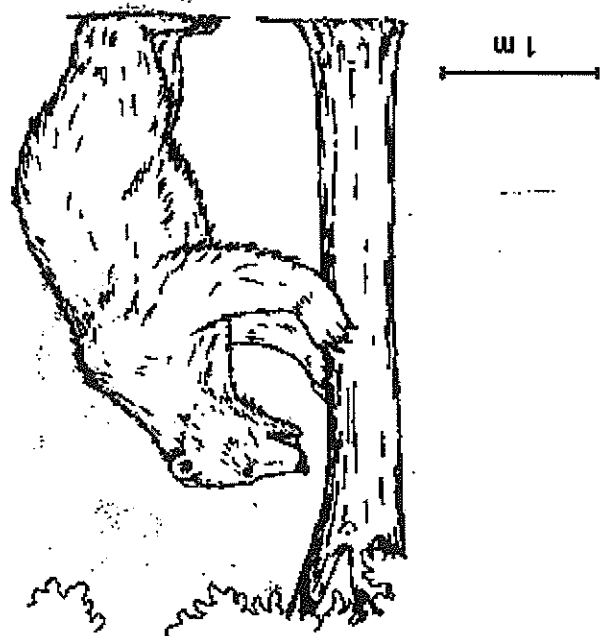
See if it doesn't kind of take you back to your days of watching *Sesame Street* and enjoying the song (by yourself or with your kids) that went something like, "which of these things are not like the other..."

For the record, the actual question was as follows: "Which of these chromosomes was most likely exposed to toxic chemicals or radiation?"



Of course, you can't just test students on their knowledge of DNA, genes and chromosomes and the like. You've got to get students into "real world" situations. Sometimes, you need to get the students into the great outdoors where "real world" biology exists. For instance, the following problem tests an intriguing biological

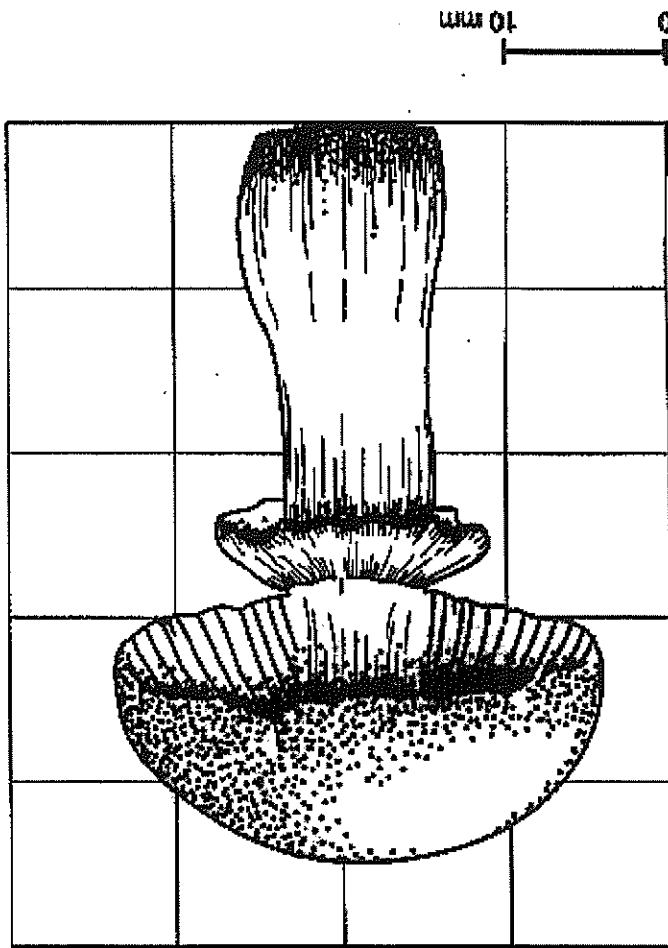
concept with a question often asked by Davy Crockett and Daniel Boone: How tall is that bear?



58

Of course, in the wild world of Texas biology, students need to know this because that is a damned big bear and it could hurt you. And, it's also important to know other important outdoor facts such as "how tall is that mushroom?" Much is demanded of a Texas biologist because size is important in this state. For instance, it is much more important to know how a tall a mushroom is as opposed to whether it is poisonous. 89% of Texas' student biologists got this one right. As those psychometricians are 'want' to remind the TEA, "them there high pvalues sure do help sustain the miracle don't they?"

59



Techniques in the laboratory are also very important as referenced in this following graphic and question which forces students to ponder what the researcher might need to do to ensure a more "accurate" measurement. "The cylinder should be on a flat surface" was the right answer here. Sometimes the TEA just can't settle for 89% p-values. 98% of Texas students got this question right. The test contractors may have gotten a bonus on this one.

60



One of the more sophisticated concepts tested in EOC Biology has to do with "Reactions of Planaria to Different Stimuli in a T Maze." As I recall from my biology days, planaria are really unusual flatworms that regenerate. My daughter's biology class did some really neat "stuff" in the lab this year. She told me things about planaria you just might not believe.

However, I want to switch to dogs for just a minute with the sample question below. Looks like the answer to me is "B." "B" must be a really bad man because I can tell dogs don't like "B" worth a damn.

SAMPLE QUESTION

How 25 Dogs React To 4 Different Owners

OWNERS	TOWARD	AWAY	STAY
A	18	4	3
B	2	23	0
C	8	8	9
D	25	0	0

Which owner do these dogs run away from the most: A, B, C, or D?

Well, let's get back to planaria with this very sophisticated question. This data supports the hypothesis that a planarian moves away from – plants, light, rocks or food?

Reactions of Planaria to Different Stimuli in a T Maze

Stimulus	Average Number of Times a Planarian Moved	
	Toward	Away
Plant	18	4
Light	2	23
Rock	8	8
Food	25	0

61

We'll have to keep this biology fun going at least one more column. Then, we'll produce the statewide College Board AP test results. As promised, I'll "pick on" my own school district to give you an example how TAAS and EOC testing has corrupted if not prostituted academic goal setting in even one of the very "best" school districts in Texas.

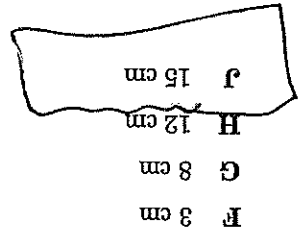
Let me end this particular column with this note. The problems I have selected for your review aren't the worst I could find. There are more. The teacher who reviewed the 84 questions concluded the some 35% were more appropriate for junior high students and that 74% of the 84 questions were either not really biology questions or were of low-level difficulty.

I have never once asserted that the AP testing program should be the "be all and end all" standard of evaluating the quality of high school math and science instruction and results. However, you better find some national or independent standard you can trust. Because if you don't, states, like Texas, that are motivated to lie to you about your children to further the needs of its politicians and vested sycophants, will, in fact, lie.

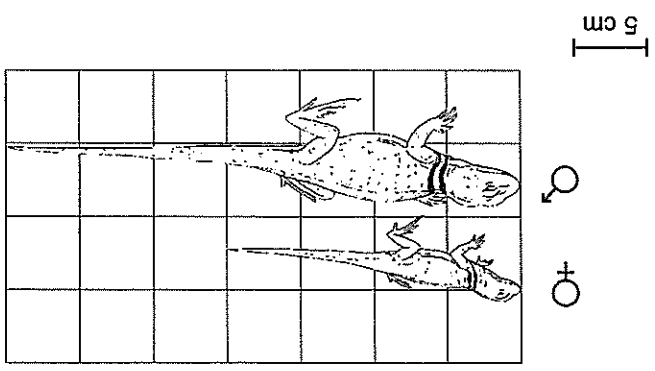
Previous Columns

George Scott

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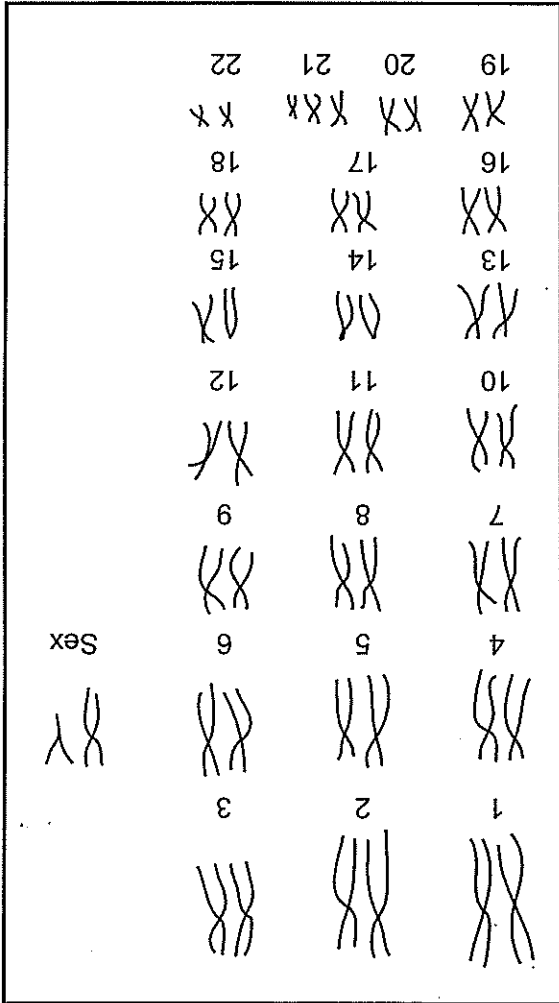
10 Male collared lizards are larger than females. According to the pictures above, the difference in length between the male and the female collared lizard when measured from the tip of the nose to the tip of the tail is approximately —



Collared Lizard
(*Crotaphytus collaris*)

62

- 37 This human karyotype is unusual because — chromosome set —
- A 5 has chromosomes of different shapes
 - B 10 is missing genetic material
 - C 14 has enlarged centromeres
 - D 21 has extra genetic material



- 36 The chart shows the storage compatibility of a few chemicals. According to this chart, which pair of chemicals can be safely stored together?

Group A	Amines	Ammonia	Caustics	Ketones
	Group B			
Vinyl acetate	X	X		
Nitric acid	X	X	X	X
Sulfuric acid	X	X	X	X
Organic acid	X	X	X	X

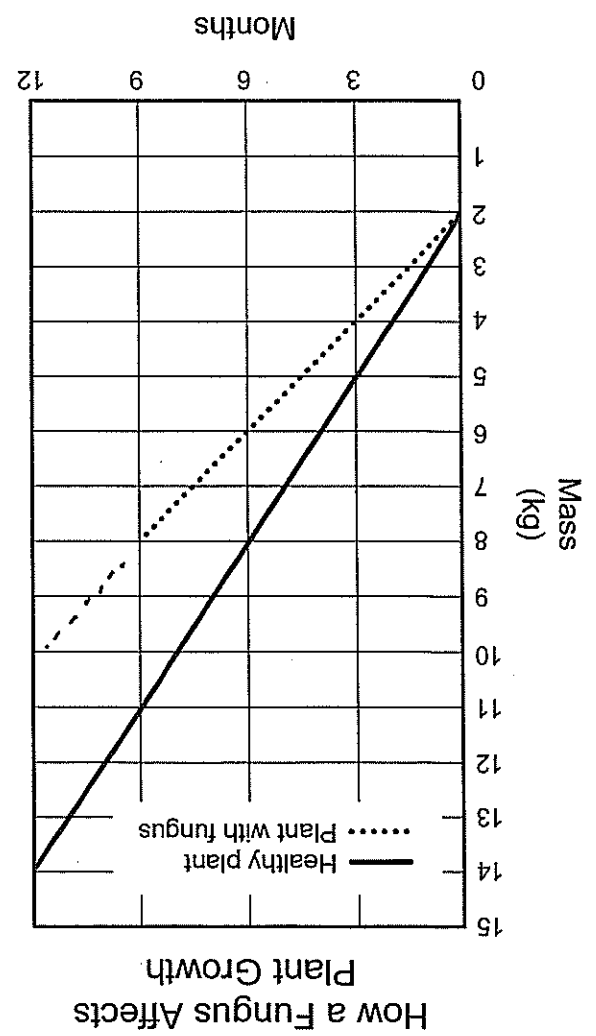
"X" indicates groups are incompatible and should NOT be stored together.

- J Organic acid and ketones
- H Sulfuric acid and ammonia
- G Nitric acid and caustics
- F Vinyl acetate and amines

63

40 The graph shows the growth curves of a healthy plant and a plant infected with a fungus. If this trend continues, what will be the mass of the plant infected with the fungus at 12 months?

F 10 kg
G 11 kg
H 12 kg
J 13 kg

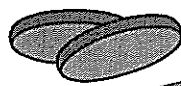


41 According to this label, people should NOT take this pain reliever if they —

A suffer from cold-related headaches
B are allergic to aspirin
C have high blood pressure
D experience mild heartburn

Advanced Pain Relief Formula

No Pain Tablets



Each tablet contains: Ibuprofen.....200 mg • 20 tablets per container

Temporary Relief: This product helps relieve pain associated with headache, common colds, toothache, and arthritis.

Directions: ADULTS: 1 to 2 tablets every 6 hours. DO NOT GIVE this product to children. Take with milk or food if mild heartburn occurs with use.

WARNING: DO NOT take this product if you have had a severe reaction to aspirin. Cross-reactions may occur in patients allergic to aspirin.

64



BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS
ON THE ANSWER DOCUMENT.

F 424 g
G 422 g
H 420 g
J 418 g

42 The chart shows the average change in mass of some frogs during a period of estivation. If this trend continues, what will be the average mass of the frogs by the twelfth week of estivation?

Week	0	3	6	9	12
Average Mass After Estivation (g)	450	442	434	426	???

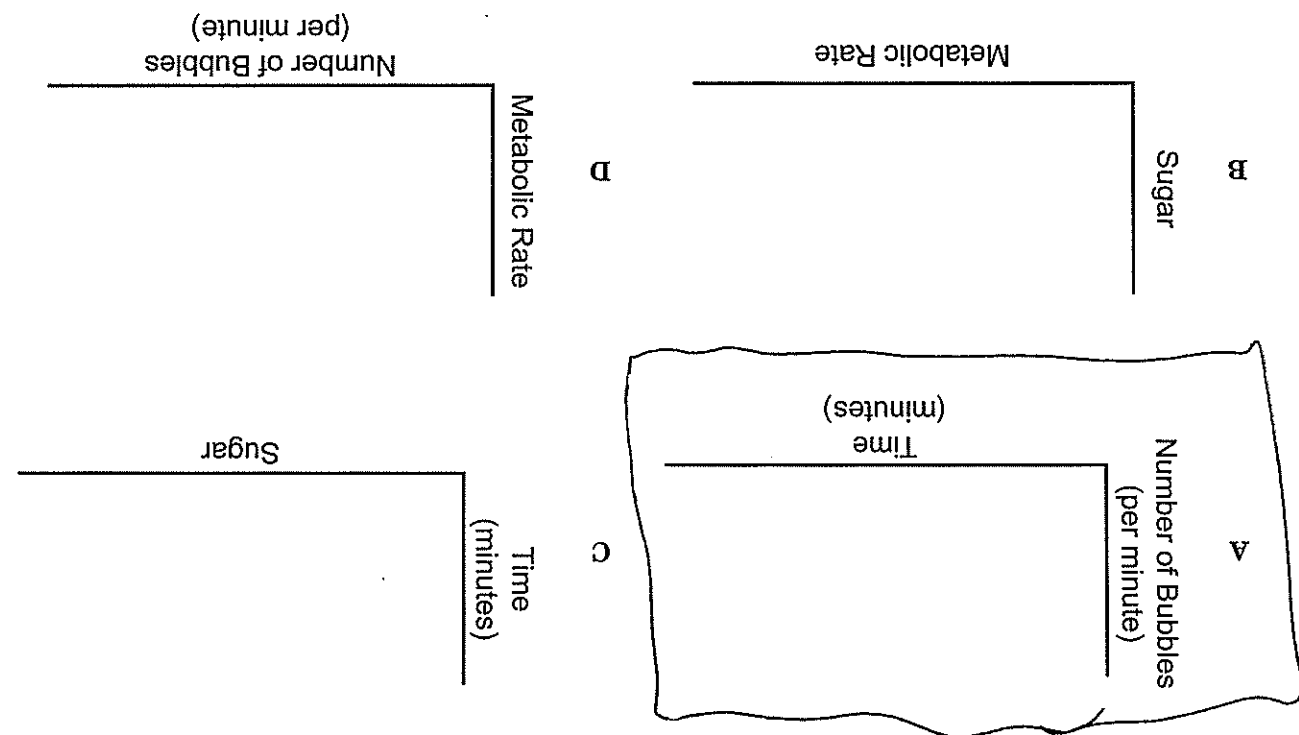
Change in Mass of Estivating Frogs

65



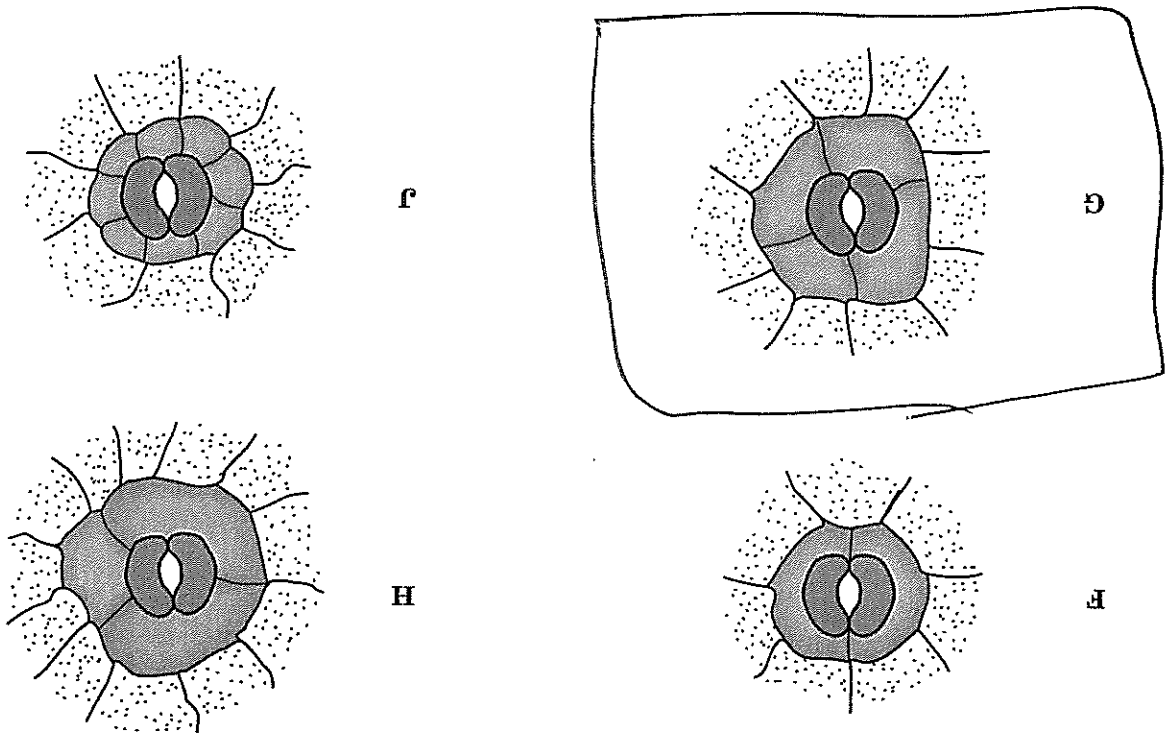
Time (minutes)	Estimated Metabolic Rate (number of bubbles produced per minute)		
	Sucrose	Maltose	Fructose
1	0	0	0
2	5	3	8
3	8	8	8
4	10	11	11
5	14	12	16

Yeast Metabolism of Sugar

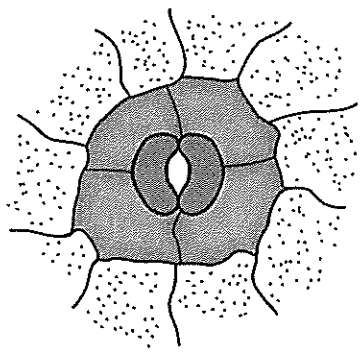


21 Which of these axes would be best to use to analyze these data?

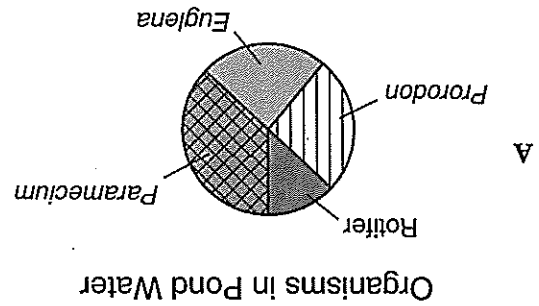
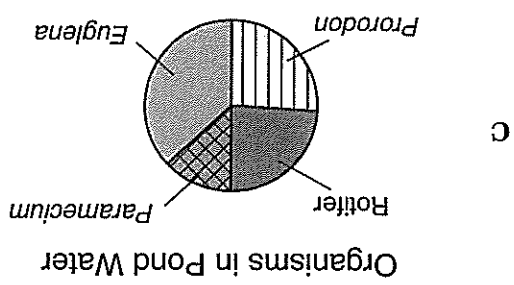
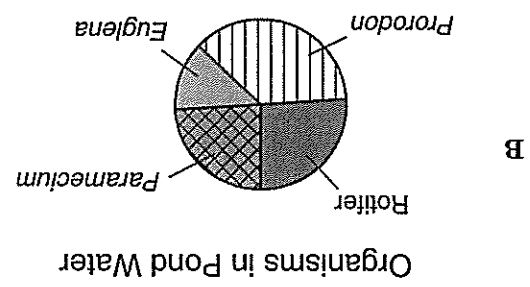
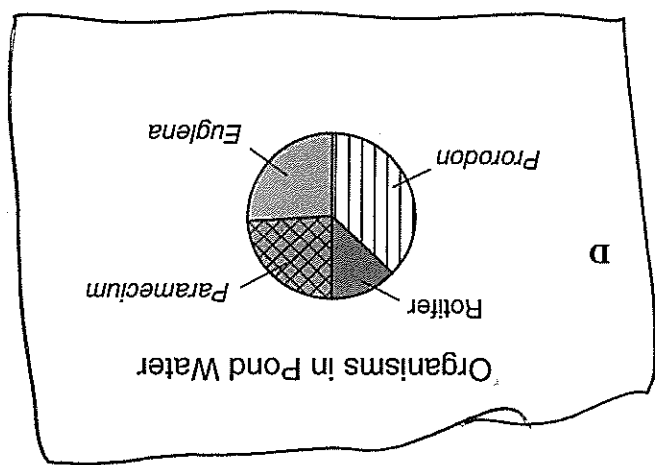
66



4 There are many different ways that plant epidermal cells can be arranged around the stomata on plant leaves. Which of these has a development pattern most similar to the pattern pictured above?



69



1 The chart shows the types of organisms found in 100 mL of pond water. Which graph is the best representation of these data?

Microorganism	Individuals per 100 mL
Paramecium	24
Euglena	26
Prorodon	37
Rotifer	13

100

68

Organisms in Pond Water