

91010R



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

## Level 1 Geography, 2018

**91010 Apply concepts and basic geographic skills to demonstrate understanding of a given environment**

2.00 p.m. Friday 9 November 2018  
Credits: Four

### RESOURCE BOOKLET

Refer to this booklet to answer the questions for Geography 91010.

Check that this booklet has pages 2–9 in the correct order and that none of these pages is blank.

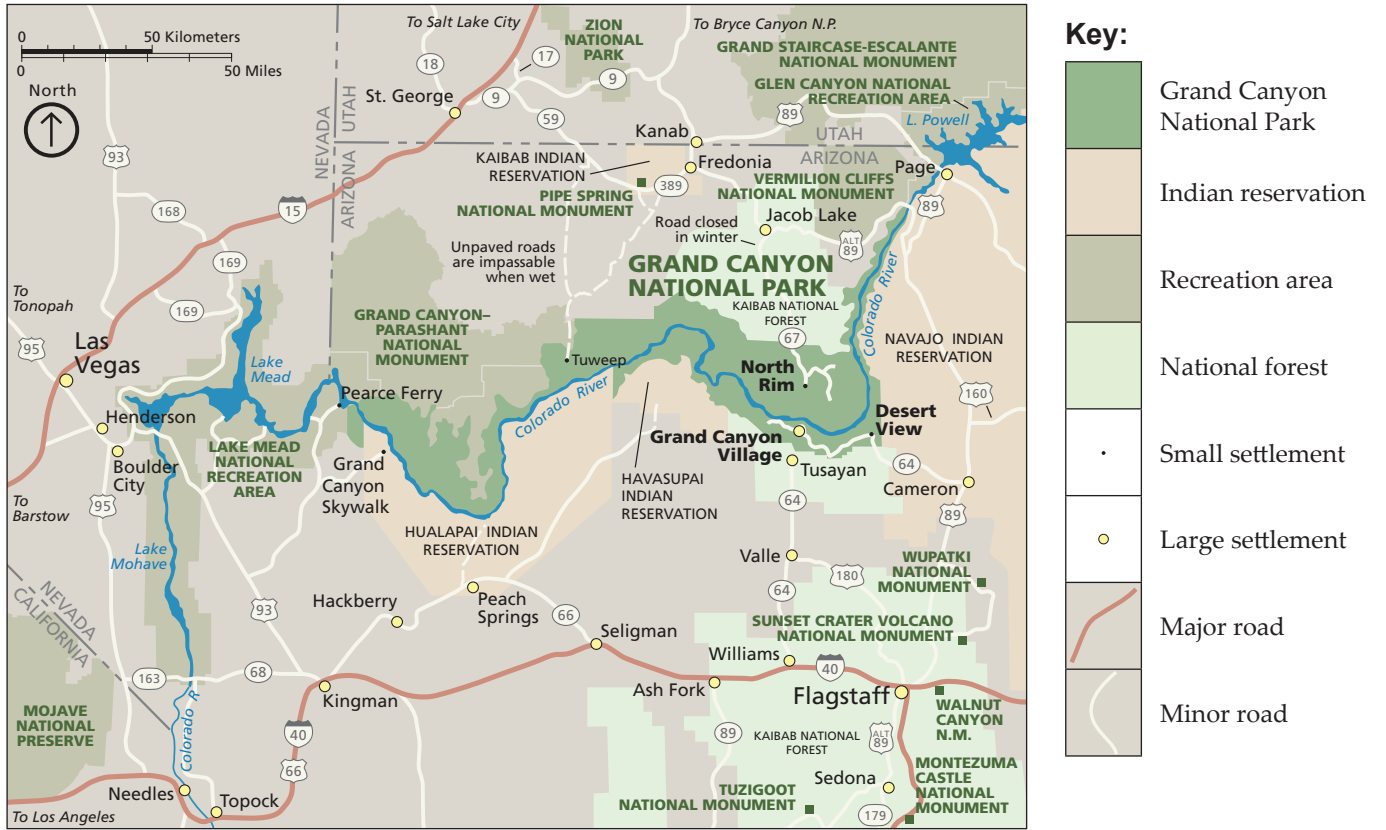
**YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.**

**RESOURCE A: Grand Canyon National Park and its location**

Grand Canyon National Park is dominated by the spectacular Grand Canyon, a twisting 1.6 km-deep and 433 km-long gorge, formed during some 6 million years of geological activity and erosion by the Colorado River. The canyon is located in the Colorado Plateau, a large area of flat, uplifted land that sits 2400 m above sea level.

The area is home to many Native American tribes, including the Navajo, who live on reservations (areas of land managed by the tribe) near the canyon.

**RESOURCE B: Features of Grand Canyon National Park and surrounding area**

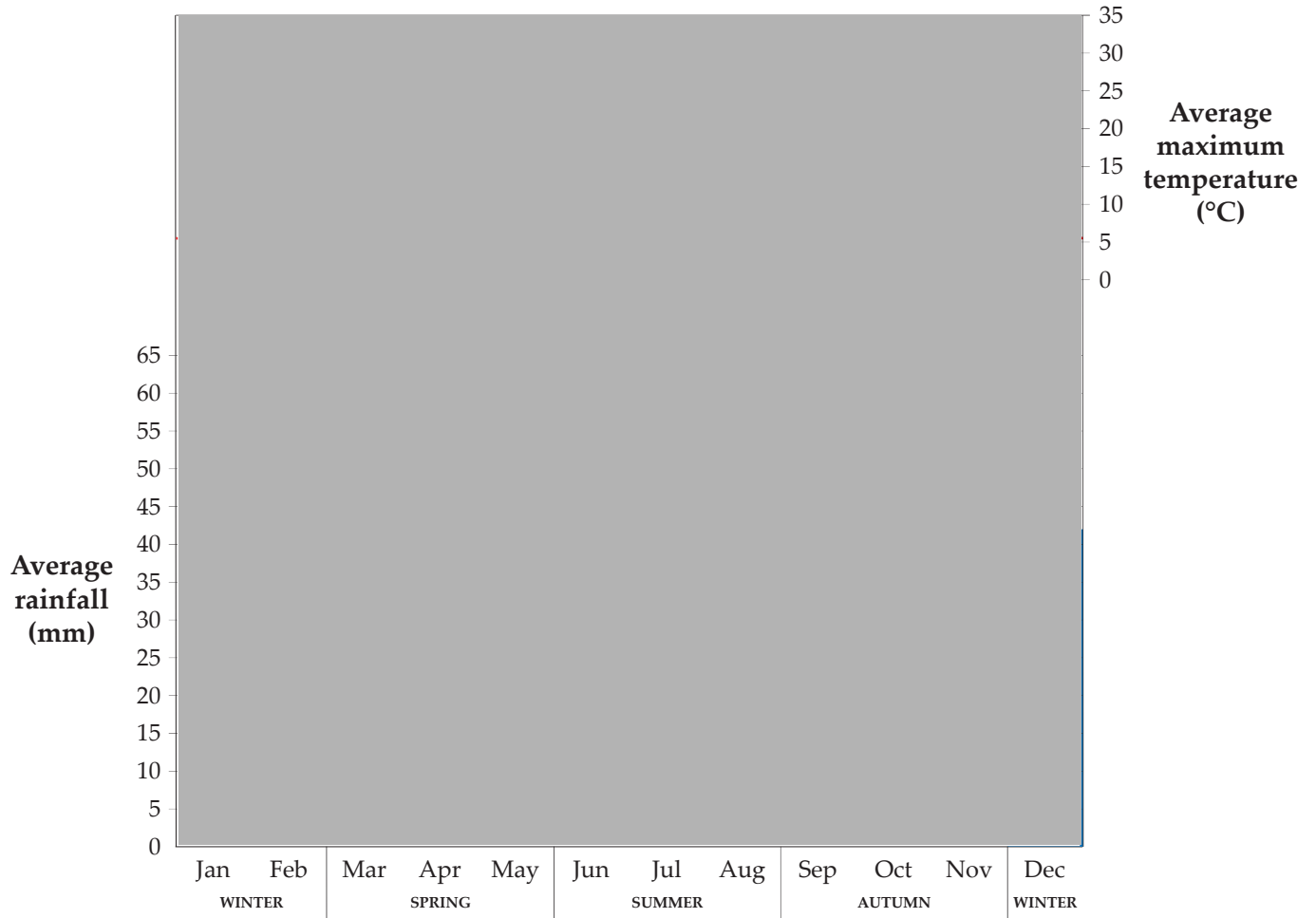


**RESOURCE C: Photograph of the Grand Canyon looking east**



**RESOURCE D: Visitors to Grand Canyon National Park in 2016**

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of visitors (000s)	■	■	■	■	■	■	■	■	■	■	■	■

**RESOURCE E: Average monthly rainfall and maximum temperature at Grand Canyon National Park**

**RESOURCE F: Tourist activities in Grand Canyon National Park, and the year they started**



## RESOURCE G: Future development of Grand Canyon National Park

Three main developments are being proposed for Grand Canyon National Park. They are:

### **The Grand Canyon Escalade:**

A billion-dollar development with hotels, restaurants, shops, a Native American Navajo tribal cultural centre on the canyon rim, and a gondola connecting the rim to the canyon floor.



**The Tusayan housing development:** A major development is also being planned to expand the tiny, Canyon-adjacent town of Tusayan by 2200 homes and 280 000 square metres of commercial space with luxury hotels, upscale shops, spas, and a dude ranch (a ranch that caters for tourists).



**Uranium mine development:** Uranium is relatively common in the rock surrounding the Grand Canyon. Mining began in 1950, and mines have opened and closed over the years as the price of the mineral has risen and fallen. Because of a current spike in the price of uranium, many mining companies are seeking permission to reopen mines close to both the North and South Rims.



**RESOURCE H: Map showing the location of the proposed developments at Grand Canyon National Park**



**RESOURCE I: Uranium mining**



## RESOURCE J: Perspectives on the Grand Canyon National Park Escalade Project

### Environmental perspective

People raft the Colorado River for the beauty and solitude. This development will mean that more people will visit the heart of the Grand Canyon in three days than currently do in one year. Not only will the Escalade be an eyesore, its construction will also increase erosion of the canyon wall. This will lead to an increase in silt into the Colorado River, which will decrease water quality.



**Roger C**  
River rafting  
company operator

### Economic perspective

**Jennifer M**  
Project developer



The Grand Canyon Escalade Project is a game changer. It will be a major benefit to the tourism industry, and inject money into the local economy. We estimate that it will create 3500 jobs in both construction and tourism. The Navajo tribe will also stand to make US\$40 million–\$70 million per year. That's a massive boost, which will bring security to their people for the future.

### Cultural perspective

I oppose this project because it's located within sacred ceremonial grounds. The location is home to Navajo deities (heavenly bodies), and is the backbone and foundation to all Navajo ceremonies which have been held there for centuries. Our ancestors would never forgive us if we didn't fight this. We need to protect our sacred grounds.



**Otto T**  
Navajo  
representative

### Social perspective

**Simone B**  
Tourist



The Grand Canyon is such a beautiful and breathtaking environment—it's simply spectacular. Therefore I am concerned that the Escalade will cause overcrowding. On the other hand, at the moment the only way to see the bottom of the canyon is to ride a mule down. That is something not everyone, including me, can do. So if the Escalade is built it will allow *all* people to access and enjoy this beautiful place.



## Acknowledgements

Material from the following sources has been adapted for use in this examination.

### Page 2

Resource A:

- (map) <https://goo.gl/maps/T7Zbq22tWVn>
- (text) <https://www.nps.gov/grca/learn/management/statistics.htm>

### Page 3

Resource B: <http://npsmaps.com/wp-content/uploads/grand-canyon-regional-map.pdf>

Resource C: <https://static.independent.co.uk/s3fs-public/thumbnails/image/2014/01/27/11/grand-canyon-getty.jpg>

### Page 4

Resource D: <https://irma.nps.gov/Stats/Reports/Park/GRCA>

Resource E: [https://www.nps.gov/grca/planyourvisit/weather-condition.htm#CP\\_JUMP\\_2664461](https://www.nps.gov/grca/planyourvisit/weather-condition.htm#CP_JUMP_2664461)

### Page 5

Resource F:

- (hiking) <http://www.thepicturepeoplela.com/blog/2016/1/11/rim-to-rim-hiking-the-grand-canyon>
- (rafting) <https://www.oars.com/adventures/grand-canyon-rafting-phantom-ranch-to-whitmore-wash>
- (cavern) [https://www.tripadvisor.co.nz/Attraction\\_Review-g31306-d2426215-Reviews-Grand\\_Canyon\\_Caverns\\_Tours-Peach\\_Springs\\_Hualapai\\_Reservation\\_Arizona.html](https://www.tripadvisor.co.nz/Attraction_Review-g31306-d2426215-Reviews-Grand_Canyon_Caverns_Tours-Peach_Springs_Hualapai_Reservation_Arizona.html)
- (skywalk) <https://www.nytimes.com/2011/04/24/us/24grand.html>
- (zipline) <https://www.attractionticketsdirect.ie/grand-canyon-helicopter-flight/latest-news/best-ways-see-grand-canyon>

### Page 6

Resource G:

- (text) <http://www.geontusa.com/2grand-canyon-on-the-precipice/>
- (Escalade) <https://gearjunkie.com/grand-canyon-escalade-project>
- (Tusayan sign) <https://www.grandcanyonnews.com/news/2017/jul/18/tusayan-town-council-settles-2017-budget-ten-x-hou/>
- (Tusayan aerial photo) [https://grandcanyoncvb.org/images/tusayan\\_slideshow/tusayan-slides-aerial-strip.jpg](https://grandcanyoncvb.org/images/tusayan_slideshow/tusayan-slides-aerial-strip.jpg)
- (uranium mine) <http://www.knau.org/post/congressional-republicans-push-end-grand-canyon-uranium-ban>

### Page 7

Resource H: <http://www.geontusa.com/2grand-canyon-on-the-precipice/>

Resource I:

- (truck) <http://karoospace.co.za/wp-content/uploads/2016/01/Uranium-dust-truck.png>
- (caution sign) <https://cdn.indiancountrymedianetwork.com/wp-content/uploads/Uranium-Mine-Navajo-2007-AP-Susan-Montoya-Bryan.jpg>
- (danger sign) [https://1.bp.blogspot.com/-jMk1S79Yjww/VZFyGDb6b3I/AAAAAABLvE/fqPY000W4jw/s1600/11693860\\_725025807609771\\_3698920228222060906\\_n.jpg](https://1.bp.blogspot.com/-jMk1S79Yjww/VZFyGDb6b3I/AAAAAABLvE/fqPY000W4jw/s1600/11693860_725025807609771_3698920228222060906_n.jpg)
- (mine) <http://cdn.i.haymarketmedia.asia/?n=finance-asia%2Fcontent%2FUranium+1.jpg>

### Page 8

Resource J: (silhouettes) [https://www.freepik.com/free-vector/man-and-woman-avatars\\_766415.htm](https://www.freepik.com/free-vector/man-and-woman-avatars_766415.htm)





