



SKATEISTAN LESSON PLAN

“Local Mapping”

Curriculum	People of the World	Date	Q1
Author / Site	First Name / City Name	Series	1 Lesson / 60 Min.

Students learn about mapping by navigating an obstacle course in teams: lesson concepts related to geolocation, mobile technologies, and Earth science.



KEY VOCABULARY

GPS (global positioning system), Degrees
 Satellite, Rotation, Revolution, Latitude, Longitude
 Earth Science, Mobile Technology, Geolocation

MATERIALS & EQUIPMENT

REQUIRED	(OPTIONAL)
Smart phone	Computer
Google maps app	Projector
Obstacles / cones	Chalk
Paper	Fruit (orange)
Coloring materials	Toothpicks
Skateboard	
Safety gear	

RESOURCES & REFERENCES

- [Latitude and Longitude of an Orange](#)
- [GPS for Kids](#)
- [Rotation and Revolution of Earth](#)
- [How do GPS Coordinates Work](#)

Related Skateistan Lesson Plans

- [GPS Mapping](#)

LEARNING OBJECTIVES / OUTCOMES

1. The students will become more familiar with reading, following, and creating maps.
2. Students will observe how maps can be used with mobile technologies.
3. Students are introduced to GPS and Geolocation.
4. Students learn navigation vocabulary in an introduction to Earth Science.

LESSON PREPARATION

1. Educators have localized the lesson, adapting it for community needs. All local research is completed and resource links have been added into the lesson plan. All lesson feedback has been shared with supervisors within lesson plan comments.
2. Educators have had a lesson run-through and are familiar with topic and activities. Educators are familiar with all relevant vocabulary and resources before the lesson.
3. Educators identify a open space for the mapping exercise.
4. Make sure all phones to be used in the lesson have Google Maps already installed.
5. Learn how to download a map in the Google Maps app. Turn off the data on the phone during the lesson - you do not want notifications from other apps to be distracting from the lesson. The GPS will work even without the data.

ASSESSMENT

1. Nods and Shakes feedback with student follow-up.
2. Local Mapping Assessment.

LESSON 1:

INTRODUCTION

15
Min

Student Attention:

Kids are attracted to phones like magnets! Bring the phone out and use Google maps while you ask the questions. Use the phone to maintain student attention

Educator Pro Tip!

Turn off your data before beginning the lesson! You don't want notifications or messages from your friends distracting students!

Optional Exploration

A computer and projector can be used to explore the Google Map of current location along with directions to key local icons students recognize (monuments, landmarks).

Phones and Maps:

Educator brings cellphone and opens Google maps app. Introduce map topic with questions. Show current location with directions to key local icons students recognize.

Educator Questions for Students:

- *Have you ever used a map?*
- *What do you use maps for?*
- *How do you read a map?*

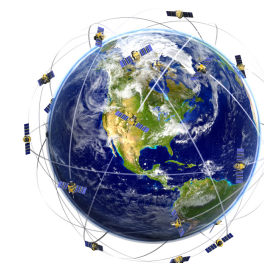
GPS Mapping

- *Have you ever used a map app?*
- *How does the phone know where to go?*
- *Have you heard of GPS? Explain how Satellites create our GPS using the [GPS for Kids](#) resource*
 - *24 Satellites* around the world, out in space!
 - This is how the maps on our phone work!
 - Show students our current location on Google Maps
 - Experimenting zooming out!
 - Show the Latitude + Longitude

Phone
Google maps app



Computer
Projector



ACTIVITY SEQUENCE

30
Min

Educator Pro Tip!

After introducing the lesson, help the students brainstorm before starting. How do they want to go through the obstacle course? Use your demo map as an example to show individual groups. Some students may need assistance drawing and reading their maps.

Accessibility

If your class includes lower fitness and higher fitness students, try to mix groups together with the teams. Chalk can be used to draw a clear line on the ground



Mapping Teams

Educator separates the students into 2 groups and passes out supplies. The obstacle course is set in the space.



The activity is demonstrated by the Educators. First, one Educator becomes 'The Satellites' - they draw the obstacles on a map and create a path through the obstacle course. The Satellite Educator passes the new map to a second Educator, who becomes the 'Driver' sitting on a skateboard. 'The Satellites' push 'The Driver' who reads the maps made by their partner and steers. The Satellite Educator follows the directions of the 'The Driver', pushing them through the course. Afterwards, the team switches roles.

Skateboards
Safety equipment
Paper
Coloring materials
Obstacles / cones
Chalk



TIME	TEACHING STRATEGY	STUDENT ACTIVITY	MATERIALS	EXAMPLES
	<p>following the path on the map.</p> <p>Experiential Learning During the lesson, providing a model that students can see and touch (as well as taste!) can create a richer educational environment for learning. At the end of the lesson during the assessment, the model (fruit) can be reappropriated as a healthy reward for students. Learning can be sweet and healthy too!</p>	<p>Earth Review If appropriate to the level of your group, gather the students together and take them back to the classroom to review the science behind GPS. Use the fruit to give the students a tangible model for the earth, and the toothpicks in the fruit as a way to visualize geolocation and satellites. Lines can be drawn on the fruit to represent Latitude (North - South) and Longitude.(East - West).</p> <ul style="list-style-type: none"> ● <i>Let's start with the Earth. Do you know how the earth moves? Let's take a look:</i> <ul style="list-style-type: none"> ○ If the Earth was the size of an orange or apple, the moon would be about the size of a bottle cap, and the Sun the size of a bus! ○ With the model, demonstrate <i>Rotation and Revolution</i> <ul style="list-style-type: none"> ■ Video: Rotation / Revolution Earth ● <i>We use maps of the world to pinpoint different places</i> <ul style="list-style-type: none"> ○ Latitude (North - South) ○ Longitude.(East - West) ○ If we return to our orange model, Latitude runs in the same direction as the orange slices <ul style="list-style-type: none"> ■ Image: Orange ■ Video: How GPS Works 	<p>Fruit (orange) Toothpicks</p>	<p>Orange cut through lines of longitude</p>  <p>Orange cut through lines of latitude</p> 

CLOSURE

<p>15 Min</p>	<p>Educator Review The Educator takes note of how many students shake or raise their hands. They must consider how they can connect with these kids. How can the lesson change to teach them more clearly? Their responses should be passed along to their supervisor through comments as suggestions to improve the lesson.</p> <p>Child-Centered Approach Although it may seem trivial, providing fruit that was used to model the Earth can be a wonderful educational take-away for students after the lesson. Beyond following a teacher's directions, children must learn to take responsibility for making choices to explore their own horizons. The world is in their hands!</p>	<p>Nods and Shakes At the end of class, the Educator asks the students to nod their heads if they had fun and learned new things today, shake their head if they haven't learned anything new, or raise their hand if they aren't sure. The Educator can follow up with the head shakers and those with their hands raised to see if there is any ideas they have for making the lesson better for them.</p> <p>Local Mapping Assessment Ask the students about the lesson, and provide fruit as a reward for student participation if available.</p> <ul style="list-style-type: none"> ● <i>What was it like to be the Satellites?</i> ● <i>What was it like to be the Driver?</i> ● <i>Have you ever seen a person using a map on their phone to find a place?</i> ● <i>Where is a place you would need a map to find?</i> ● <i>Do you think you could use a map to find a place?</i> ● <i>Do you think you could make a map to find a place?</i> <p>Ask the students to take 5 minutes to draw a map from the skatepark to your house before leaving.</p>	<p>Paper Coloring materials Fruit</p>	 
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