

2004 CSAP Released Items

Grade 8 Science

1 Complete the table below to show how different rocks are formed.

Example of Rock	Type of Rock	Description of how rock formed
sandstone	sedimentary	
gneiss		heat and pressure changed an existing rock
granite		

CSAP Grade 8 Science Scoring Guide

Item 1:

Rubric

Key Elements:

Example of Rock	Type of Rock	Description of how rock formed
sandstone	sedimentary	<i>sand/sediments/deposits were compacted/cemented together</i>
gneiss	metamorphic	heat and pressure changed an existing rock
granite	igneous	<i>magma/melted rock cooled and hardened/solidified/crystallized</i>

Score Points

- 2 points 3 or 4 cells correctly filled
- 1 point 2 cells correctly filled
- 0 points other

Standard 4: Earth and Space Science
Benchmark 4.1.1: Explaining how minerals, rocks, and soils form.
Subcontent Area: earth science



Complete the table below to show how different rocks are formed.

Example of Rock	Type of Rock	Description of how rock formed
sandstone	sedimentary	sediments are moved together and cemented together
gneiss	metamorphic	heat and pressure changed an existing rock
granite	igneous	volcanic lava is melted and hardened into rocks.

2 Point Anchor

8S-2201

DM
4/12/04



Complete the table below to show how different rocks are formed.

Example of Rock	Type of Rock	Description of how rock formed
sandstone	sedimentary	heat and pressure on sand or dirt to form a rock
gneiss	metamorphic	heat and pressure changed an existing rock
granite	igneous	volcanic stuff pressed into rocks

1 Point Anchor

8S-2202

DM
4/12/04



Complete the table below to show how different rocks are formed.

Example of Rock	Type of Rock	Description of how rock formed
sandstone	sedimentary	sediments are cemented and compacted together.
gneiss	igneous	heat and pressure changed an existing rock
granite	metamorphic	weathering and erosion

0 Point Anchor

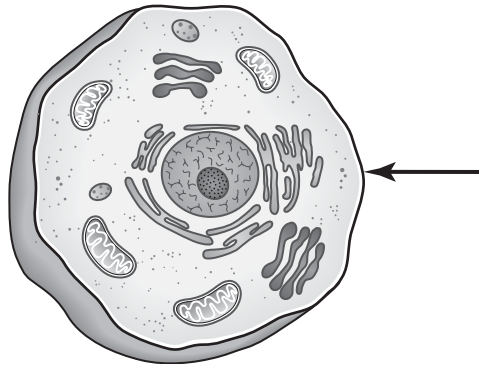
8S-2203

DM
4/12/04

2004 CSAP Released Items

Grade 8 Science

2 An animal cell is shown below.



Which cell part is indicated by the arrow?

What is **one** function of this cell part?

CSAP Grade 8 Science Scoring Guide

Item 2:

Rubric

Key Elements:

cell membrane

one of the following:

- controls what enters and leaves the cell
 - protects the cell
 - acts as a boundary/keeps the parts together
-

Score Points

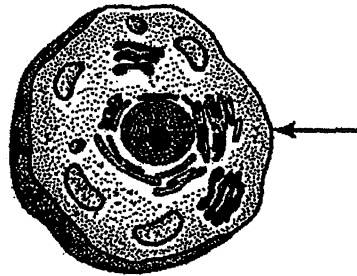
2 points	two key elements
1 point	one key element
0 points	other

Standard 3: Life Science

Benchmark 3.3.1: Describing the observable components and functions of a cell.

Subcontent Area: not assigned

66 An animal cell is shown below.



Which cell part is indicated by the arrow?

Cell membrane

What is one function of this cell part?

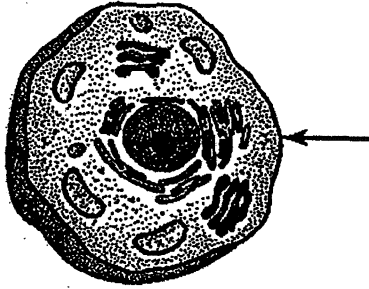
to control what goes in & out
of the cell

2 Point Anchor

8S-2501

DM
4/12/04

66 An animal cell is shown below.



Which cell part is indicated by the arrow?

cell wall

What is one function of this cell part?

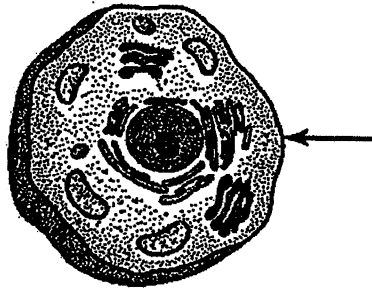
The cell wall protects the inside of the cell.

1 Point Anchor

8S-2502

JM
4/12/04

66 An animal cell is shown below.



Which cell part is indicated by the arrow?

the outer layer

What is one function of this cell part?

nucleus

0 Point Anchor

8S-2503

JM
4/12/04

2004 CSAP Released Items

Grade 8 Science

CSAP

Science

Directions

Three high school students wanted to investigate how far they could drive if the gas tanks of their cars were full of gasoline. To do this, the students went to the same gas station to fill the tanks of their cars. They then drove their cars until the gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 3 and 4.

Miles Driven by Different Cars

Student	Type of Car	Speed Driven (miles per hour)	Gallons of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	city streets	380
2	Mark 2002	40	15	country roads	310
3	Apex GXE	60	14	highway	420

- 3** Based on their investigation, the students concluded that they could drive farther on a full tank of gasoline in an Apex GXE than they could in the other cars. Give **one** reason their conclusion may be incorrect.

Item 3:

Rubric

Key Elements:

one of the following:

- Experimental conditions for the cars were not the same.
 - any answer that indicates the conclusion may be incorrect due to uncontrolled variables (e.g., amount of gasoline, speed, type of road, etc.)
-

Score Points

1 point	one key element
0 points	other

Standard 1: Scientific Investigations

Benchmark 1.6: Interpreting and evaluating data in order to formulate conclusions.

Subcontent Area: experimental design and investigation

Directions

Three high school students wanted to investigate how far they could drive if their cars' tanks were full of gasoline. To do this, the students went to the same gas station to fill their cars' gas tanks. They then drove their cars until their gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 65 and 66.

MILES DRIVEN BY DIFFERENT CARS

Student	Type of Car	Speed Driven (miles per hour)	Gallon of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	City streets	380
2	Nimbus 2000	40	15	country roads	310
3	Apex GXE	60	14	highway	420

- 67 Based on their investigation, the students concluded that they could drive farther on a full tank of gasoline in an Apex GXE than they could in the other cars. Give one reason their conclusion may be incorrect.

They didn't test each car under the same conditions.

1 point + Anchor

8S-1650

Directions

Three high school students wanted to investigate how far they could drive if their cars' tanks were full of gasoline. To do this, the students went to the same gas station to fill their cars' gas tanks. They then drove their cars until their gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 65 and 66.

MILES DRIVEN BY DIFFERENT CARS

Student	Type of Car	Speed Driven (miles per hour)	Gallons of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	city streets	380
2	Nimbus 2000	40	15	country roads	310
3	Apex GXE	60	14	highway	420

- 67 Based on their investigation, the students concluded that they could drive farther on a full tank of gasoline in an Apex GXE than they could in the other cars. Give one reason their conclusion may be incorrect.

One reason this is correct is because that
car went the farthest on its tank of gas.

point anchor

8S-1651

2004 CSAP Released Items

Grade 8 Science

4 Describe **three** specific changes the students could make to improve their experiment.

1) _____

2) _____

3) _____

CSAP Grade 8 Science Scoring Guide

Item 4:

Rubric

Key Elements:

Drive the cars at the same speed.

Drive the cars on the same road.

Put the same amount of gasoline in each car.

Monitor the amount of gasoline more closely (students may define when the tank is considered empty).

Conduct more trials of the experiment to obtain more reliable data.

Have the same person drive each car.

Score Points

3 points	three key elements
2 points	two key elements
1 point	one key element
0 points	other

Standard 1: Scientific Investigations

Benchmark 1.1: Identifying and evaluating alternative explanations and procedures.

Subcontent Area: experimental design and investigation

Directions

Three high school students wanted to investigate how far they could drive if their cars' tanks were full of gasoline. To do this, the students went to the same gas station to fill their cars' gas tanks. They then drove their cars until their gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 65 and 66.

MILES DRIVEN BY DIFFERENT CARS

Student	Type of Car	Speed Driven (miles per hour)	Gallons of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	city streets	380
2	Nimbus 2000	40	15	country roads	310
3	Apex GXE	60	14	highway	420

68

Describe three specific changes the students could make to improve their experiment.

- 1) Use the same route for all three cars, so that their data will be more accurate.
- 2) Do a lot more trials than just one, so that the data will be more accurate.
- 3) Use the same speed for every car, because so cars use up more gas when they go faster.

8S-1850

3 Point Anchor

Directions

Three high school students wanted to investigate how far they could drive if their cars' tanks were full of gasoline. To do this, the students went to the same gas station to fill their cars' gas tanks. They then drove their cars until their gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 65 and 66.

MILES DRIVEN BY DIFFERENT CARS

Student	Type of Car	Speed Driven (miles per hour)	Gallons of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	city streets	380
2	Nimbus 2000	40	15	country roads	310
3	Apex GXE	60	14	highway	420

68

Describe three specific changes the students could make to improve their experiment.

- 1) All drive on the same type of road.
- 2) All drive at the same speed.
- 3) All get the same kind of car, only with different sized tanks.

2 Point Anchor

8S-1851

Directions

Three high school students wanted to investigate how far they could drive if their cars' tanks were full of gasoline. To do this, the students went to the same gas station to fill their cars' gas tanks. They then drove their cars until their gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 65 and 66.

MILES DRIVEN BY DIFFERENT CARS

Student	Type of Car	Speed Driven (miles per hour)	Gallons of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	city streets	380
2	Nimbus 2000	40	15	country roads	310
3	Apex GXE	60	14	highway	420

68

Describe three specific changes the students could make to improve their experiment.

- 1) First they could go the same speed.
- 2) Make a line graph
- 3) Put some other cars mileage.

Directions

Three high school students wanted to investigate how far they could drive if their cars' tanks were full of gasoline. To do this, the students went to the same gas station to fill their cars' gas tanks. They then drove their cars until their gas tanks were nearly empty.

The table below shows all the information the students collected during their investigation. Study the table. Then do Numbers 65 and 66.

MILES DRIVEN BY DIFFERENT CARS

Student	Type of Car	Speed Driven (miles per hour)	Gallons of Gasoline Tank Can Hold	Type of Road	Miles Driven
1	Trans W	20	12	city streets	380
2	Nimbus 2000	40	15	country roads	310
3	Apex GXE	60	14	highway	420

68

Describe three specific changes the students could make to improve their experiment.

- 1) They could stop using so much gas.
- 2) No drive so much
- 3) Don't use so much gas up

0 Point Anchor

8S-1853