



Four Areas of Focus will guide your research, planning, and design.

As a class you will be creating a US Regions Golf Course. Each hole of the course will represent a region, its characteristics, and geographic features. You will incorporate the basics of golf course design including hazards and inclines and declines. You must investigate the limitations of the Sphero in different terrains and determine how the “RATE” (speed per distance) will help you traverse each course.

At the conclusion of this project, Wednesday of next week, teams will play golf on our Regional Sphero Golf course and attempt to get the lowest score.

GEOGRAPHY

Things you need to know... About the 8 Regions

8 Regions and their characteristics

Waterways and Geographical features of that region



ENGINEERING

Things you need to know... About Golf

<http://www.golf-information.info/types-of-golf-courses.html>

<https://www.thoughtco.com/hazard-term-1563982>

What type of course will you create?

What hazards will be included?

How will the design of your hole reflect the region's geographical features of that region?



SCIENCE

Things you need to know... Force and Motion

How will force and motion, potential and kinetic energy, and simple machines affect your sphero as it traverses the course?

Help us make decisions? What material should we use as our base? Bulletin board paper or Yoga Mat and why? What is the hole?



TECHNOLOGY AND MATH

Things you need to know... About your Sphero

How does the speed relate to the distance traveled?

How will calculating exact distances on your course help you?

What unit of measure should you use and Why?

How can you make changes to the variables to create a new “rate”?

Can your sphero travel on an inclined plane?

Can your sphero handle different levels of friction?

Can you use the Blockly to avoid obstacles and make turns of varying degrees?

Not only should your Sphero coders need to understand how to tackle your course but be investigating how to tackle any course in the class.



SCRUM PROJECT

What type of team is necessary to complete this task?

How will servant leadership play a role in this project?



MAKE SCRUM TEAMS

ASSIGN REGION



The Eight Geographical Regions of the United States



Coastal Plain → Excellent Harbors Located along Atlantic Ocean



Appalachian Highlands → Old Eroded Rolling Hills



Canadian Shield → Horseshoe shaped region



Interior Lowlands → Many Rivers, Flatlands



Great Plains → Grasslands, increase as move to Rocky Mountains



Rocky Mountains → Sharp Jagged Rocks



Basin and Ridge → Varying Elevations



Coastal Range → Fertile Land Located along Pacific Ocean

Created by Melanie Lewis
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DAY ONE SPRINT - SESSION ONE - Research Only

Only make Storypoints that will help you answer questions related to the four areas of focus.

You make work individually or in teams of two. Please write your name at the bottom of each task when you move it to the done pile.

Be organized and focused.

STAND UP (3 minutes) - WORK (30 minutes) - STAND UP (3 minutes)

Whole Class Discussion: What questions do you have? How can I overcome the obstacles do you anticipate?



Minimum Viable Product

What is the minimum acceptable product in (a 2, passing grade, C)

Science?

Engineering?

Technology?

Design and Creativity?

Reading and Research?

Math?

Geography?

Create Rubric



DAY ONE SPRINT - SESSION TWO - Research Only

Remember ONLY Storypoints related to research. NO Decisions yet. Planning is Tomorrow.

What areas need work after your last STAND UP?

Can you meet the Minimum Viable Product Standard?

What ideas do you have to exceed that standard?

STAND UP (3 minutes) - WORK (30 minutes) - STAND UP (3 min



Whole Class Discussion

What is your velocity? Do you need more time to research? You can research at home to bring ideas to the table tomorrow. NO planning. Planning is a group decision.



DAY TWO SPRINT - SESSION ONE- Planning

At this point you should have research about your region, golf course design, and the force and motion parameters and limits of your Sphero.

Make a Plan for moving forward. This will include making decisions as a group about design and characteristics.

Create storypoints that allow team members to gather materials and experiment with the Sphero. Test out your ideas.

*****Make a chart with the questions you have and what data you are gathering to answer those questions. Remember multiple trials. Save and add experimentation data to your folder. It will help you exceed your Science Goals!



STAND UP (3 minutes)

WORK (30 minutes)

STAND UP (3 minutes)



Do you have a plan? How does your SCRUM board look?

What materials do you need? How can I help? How can you help one another?



DAY TWO SPRINT - SESSION TWO- PRODUCTION

STAND UP (3 minutes)

WORK (30 minutes)

STAND UP (3 minutes)



Are you ready to be interviewed? Can you talk about what you are doing and what you are learning while doing it?

- SCRUM - framework for teamwork and productivity
- Servant Leadership
- FLeRD
- Aprons and commitment
- What other projects we have done
- Why do you like the innovation studio? Don't say innovative or fun!!



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Force

Motion

Momentum

Friction

Potential Energy

Kinetic Energy

Attention to Detail?

Rivers and waterways do not have straight lines?

Visible Tape? What?

Where are the labels?

Do you have a name for your hole?

Can you tell about the geographic features and waterways?

Does your hole meet the Minimum Viable Product Standard?

STAND UP (3 minutes)

WORK (30 minutes)

STAND UP (3 minutes)

