



# Capstone

## Designing a Sustainable Golf Course

**Objective:** Students will design a sustainable golf course by considering the good of the planet, people and profitability. Students will construct written responses using prior knowledge and research for their sustainability plan.

### Materials Needed

Internet Access, Colored Pencils and Graph Paper

**Engage:** Have students make a t-chart in their notebooks or create a class version on the board: unsustainable and sustainable. Have students work with a partner or in groups to fill-in both sides of the t-chart with ideas they have about sustainable and unsustainable (in general, not specific to golf).

**Explore:** Ask students to consider: Should there be golf courses in the desert? Have students explore golf courses in unsustainable locations and do a case study on a sustainable golf course.

**Explain:** Describe the definition of sustainability (reference STEM Sports® Glossary) to your students: the overlap of producing a good system for people, profit and planet. Focus on each area and work with your classroom to build a list of sustainable practices or policies for each area.

**Reference the following sustainability examples.**

Planet:

- Using less water

- Using less pesticides and fertilizers
- Biodiversity and local flora
- Topography that supports healthy drainage
- Open space for animals

People:

- Open area for community members for walking
- Affordable for all socio-economic status
- Aesthetically appealing for community and players
- Features that enhance the community or increase home prices
- Enjoyable for players

Profit:

- Low maintenance costs
- Lower startup costs
- Return on investment
- Long-term/Financial appreciation

**Elaborate:** Provide students with the project guide and supplies to draw out their designs (colored pencils, graph paper, etc.). Have students decide what key sustainability practices they would like to implement in each area and write a plan. This may require guided research depending on students' prior knowledge of sustainability.

**Evaluate:** Have students create short presentations from their sustainable golf course. This can be designed as a poster, PowerPoint or video. Students should present in small groups to their peers. In turn, peers should complete the peer feedback form.



# Sustainable Golf Course Design and Sustainability Plan



## Part 1: Select a location (10%)

Select a location for your golf course.

Research locations for the following information:

- Climate and weather of the area
- Property or land value in the area
- Other golf courses (example: is golf a popular game in that area?)

## Part 2: Create your sustainability plan (60%)

- Environmental Plan (20%):

Select 2-3 policies or practices from the “planet list” created in the *Explain* section. Develop and write a plan for your golf course to meet each policy or practice. You may need to conduct some research to support your plan. If so, include sources used.

- Community Plan (20%):

Select 2-3 policies or practices from the “people list” created in the *Explain* section. Develop and write a plan for your golf course to meet each policy or practice. You may need to conduct some research to support your plan. If so, include sources used.

- Business Plan (20%):

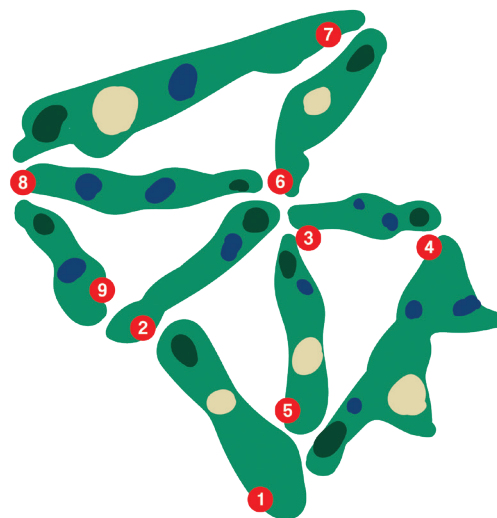
Select 2-3 policies or practices from the “profit list” created in the *Explain* section. Develop and write

a plan for your golf course to meet each policy or practice. You may need to conduct some research to support your plan. If so, include sources used.

## Part 3: Design and Features (30%)

Using the STEM Sports® 9-hole course as an example, draw your golf course design, including features discussed in your sustainability plan.

## STEM Sports® 9-Hole



Name: \_\_\_\_\_

Class: \_\_\_\_\_

# Capstone

GRADES 6-8

## Peer Review

Summary of course design and features:

Summary of course design and features:

Is their course design sustainable? Give evidence for people, planet, and profit.

How could they improve their design to make it more sustainable?