

## Endurance22— Math

Welcome to the Endurance22 Expedition to Antarctica. Reach the World has designed a journey outline with linked articles and sample activities to guide you. This itinerary is designed to be followed at your own pace. Use this suggested itinerary and take your students on a virtual exchange expedition that they'll never forget!

Want more related learning resources? [Feel free to use any of Reach the World's activities!](#)  
Questions? Please contact [educators@reachtheworld.org](mailto:educators@reachtheworld.org).

### Week #1: Endurance22: A Historic Expedition

1. Journal: [An Expedition 100+ Years in the Making](#)
  - Recommended Activity:
    - i. [Design Your Own Expedition Flag](#)

### Week #2: Introduction to Endurance

1. Recorded Livestream: [Pack Your Bags](#) (41 mins)— The Endurance22 Expedition is just days away from departure for the Weddell Sea. What is RTW explorer Tim Jacob packing for a multi-week Antarctic expedition? Let's ask him!
  - Recommended Activities:
    - i. [Pack Your Bags](#) (Elementary)
    - ii. [Pack Your Bags](#) (Middle School/High School)

### Week #3: Providing Food for the S.A. Agulhas II

1. Field Note: [Everybody Loves Mealtime on a Ship](#)
2. Recorded Livestream: [Mealtime on the S.A. Agulhas II with Chef Kurt Daniels](#) (54 mins)— Tim speaks to S.A. Agulhas II's Chef, Kurt Daniels, about how he prepares meals for the Endurance22 Expedition.
  - Recommended Activities:
    - i. [Lunch on a Ship](#) (Elementary/Middle School)
    - ii. [Exploring Careers in Math](#) (Middle/High School)

### Week #4: Navigating Ice

1. Field Note: [What the Ice Gets, the Ice Keeps](#)
  - Recommended Activities:
    - i. [Time, Distance and Speed: A Math Worksheet](#) (Elementary/Middle School)
    - ii. [Breaking the Ice with Torque Worksheet](#) (High School)

### **Week #5: Finding Endurance**

1. Recorded Livestream: [Discovering Sir Ernest Shackleton's Endurance](#) (58 mins)— Over a century after Sir Ernest Shackleton’s ship sank, the Endurance22 crew found Endurance at a depth of 9,869 feet in the Weddell Sea. Watch Tim speaking with Endurance22 Director of Exploration Mensun Bound and AUV Supervisor Chad Bonin about sub-sea robotics and their search for Sir Ernest Shackleton's sunken Endurance.
  - Recommended Activities:
    - i. [Discovering Endurance, Using Math](#) (Middle School) with [Educator Resource](#)
    - ii. [Discovering Endurance, Using Math](#) (High School) with [Educator Resource](#)
    - iii. [Design-Based Thinking: Prototyping](#)

### **Week #6: The Challenges of Finding Endurance**

1. Album: [Discovery](#)
2. Journal: [Putting \(Very\) Smart Buoys to Work](#)
  - Recommended Activity: [Recorded Livestream with Dr. Tamaryn Morris and Thomas Mtontsi](#) (31 mins)— As part of the E22 science team, oceanographers from the South African Weather Service will use robot buoys to collect important data in and around the Weddell Sea. How? Let's ask them!
  - Recommended Activities:
    - i. [Water Pressure Worksheet](#) (Middle School)
    - ii. [Share your reactions to the discovery!](#)

### **Week #7: Reflections on a Historic Expedition**

1. Journal: [Farewell to the S.A. Agulhas II](#)
  - Recommended Activity:
    - i. [Ship Diagram](#) with [Educator Resource](#)
    - ii. Share your feedback with us: [E22 Survey](#)
    - iii. Watch crew and expedition member reactions and have students share their own [here](#)

#### OPTIONAL: Live Video Conference with Reach the World Explorer Tim Jacob

Would you like to schedule a live video conference between your students and Tim? Video conferences are optional and subject to classroom and explorer availability. Reach the World strongly recommends that classrooms review most expedition articles prior to scheduling a video conference.

Interested? Please e-mail [educators@reachtheworld.org](mailto:educators@reachtheworld.org) and Reach the World staff will get in touch with further information.