

Grade 6 Unit Practice Test

# Science

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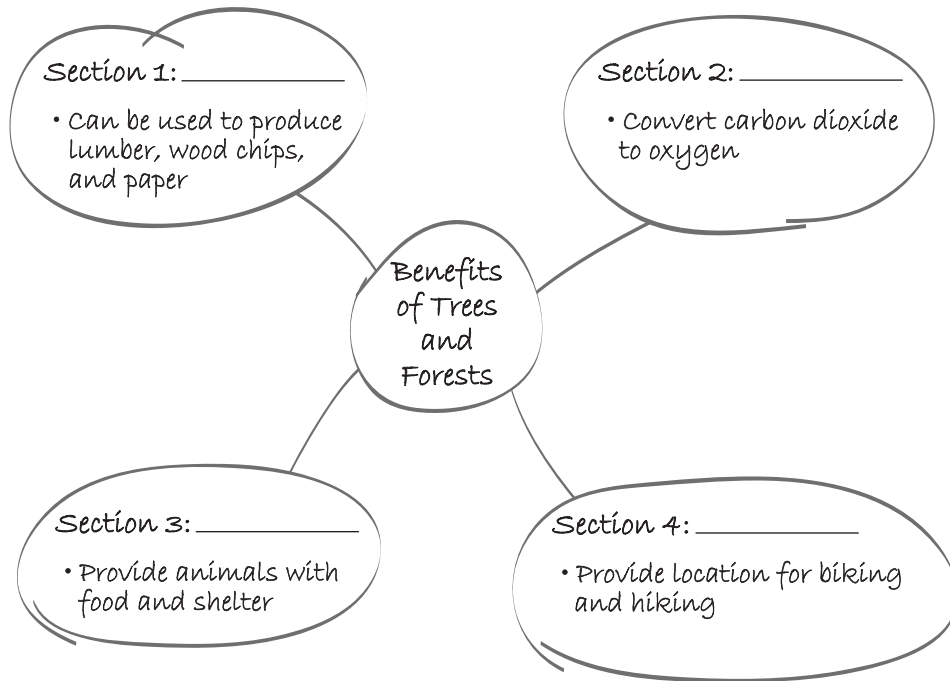
Trees and Forests

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Use the following information to answer question 1.

A student develops the following concept map to organize ideas for a report.



1. Which of the following rows shows the appropriate titles for each of the sections in the student's concept map?

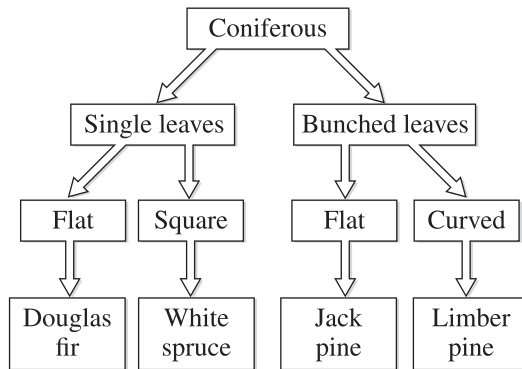
Row	Section 1	Section 2	Section 3	Section 4
A.	Life Support	Raw Materials	Habitat	Recreation
B.	Life Support	Raw Materials	Recreation	Habitat
C.	Raw Materials	Life Support	Habitat	Recreation
D.	Raw Materials	Life Support	Recreation	Habitat

Use the following information to answer question 2.

Dan examines the leaves of two different coniferous trees in his yard.

<b>Tree I</b>	Has flat, bunched leaves
<b>Tree II</b>	Has square, single leaves

He identifies the two trees using the following key.

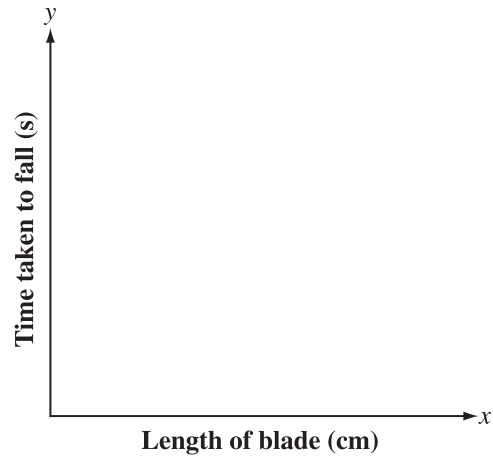


2. Which of the following rows identifies the two trees?

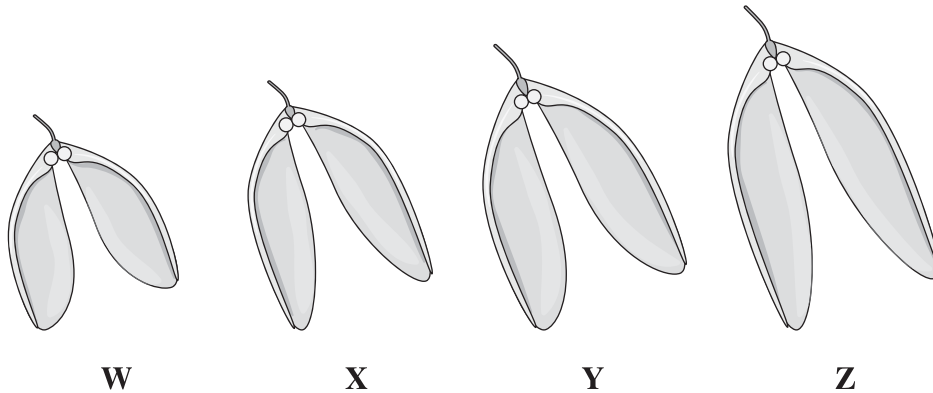
Row	Tree I	Tree II
A.	Jack pine	White spruce
B.	Jack pine	Limber pine
C.	Douglas fir	White spruce
D.	Douglas fir	Limber pine

Use the following information to answer questions 3 and 4.

Samantha is investigating the length of time that it takes for maple seeds with blades of different sizes to fall. Her goal is to produce data that can be plotted on the graph shown below.



Samantha selects the following four seeds for her investigation.



3. Which of the following variables should be controlled in Samantha's investigation?

- A. Mass of the seeds
- B. Length of the seed blades
- C. Time taken for each seed to fall
- D. Height from which the seeds are dropped

Use the following additional information to answer question 4.

Samantha proposes the following four procedures for her investigation.

**List of Four Procedures**

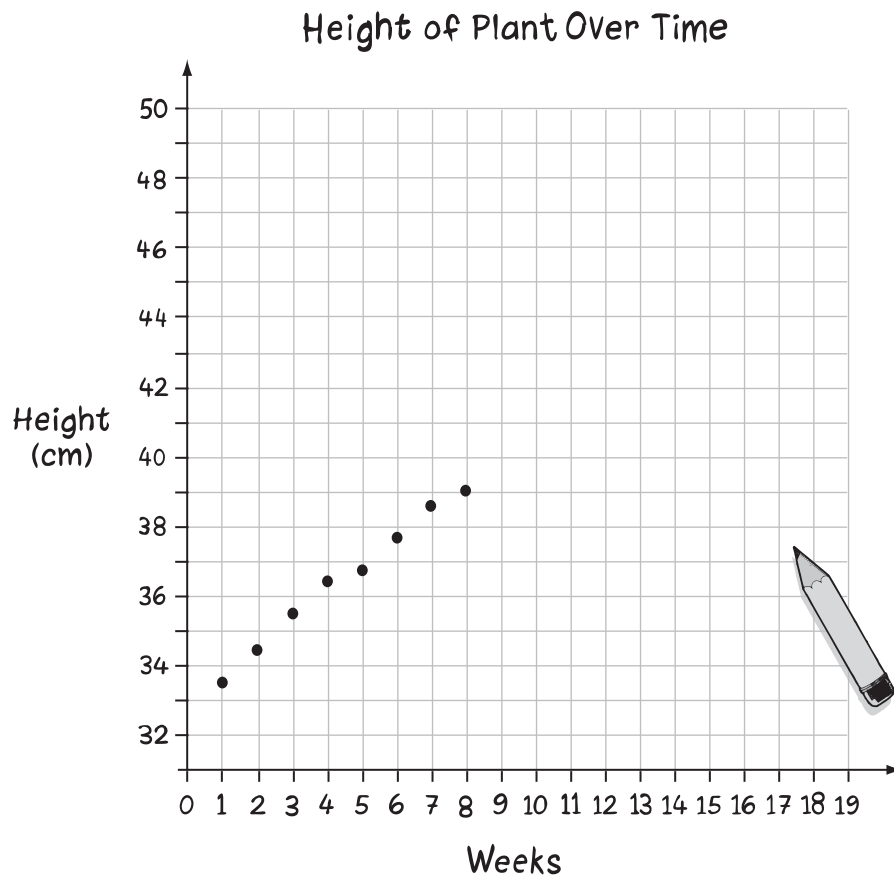
The image shows four sticky notes arranged in two columns. Each note has a radio button in the top left corner. The notes contain the following text:

- Procedure 1:** Measure the length of each blade.
- Procedure 2:** Measure the mass of each seed.
- Procedure 3:** Drop all four seeds at the same time and record which one touches the ground first.
- Procedure 4:** Drop each of the four seeds separately and measure the time that it takes for each seed to touch the ground.

4. Which of the above procedures used together will provide the student with the data necessary to complete the graph shown on the previous page?
- A. Procedures 1 and 3
  - B. Procedures 1 and 4
  - C. Procedures 2 and 3
  - D. Procedures 2 and 4

Use the following information to answer question 5.

A student has begun to graph the results of a study. The study involves measuring the height of a single plant every week for eight weeks.



5. Between Week 3 and Week 8, the height of the plant increased by approximately
- A. 3.0 cm
  - B. 3.5 cm
  - C. 38.5 cm
  - D. 39.0 cm

*Use the following information to answer question 6.*

A local government proposed a project to convert a forest area into a golf course and a skating rink. Four people have made comments about the project.

**Person I**     The project will eliminate the natural habitat of many animals.

**Person II**    The project will lead to an increase in tourism.

**Person III**   The project will ruin the view from my house.

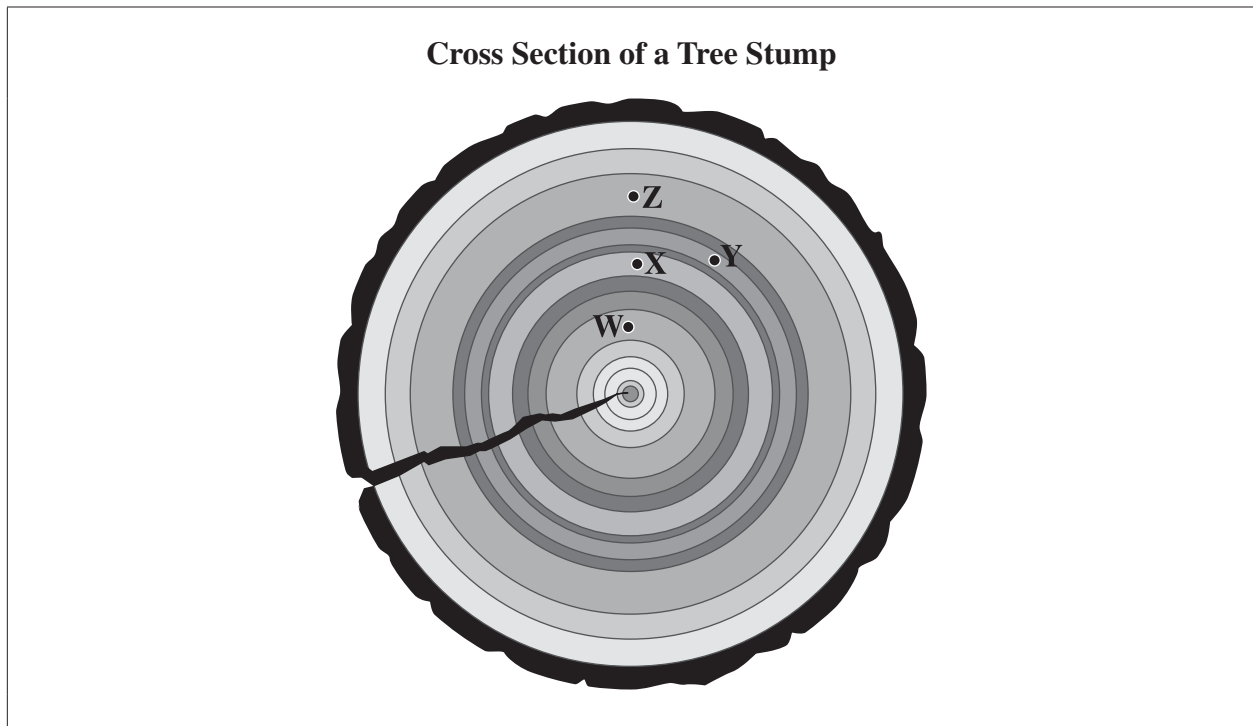
**Person IV**    The project will support the growth of different types of trees.

6. The two people who oppose the project are

- A. Person I and Person III
- B. Person I and Person IV
- C. Person II and Person III
- D. Person II and Person IV



Use the following information to answer question 7.



7. Which letter represents the year with the **most** favourable growing conditions?

- A. W
- B. X
- C. Y
- D. Z

Use the following information to answer question 8.

Four steps in an experiment involving spruce seeds are given below.

- I** Seeds are placed into each of four cups.
- II** The same amount of water is added to each cup.
- III** Each cup is placed in a separate location.
- IV** Each location has a different temperature.

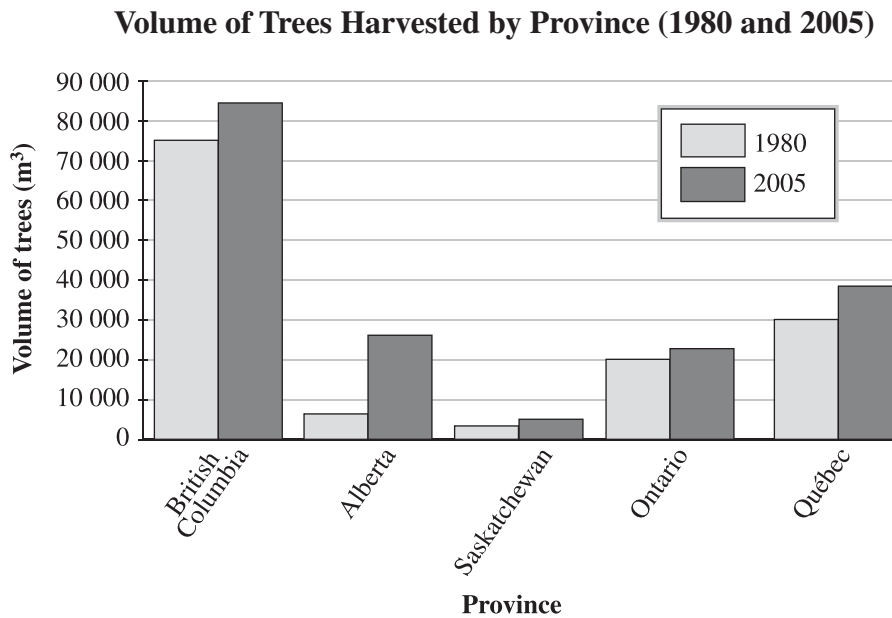
The number of days that it took the spruce seeds to germinate at each temperature is recorded below.

<b>Temperature of Location of Seeds</b>	<b>Germination Time (days)</b>
20	8
18	10
16	14
14	20

8. The manipulated variable in the experiment was the
- A.** number of days it took the seeds to germinate
  - B.** temperature of the location of the seeds
  - C.** number of seeds that germinated
  - D.** type of tree seeds

Use the following information to answer questions 9 and 10.

A study compared the volume of trees harvested in 1980 and 2005 in five provinces. The results are shown in the graph below.



**Four Statements Regarding Canada's Forest-harvesting Volumes**

- Statement I** British Columbia consistently harvests more trees than any other Canadian province.
- Statement II** In 2005, Québec harvested more trees than Ontario and Alberta combined.
- Statement III** Ontario and Québec harvested more trees than British Columbia, Alberta, and Saskatchewan.
- Statement IV** Compared to 1980, the volume of trees harvested in Canada increased in 2005.

9. The two statements above that are supported by the results of the study are statements

- A. I and III
- B. I and IV
- C. II and III
- D. II and IV

10. The responding variable in the study described above is the

- A. volume of trees
- B. type of harvest
- C. province
- D. year

Use the following information to answer question 11.

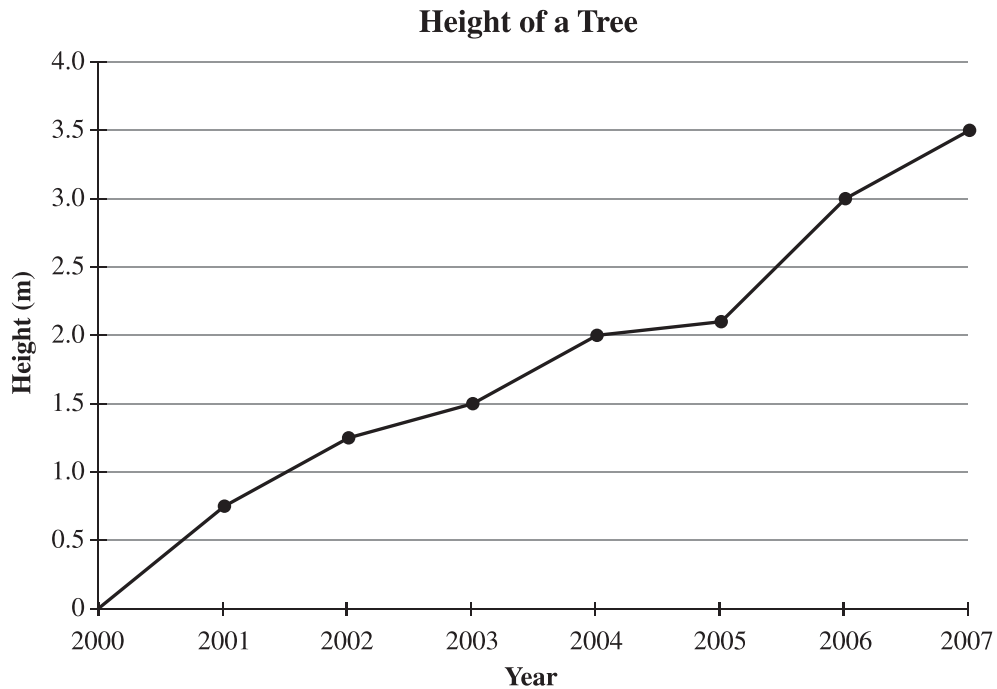
The following chart lists some observations of leaves that are affected by mould.

Location of Mould on Leaf	Condition of Leaf
Tip of leaf covered	Green and healthy
Only bottom of leaf covered	Leaf turns brown and falls off
Only top of leaf covered	Edges turn brown
Both top and bottom of leaf covered	Leaf turns brown and falls off

11. A conclusion that can be made from the information in the chart above is that a tree will lose its leaves when there is mould on the
- A. tip of the leaf
  - B. top of the leaf
  - C. edges of the leaf
  - D. bottom of the leaf

Use the following information to answer questions 12 and 13.

A researcher conducted a study in a region where the average rainfall varied from year to year between 2000 and 2007. Starting in 2000, she measured the height of a spruce tree once a year until 2007 and plotted her results in the graph below.



12. During which years was the tree's growth **most likely** affected by a period of little rainfall?
- A. 2003–2004
  - B. 2004–2005
  - C. 2005–2006
  - D. 2006–2007
13. The responding variable in the study described above is the
- A. amount of rainfall
  - B. type of tree
  - C. height
  - D. year

Use the following information to answer question 14.

**What is your favourite tree?**

**I** My favourite tree is so important to Canada that its leaf is on our national flag.

**II** I like a tree that is cone-bearing and that depends on fire to help it reproduce. It also happens to be Alberta's provincial tree.

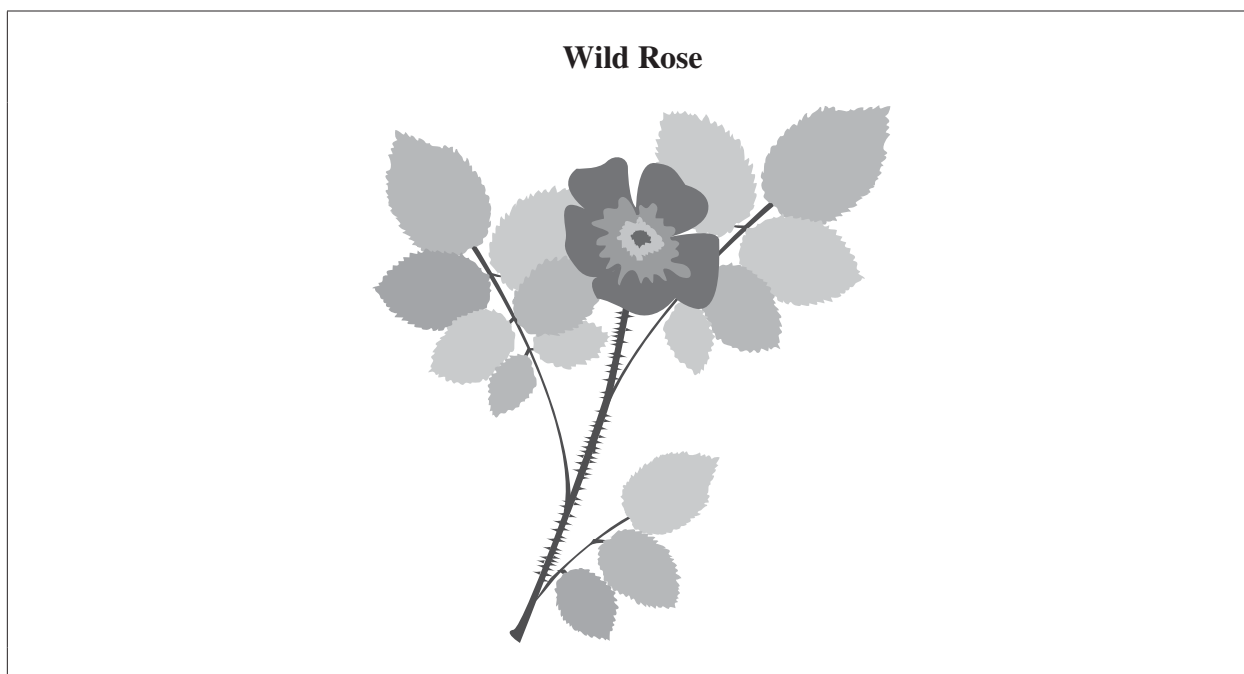
**III** I like to collect heart-shaped leaves in the fall from my favourite tree. They look so beautiful as they shake in the wind, then flutter to the ground.

**IV** I think some people don't like my favourite tree because it has four-sided, sharp, and stiff needles. But most people do like the cones it produces.

14. Which two students in the diagram above are referring to coniferous trees?

- A. Students I and III
- B. Students I and IV
- C. Students II and III
- D. Students II and IV

Use the following information to answer question 15.



15. Which of the following rows describes the shape and edge of a wild-rose leaf?

Row	Shape	Edge
A.	Heart-shaped	Serrated
B.	Heart-shaped	Smooth
C.	Ovate	Serrated
D.	Ovate	Smooth

Use the following information to answer question 16.

Four speakers share their opinions about forests.



Speaker I

I think that forests should be preserved. I like to spend weekends hiking and bird-watching in the forest.

I know that selective cutting does not disturb wildlife and it allows the forest industry to produce products to meet the needs of people.



Speaker II

I purchased a property beside a forest because I want to live in a private area that has lots of wildlife. I like to have picnics while exploring the forest.



Speaker III

I believe everyone should have a home. That means we may need to remove some forests in order to expand our cities to build new subdivisions and parks.



Speaker IV

16. Which of the two following speakers have opinions that indicate that forests have important recreational value?
- A. Speakers I and II
  - B. Speakers I and III
  - C. Speakers II and III
  - D. Speakers III and IV



Use the following information to answer question 17.

Students from a Grade 6 class are asked to design an outdoor classroom for their school. The design must include trees native to Alberta and smaller plants that can grow under those trees.

17. Which of the following sources of information would be expected to contain the **most appropriate** information to complete the design?
- A. An online blog titled “Identification Key of Mushrooms” posted on a website in 2017
  - B. The book *North American Guide to Common Household Plants* written in 2012
  - C. The Alberta Native Plant Council website that is updated weekly
  - D. A recent web article titled “Animal-friendly plants”
- 
18. Which of the following methods of collecting information about trees would cause the **least harm** to organisms in a forest ecosystem?
- A. Taking cones from the ground
  - B. Taking bark samples from only one tree
  - C. Taking bark samples from different trees
  - D. Taking pictures of leaves on tree branches

Use the following information to answer questions 19 and 20.

In Arashdeep's town, citizens are debating whether to clear cut a section of the nearby forest for a new housing development. The following citizens spoke at a town hall meeting.

**Speaker I**



Building more houses will be good for the economy. More jobs will be created in waste management.

**Speaker II**



Forests help clean the air and provide oxygen for animals.

**Speaker III**



We should not remove the forest as that would destroy animals' homes and food sources.

**Speaker IV**



Forests provide raw materials for us to build houses. Town growth is a priority.

19. Which two speakers shown above make statements that describe a positive role of trees in forest ecosystems?
- A. Speaker I and Speaker III
  - B. Speaker I and Speaker IV
  - C. Speaker II and Speaker III
  - D. Speaker II and Speaker IV

*Use the following additional information to answer question 20.*

After a town hall meeting, town councillors proposed a study to find out if plants and animals in a section of nearby forest are also found in other parts of the forest that will be left uncut.

- 20.** Which of the following research questions could be answered by the study described above?
- A.** Will the housing development cost the town a lot of money?
  - B.** Do trees produce nutrients for other plants and animals to live on?
  - C.** Are there good hiking trails in the nearby forest and the uncut part of the forest?
  - D.** Are the spruce trees and birds found in the nearby forest also found in the area to be left uncut?

# Science 6 – Practice Test 2020

## Trees and Forests Key

Question #	Key
1	C
2	A
3	D
4	B
5	B
6	A
7	D
8	B
9	B
10	A
11	D
12	B
13	C
14	D
15	C
16	B
17	C
18	D
19	C
20	D