

SAINTS GLOBAL  
**LEADER GUIDE**

**EARTH SCIENCE**

INTELLECTUAL CORE

Version 2026.1



 **PURPOSE & IDENTITY****SKILL BADGE PURPOSE**

To develop informed environmental stewardship by applying earth science principles to real ecosystems, pollution challenges, conservation efforts, and human decision-making.

**DEVELOPMENT CORE: INTELLECTUAL**

This badge develops intellectual attributes through focused activities and reflection. Saints will grow in this area while building practical skills.

**CORE FOCUSES**

- Observation and analysis of natural ecosystems
- Human impact on air, water, land, and wildlife
- Conservation, restoration, and resource stewardship
- Scientific reasoning and evidence-based conclusions
- Career awareness in environmental and earth sciences

**TIME COMMITMENT**

4-6 weeks (suggested)

**RECOMMENDED AGE**

13+

## SAFETY CONSIDERATIONS

### FIELD SAFETY

Outdoor observations must be conducted with appropriate supervision, weather awareness, hydration, and protection from insects, plants, and terrain hazards.

### ENVIRONMENTAL HEALTH

When studying pollution or hazardous materials, Saints must not directly handle unsafe substances and must follow local regulations.

## EMERGENCY CONTACTS

Troopmaster: \_\_\_\_\_

Emergency: \_\_\_\_\_



## THE DPAR METHOD

Saints Global uses the DPAR method for skill badge completion. As a leader, you should practice DPAR yourself when preparing to teach.

**D**

### DISCOVER

Learn foundational knowledge and concepts. Research, study, and explore the topic.

#### YOUR ROLE AS LEADER:

- Immerse yourself in the material before teaching
- Study each requirement—understand what AND why
- Anticipate questions saints might ask

**P**

### PLAN

Create a personal action plan with goals and timeline.

#### YOUR ROLE AS LEADER:

- Design your teaching approach for each requirement
- Gather materials and prepare discussion questions
- Consider how to adapt for different learning styles

**A**

### ACT

Execute through hands-on practice with leader guidance.

#### YOUR ROLE AS LEADER:

- Shift from teacher to guide—step back
- Create safe space for practice and mistakes
- Model the skills yourself when helpful

**R**

### REFLECT

Review what was learned and share experiences gained.

#### YOUR ROLE AS LEADER:

- Facilitate meaningful conversations
- Ask open-ended questions, listen more than speak
- Celebrate growth and help saints see their progress



## STEP 1: DISCOVER

### LEADER PREPARATION

- Review all DISCOVER requirements thoroughly
- Gather necessary resources and materials
- Prepare discussion questions and activities
- Identify potential challenges saints may face

**STEP 1: DISCOVER — TEACHING GUIDE**

**Requirement 1a: Explain what environmental science means in your own words and how science can be used to understand, conserve, and improve the environment.**

**HOW TO TEACH**

- Ask the Saint to connect science to real environmental decisions
- Discuss observation, data, and cause-and-effect
- Compare opinion-based vs evidence-based conclusions
- Reinforce stewardship as informed action

**Completion:** Saint clearly explains environmental science and its purpose.

**Requirement 1b: Observe an approved ecosystem over two days, noting living, nonliving, and formerly living components and their interactions, including human impact.**

**HOW TO TEACH**

- Encourage multisensory observation (sight, sound, smell)
- Use simple field notes or sketches
- Discuss food chains, native vs invasive species
- Identify at least one human-caused change

**Completion:** Saint presents clear observations and interactions.



## STEP 2: PLAN

### LEADER PREPARATION

- Review all PLAN requirements thoroughly
- Gather necessary resources and materials
- Prepare discussion questions and activities
- Identify potential challenges saints may face

**STEP 2: PLAN — TEACHING GUIDE**

**Requirement 2a: Investigate a local water source, how it is treated and disposed, and review a community water quality report.**

**HOW TO TEACH**

- Use official municipal or utility sources
- Discuss contaminants and treatment steps
- Explain why standards exist
- Connect clean water to public health

**Completion:** Saint accurately explains local water sourcing and quality.

**Requirement 2b: Research air pollution impacts by either comparing transportation modes or studying the Clean Air Act and its outcomes.**

**HOW TO TEACH**

- Use real examples tied to daily life
- Discuss tradeoffs and unintended effects
- Encourage balanced evaluation of benefits and costs
- Relate policy to measurable outcomes

**Completion:** Saint explains air pollution impacts with supporting examples.



## STEP 3: ACT

### LEADER PREPARATION

- Review all ACT requirements thoroughly
- Gather necessary resources and materials
- Prepare discussion questions and activities
- Identify potential challenges saints may face

**STEP 3: ACT — TEACHING GUIDE****Requirement 3a: Research and present on a rare, threatened, or recovered species, including habitat, status, and conservation efforts.****HOW TO TEACH**

- Encourage use of credible wildlife sources
- Practice concise explanation
- Discuss cause of decline or recovery
- Connect to local or national efforts

**Completion:** Saint completes report and presentation accurately.

**Requirement 3b: Complete one hands-on conservation or pollution-prevention activity such as resource conservation, recycling documentation, hazardous waste identification, or pollination study.****HOW TO TEACH**

- Favor actions with visible impact
- Require explanation of why it matters
- Connect actions to broader systems
- Encourage practical stewardship

**Completion:** Saint demonstrates and explains the selected activity.

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**STEP 3: ACT — TEACHING GUIDE (CONTINUED)**

**Requirement 3c: Investigate two invasive species in your area, explaining origin, spread, impact, and control methods.**

**HOW TO TEACH**

- Use local extension or conservation sources
- Compare invasive vs native roles
- Discuss prevention strategies
- Highlight long-term ecosystem effects

**Completion:** Saint accurately explains invasive species impacts.

**Requirement 3d: Conduct an experiment to test for particulate matter (PM) contributing to air pollution and explain findings.**

**HOW TO TEACH**

- Use safe, simple collection methods
- Explain sources of particulates
- Discuss health and environmental effects
- Emphasize experimental limitations

**Completion:** Saint completes experiment and explains results.

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**STEP 3: ACT — TEACHING GUIDE (CONTINUED)**

**Requirement 3e: Evaluate the environmental impacts of a proposed construction project, including purpose, alternatives, and consequences.**

**HOW TO TEACH**

- Introduce the concept of environmental impact assessment
- Require a no-action alternative
- Discuss tradeoffs and mitigation
- Focus on balanced judgment

**Completion:** Saint presents a clear impact evaluation.



## STEP 4: REFLECT

### LEADER PREPARATION

- Review all REFLECT requirements thoroughly
- Gather necessary resources and materials
- Prepare discussion questions and activities
- Identify potential challenges saints may face

## STEP 4: REFLECT — TEACHING GUIDE

**Requirement 4a: Identify three environmental or earth science careers and explain the training and preparation for one.**

### HOW TO TEACH

- Discuss field, laboratory, and policy roles
- Connect careers to badge activities
- Encourage realistic next steps
- Highlight service to society

**Completion:** Saint explains careers and preparation clearly.

## RESOURCES & CONTACT

### RECOMMENDED RESOURCES

- Saints Global Resource Library — Online materials and guides
- DPAR Method Quick Reference — Printable guide for leaders
- Child and Youth Program Guidebook — LDS Church Official Documentation for Children and Youth
- For the Strength of Youth — A Guide for Making Choices

### SAINTS GLOBAL CONTACT INFORMATION

 [www.saintsglobal.org](http://www.saintsglobal.org)

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 Curriculum: [curriculum@saintsglobal.org](mailto:curriculum@saintsglobal.org)

**Thank you for leading Saints Global!**

Your dedication makes a difference in the lives of our children and youth.