

NZQA Approved

Internal Assessment Resource

Geography Level 1

This resource supports assessment against Achievement Standard 91009 version 3

Standard title: Demonstrate geographic understanding of the sustainable use of an environment

**Credits:** 3

Resource title: Anyone for a round of golf?

**Resource reference:** Geography 1.3C

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| This resource:* Clarifies the requirements of the standard
* Supports good assessment practice
* Should be subjected to the school’s usual assessment quality assurance process
* Should be modified to make the context relevant to students in their school environment and ensure that submitted evidence is authentic
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| Date version published by Ministry of Education | February 2015To support internal assessment from 2015 |
| Quality assurance status | These materials have been quality assured by NZQA. NZQA Approved number A-A-02-2015-91009-01-9014 |
| Authenticity of evidence | Teachers must manage authenticity for any assessment from a public source, because students may have access to the assessment schedule or student exemplar material.Using this assessment resource without modification may mean that students’ work is not authentic. The teacher may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

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Teacher guidelines

Introduction

The following guidelines are supplied to enable teachers to carry out valid and consistent assessment using this internal assessment resource.

Teachers need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing students against it.

Context/setting

This activity requires students to demonstrate comprehensive geographic understanding of the sustainable use of an environment. The context focuses on a golf course as a use of an environment and will include the surrounding area. The teacher should ensure that the golf course selected is sufficiently large enough to enable students to fully explain the key aspects required by the standard.

For example:

* Millbrook Resort, Arrowtown, Central Otago
* Cape Kidnappers Golf Course, Hawke’s Bay
* Paraparaumu Links Golf Course, Wellington
* Clearwater Golf Resort, Christchurch
* The Kinlock Club, Taupo.

It is important to emphasise the environment, use made of it by the golf club and the consequences of this use, and how sustainable, or otherwise, the selected environment is with continued use.

The relevant achievement objective at level 6 is: ‘students will gain knowledge, skills, and experience to understand how people interact with natural and cultural environments and that this interaction has consequences’.

Some key concepts that need to be understood are environment (environment can refer to natural and/or cultural environments), interaction and sustainability.

Conditions

The students could work independently or in groups to develop their geographic understanding, but they need to create their presentation independently, and will be assessed individually.

Resource requirements

Students will need access to:

* a map of the selected environment
* the internet
* NZ Sports Turf Institute technical fact sheet ‘Sustainable Golf Course Design’.

Extracts from:

<http://www.newzealand.com/travel/media/features/naturesustainable-tourism/nature-sustainable-tourism_wairakei-golf-sanctuary.cfm>

<http://www.golfenvironment.org/sustainable_golf>

<http://www.golfenvironment.org/get_involved/developments/sustainable_golf_development_guidelines>

The teacher will need to provide students with resources that are relevant to the golf course selected and a fieldtrip could be considered.

Additional information

Decide on a format students will use for their presentation. The presentation should include written descriptions and explanations supported by any combination of maps, photographs and diagrams.

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Student instructions

Introduction

This assessment activity requires you to demonstrate geographic understanding of the sustainable use of an environment with a large golf course.

You are going to be assessed on how comprehensively you demonstrate this understanding.

The following instructions provide you with a way to structure your work to demonstrate what you have learnt and achieve success in this standard.

Teacher note: It is expected that the teacher will read the student instructions and modify them if necessary to suit their students.

Task

The International Golf Federation (IGF) is reviewing their policy on sustainable golf courses. You are a geographer who has been selected by the IGF to prepare a report on the extent to which your chosen New Zealand golf course/club is a sustainable use of an environment.

Complete each of the following three parts.

Part 1: Why and how the selected environment is used for a golf course

Use the name of the golf course and the selected environment as the title for your report.

Teacher note: Insert a map of the selected environment here. It needs to include the golf course and relevant natural and cultural features

* Why:
* Identify and describe why the selected environment is well suited for a golf course, refer to both natural and cultural features of your selected environment.
* You could consider aspects such as climate, soil, water, relief, transport, employment and towns with related services.
* An annotated map and diagrams can be used to support your descriptions.
* How:
* Describe actual golf course and club activities that show how this environment is used.

Part 2: Consequences of the golf course on people and the selected environment

Describe and fully explain the consequences of this use of the environment (ie your selected golf course) on people.

* Use specific detailed evidence, geographic terminology and concepts to support your answer. You may use photographs and/or diagrams to support your explanation.
* Consider positive/negative/long term and short term impacts.
* People you could include:
* golf course workers
* golf club members
* local residents
* visitors to the area.

Describe and fully explain how your selected golf course impacts on the environment.

* Use specific detailed evidence, geographic terminology and concepts to support your answer. You may use photographs and/or diagrams to support your explanation.
* Consider positive/negative/long term and short term impacts.
* Environmental features you could include:
* vegetation and wildlife
* drainage
* soil structure and land stability.

Part 3: Sustainable use of the environment

Sustainability of use

This means the extent to which the use can be maintained in the future to minimise environmental impacts. Sustainability can involve conserving resources, reducing pollution, conserving biodiversity, ecosystems, and the landscape.

Describe and fully explain the sustainability or otherwise of the continued use of the selected environment as a golf course.

Use specific detailed evidence, geographic terminology and concepts to support your answer.

Consider:

* the extent to which the golf course will continue to be a sustainable use of this environment

and provide evidence for:

* steps that are taken to sustainably use the resources and preserve this selected environment
* measures used to reduce negative impacts
* management of the golf course that demonstrates a future focus.

Resources

Teacher note: Resources relating to the selected environment and golf course need to be added.

Resource A: Suggested relevant Geographic Concepts

Sustainability

This involves adopting ways of thinking and behaving that allow individuals, groups, and societies to meet their needs and aspirations, without preventing future generations from meeting theirs. Sustainable interaction with the environment may be achieved by preventing, limiting, minimising or correcting environmental damage to water, air and soil, as well as considering ecosystems and problems related to waste, noise, and visual pollution.

Interaction

This involves people interacting with their environment. Interaction incorporates movement, flows, connections, links and interrelationships. Landscapes are the visible outcome of interactions. Interaction can bring about environmental change.

Environments

This may include both natural and/or cultural environments. They have particular characteristics and features, which can be the result of natural and/or cultural processes. The particular characteristics of an environment may be similar to and/or different from another.

Resource B: Websites and Articles

NZ Sports Turf Institute technical fact sheet ‘sustainable Golf Course Design’

<http://www.golfenvironment.org/sustainable_golf>

Assessment schedule: Geography 91009 – Anyone for a round of golf?

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| Evidence/Judgements for Achievement  | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The student demonstrates geographic understanding of the sustainable use of an environment by:* describing why and how people use the selected environment

For example (partial extract):There are many reasons why it was selected and has continued to be successful as a golf course. It has a coastal location with sand dunes and wetlands which provide variety and challenge for golfers. A reliable water source with the stream helps for watering the greens. The soil is free draining which means the fairways and greens don’t get damaged in winter … It is only 20 minutes from the city so it is easy for a lot of people to access it. It is also close to the airport which makes it easy for international visitors to play … Another reason why this area has been used for a golf course is that the land was not suitable for farming and was not zoned for residential. Environmentalists also support the use of this area as potential industrial use would have threatened the area.Description identifies how golf course activities use the environment.Clearing of scrub and unwanted vegetation including introduced noxious weeds. Planting of native species to form ‘rough’ areas. Clearing and paving of areas to build access roads and parking. Development of bunkers, redirecting the stream. Replanting with suitable grasses, regular fertilising etc.* describing the consequences of this use of the selected environment on both people and environment

For example (partial extract):PeopleThe golf course provides jobs for local people. Full time workers include the green keepers, club administrators and the club professional who also runs the pro shop ... Catering workers are employed on a part-time basis at weekends and for club events. Local businesses in the town are also used by the golf club for a range of jobs like machine maintenance, advertising in the local paper, fertiliser suppliers etc.Other ideas include:* increasing tourists numbers attracted by the golf course
* shortage of accommodation and traffic congestion when major tournaments happen
* spray drift causing allergies in people living nearby
* golf club promotes and supports social activities for the local community
* leisure and exercise.

EnvironmentThe stream that runs through the golf course has been affected. The water from the stream is used to irrigate the greens with sprinklers to make the grass grow. This means that less water flows in the stream and flooding of the flat land further down is avoided. Irrigation has affected the water cycle.Other ideas may include:* planting of trees to stabilise slopes
* creation of “rough” areas to reduce soil erosion and keep soil moisture levels
* changes to water quality and the water cycle
* creation of habitats for birds/animals.
* describes the sustainability, or otherwise, of the selected environment with continued use

For example (partial extract):The X golf course is a sustainable use of this environment. The golf club has ensured that the natural environment and landscape has been changed as little as possible and has taken measures to limit the impact on the habitats of birds e.g. Kingfisher and brown teal duck. They have got rid of the weeds and encouraged native plants to grow. This means that there is lots of food for the birds, they can continue to breed and so will continue to live in this environment. The golf course has not negatively affected the natural environment so I think this will continue to be a sustainable use of this environment in the future.Other ideas may include:* water management practices
* long term planning for job creation
* green keeping practices, use of fertilisers/pesticides etc.
* diversification of golf course activities to sustain presence in the local economy e.g. wedding venue
* future management plans to increase sustainability.

The examples above are indicative samples only. | The student demonstrates in-depth geographic understanding of the sustainable use of an environment by:* describing why and how people use the selected environment

For example (partial extract):There are many reasons why it was selected and has continued to be successful as a golf course. It has a coastal location with sand dunes and wetlands which provide variety and challenge for golfers. A reliable water source with the stream helps for watering the greens. The soil is free draining which means the fairways and greens don’t get damaged in winter … It is only 20 minutes from the city so it is easy for a lot of people to access it. It is also close to the airport which makes it easy for international visitors to play … Another reason why this area has been used for a golf course is that the land was not suitable for farming and was not zoned for residential. Environmentalists also support the use of this area as potential industrial use would have threatened the area.Description identifies how golf course activities use the environment.Clearing of scrub and unwanted vegetation including introduced noxious weeds. Planting of native species to form ‘rough’ areas. Clearing and paving of areas to build access roads and parking. Development of bunkers, redirecting the stream. Replanting with suitable grasses, regular fertilising etc.* explaining the consequences of this use of the selected environment on both people and environment

For example (partial extract):PeopleThe X golf course provides both fulltime and part-time employment. Full time workers are the seven green keeping staff, club administrators and the club professional who also runs the pro shop ... Two of the green keeping staff are young apprentices who live locally and wouldn’t have had this chance before the golf course was set up. They earn about $30,000 a year and will gain a qualification. These jobs and training opportunities for locals have advantages for the local economy …Other ideas include:* increasing tourists numbers attracted by the golf course
* shortage of accommodation and traffic congestion when major tournaments happen
* spray drift causing allergies in people living nearby
* golf club promotes and supports social activities for the local community
* leisure and exercise.

EnvironmentThe X stream that flows south through the golf course has been affected. Water from the stream is used to irrigate all of the greens on holes 8 - 18. Water is pumped out of the stream and sprinklers spray the greens to make the grass growth rate increase. This interception means that less volume of water flows in the stream. The flood plain between holes 11 - 14 is less prone to waterlogging as less water is flowing in the narrow channel.Other ideas may include:* planting of trees to stabilise slopes
* creation of “rough” areas to reduce soil erosion and keep soil moisture levels
* changes to water quality and the water cycle
* creation of habitats for birds/animals.
* explaining the sustainability, or otherwise, of the selected environment with continued use

For example (partial extract):The X golf course is a very sustainable use of this environment. The management of the golf course takes sustainable measures to conserve and preserve the environment so that it will be there for the future. For example, it has created Wildlife Protection Areas (WPA). They have got rid of the weeds e.g. blackberry and planted native plants e.g. mānuka. This has positively affected the biodiversity of the area, providing pollen and nectar for native bees, flies, moths, and beetles. It has also encouraged the breeding cycle of local geckos. The creation of WPA has meant that the sustainability of these species and their habitat is increased because of the actions from the golf course.Other ideas may include:* water management practices
* long term planning for job creation
* green keeping practices, use of fertilisers/pesticides etc.
* diversification of golf course activities to sustain presence in the local economy e.g. wedding venue
* future management plans to increase sustainability.

The examples above are indicative samples only. | The student demonstrates comprehensive geographic understanding of the sustainable use of an environment by:* describing why and how people use the selected environment

For example (partial extract):There are many reasons why it was selected and has continued to be successful as a golf course. It has a coastal location with sand dunes and wetlands which provide variety and challenge for golfers. A reliable water source with the stream helps for watering the greens. The soil is free draining which means the fairways and greens don’t get damaged in winter … It is only 20 minutes from the city so it is easy for a lot of people to access it. It is also close to the airport which makes it easy for international visitors to play … Another reason why this area has been used for a golf course is that the land was not suitable for farming and was not zoned for residential. Environmentalists also support the use of this area as potential industrial use would have threatened the area.Description identifies how golf course activities use the environment.Clearing of scrub and unwanted vegetation including introduced noxious weeds. Planting of native species to form ‘rough’ areas. Clearing and paving of areas to build access roads and parking. Development of bunkers, redirecting the stream. Replanting with suitable grasses, regular fertilising etc.* fully explaining the consequences of this use of the selected environment on both people and environment, using geographic terminology and concepts, and showing insight:

For example (partial extract):PeopleEmployment is a significant economic consequence of the X golf course. Before it was established there were no similar jobs available in X. The golf course has provided work and training opportunities for locals. The X golf course provides permanent employment for a range of skilled and professional people. Many of the employees live locally, others commute from … to work which is only a short distance (20km) away. There are seven fulltime green keeping staff including two apprentices. These people are responsible for maintaining the course. The jobs range from weeding the gardens, to the development of bunkers … and regular mowing of the course. Other full time employees include the club administrators, professional/coach … Wages of the permanent staff vary with the head green keeper earning between $68-70,000 and the others between $30-55,000 … The wages earned flow into the local economy and encourage growth in the area … Local businesses in the town also provide services and products for the golf course like banking services, fertiliser supply and catering requirements …Other ideas include:* increasing tourists numbers attracted by the golf course
* shortage of accommodation and traffic congestion when major tournaments happen
* spray drift causing allergies in people living nearby
* golf club promotes and supports social activities for the local community
* leisure and exercise.

EnvironmentThe X stream that flows SW through the golf course has been affected by practices on the golf course. This has had “knock on” effects for the natural environment. All year round water from the stream is used to irrigate the greens on holes 8 - 18. Water is pumped using solar power to sprinklers which at night water the greens. This way the water is removed from the river system, reducing the stream’s capacity and affected the volume of water that flows in the channel. A decrease in the volume of water means that the hydrological cycle is changed, flooding downstream is less common, particularly on the flood plain from holes 11 - 14. Irrigating the greens at night conserves the water, temperatures are lower and there is less evaporation, irrigation is more effective as water is not lost into the atmosphere.Other ideas may include:* planting of trees to stabilise slopes
* creation of “rough” areas to reduce soil erosion and keep soil moisture levels
* changes to water quality and the water cycle
* creation of habitats for birds/animals
* changes to soil type and fertility.
* fully explaining the sustainability, or otherwise, of the selected environment with continued use

For example (partial extract):The X golf course operates several practices that have ensured it can maintain sustainable use of this environment both now and into the future. Wildlife Protection Areas have been created between holes 8 - 16, and together include over seven acres. They have sprayed the noxious weeds like blackberry with an organic weed killer and cut down the wilding pines. Native trees, e.g. mānuka and kānuka have been planted to increase the vegetation succession of plants common to the area. This is a positive long term impact on biodiversity. Beehives have been erected in the WPA to encourage more bees to populate the local area; this also means that honey can be produced by the golf course. This is very effective, as selling the honey educates people about the sustainable practices of the golf course and ensures that the WPA are continued into the future. Generations of New Zealanders and hapū can rely on this environment being sustained for future use for their mokopuna.Other ideas may include:* water management practices
* long term planning for job creation
* green keeping practices, use of fertilisers/pesticides etc.
* diversification of golf course activities to sustain presence in the local economy e.g. wedding venue
* future management plans to increase sustainability.

The examples above are indicative samples only. |

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the Achievement Standard.