

# Integrating Gizmos with Hands-on Activities and Investigations



Gizmos can be used to support learning along with a hands-on investigation. Using a Gizmo at different times in the lesson cycle allows students to interact with the content in a variety of ways and modalities. **Each Gizmo is accompanied with customizable Lesson Materials and a Teacher Guide that includes strategies and ideas to integrate Gizmos into your lesson plans.**

These Gizmos are a few examples of how simulations can support conceptual understanding pre-investigation, as the investigation (supplement or substitution) and post-investigation to enhance learning experiences for students. You can use all of these strategies or pick/choose which best aligns with your teaching style.

<b>Earth and Space Science</b>	Observing Weather Tides Topographic Maps
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There are over 400+ Gizmos to choose from, all aligned to the latest standards help educators bring powerful new learning experiences to the classroom.



## Integration Ideas

### Pre-Investigation

- Make predictions
- Introduce concept/lab
- Activate Prior Knowledge

### Investigation

- Demonstration
- Individual/Group Investigations
- Task Cards

### Post-Investigation

- Guided/Open Inquiry
- C-E-R Prompts
- Extension Activities

### Learn More

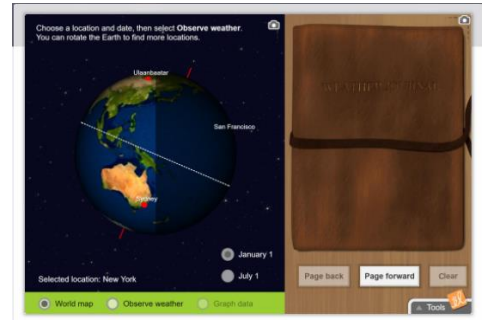
[Teacher Resource Hub](#)  
[On-Demand PD](#)

## Gizmo: [Observing Weather](#)

How can Gizmos support my weather investigation or 'Home-made Weather Station' hands-on activity?

**Pre-Investigation Option:** Choose the city on the map that is closest or most similar to where you live. Activate prior knowledge by asking students what the weather is like during different times of the year and how they know. Using the Gizmo, go to the city closest to you and observe the weather. Discuss how close the weather in that area is to your area and ask students why it might differ.

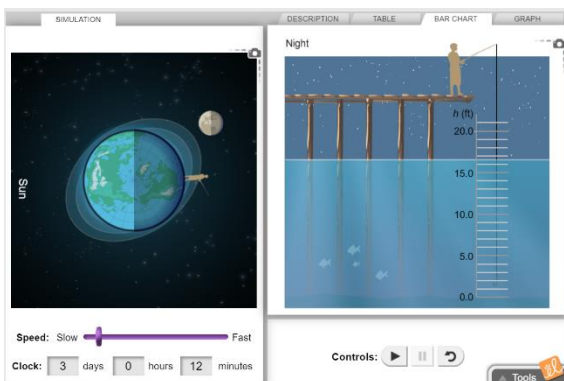
**Investigation Supplement or Substitution Option:** Complete Activity A on the Student Exploration Sheet as a whole class, demonstrating how you would measure and record data. Then in small groups or individually, have students choose two different cities and collect weather data. Choose questions from Activity C to help guide student answers or have them summarize their findings on their own.



**Post-Investigation Option:** Assign a RAFT (Role - Audience - Format - Topic) paper where students are explorers and they have just discovered a new place. Students will select one city they did not investigate yet and report on the weather conditions using the RAFT format. It is up to you how much you want to assign and how much you want to leave up to the student.

## Gizmo: [Tides](#)

How can Gizmos support my Tides hands-on activities?



**Pre-Investigation Option:** Complete the Prior Knowledge Questions and Gizmo Warmup as a whole class. Review the Tides Vocabulary sheet and add/delete any vocabulary words according to your curriculum and lesson objectives. Have the students illustrate each vocabulary word using the Gizmo. Students can manipulate the Gizmo to show the vocabulary word and then take a screenshot and add it to a Google Doc or Word doc.

**Investigation Supplement or Substitution Option:** Complete Activity A and B in the Student Exploration Sheet, or have the students complete the Tides task card.

**Post-Investigation Option:** Ask students to plan a weekend of fun on the beach. They will come up with a list of activities on the water and on the beach, but they have to account for tides. Their schedule should reflect tidal changes and they explain why they are choosing that time. They can use the Gizmo to support their schedule.

Gizmos: [Reading Topographic Maps](#) and [Building Topographic Maps](#)

How can Gizmos be used to support my students making 3D map models using cardboard/foamboard or other Topographic Maps Kits?

**Pre-Investigation Option:** Start with the Reading Topographic Maps Gizmo. Have students explore the Gizmo and explain to you how it works. Next, have students complete Activity A and B in the Student Exploration Sheet.

**Investigation Supplement or Substitution Option:** Using the Gizmo Building Topographic Maps, have the students complete the Make a Map and Make a Profile activities. Using the Extension Worksheet, have each student create a new map and paste it on their Extension Worksheet. Then have students trade Extension Worksheets and create a profile for the new map.

**Post-Investigation Option:** Review topographic maps by completing Activity C in Reading a Topographic Map Student Exploration Sheet as a whole class. Give students a premade profile and using the Building Topographic Maps Gizmo, have them create the map. Using the map they made, have students plan out a small community that includes several buildings and other features (swimming pool, tennis court, etc). Students will have to justify the layout of the community based on their topographic map.

