



# Creation Lens

*Exploring the World, Discovering God*

*Grade Level: Grade 6*

*Title:*

## **Using a Compass & Using the Ten Commandments as a Moral Compass**

*Denomination: Catholic*

*Lesson ID: ES-G6-02-CA*

**Contact Info:**

Exploring the World, Discovering God (EWDG)  
Institute for Theological Encounter with Science & Technology (ITEST)  
20 Archbishop May Drive, Suite 3400A  
St. Louis, MO 63119

EWDG email: [EWDG-Info@creationlens.org](mailto:EWDG-Info@creationlens.org)

EWDG web site: [www.creationlens.org](http://www.creationlens.org)

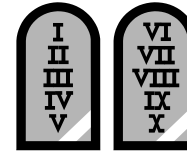
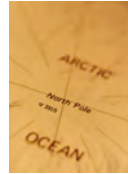
ITEST web site: [www.faithscience.org](http://www.faithscience.org)

Ph: 314.792.7220

***Note: Web sites referenced in this lesson were valid at time of publication.***

Copyright by Exploring the World, Discovering God (EWDG), a pilot program of Institute for Theological Encounter with Science & Technology (ITEST). All rights reserved. The contents, or parts thereof, i.e., lessons/modules, may be reproduced for classroom educational use only. Any reprinting or reproducing for the purpose of sale is prohibited, and if done, party is subject to all legal sanctions.

© ITEST © EWDG



## **EARTH SCIENCE – GRADE 6 – CATHOLIC**

### **LESSON TITLE: Using a Compass & Using the Ten Commandments as a Moral Compass**

**GENERAL CONCEPT: Finding the direction.**

#### **SCIENCE LESSON CONCEPT**

- How a compass relates to the magnetic field of the Earth

#### **GOAL OF SCIENCE LESSON**

- Students will learn that the Earth as a whole has a magnetic field that is detectable at the surface with a magnetic compass.

#### **OUTCOME EXPECTED**

- Students will observe how a compass works.
- Students will be able to explain how a compass works using the magnetic field of the earth.
- Students will be able to list examples of how a compass is used for navigation on land, sea, and air.

#### **RELIGION LESSON CONCEPT**

- How the Ten Commandments are the moral compass for the people of God

#### **GOAL OF RELIGION LESSON**

- Students will learn how the Ten Commandments are a compass which guides us in our relationships with God and with others.

#### **OUTCOME EXPECTED**

- Students will learn how the Seventh Commandment guides us like a compass to respect people and their possessions.

## **MATERIALS NEEDED**

- Science Journal page: The Compass
- Pen or pencil
- Pictures of different kinds and sizes of magnets
- Variety of magnets
- Pictures of the earth's magnetic field
- Compass
- String
- Iron filings
- Paper
- Bar magnet
- Prizes for geo-caching activity (treasure hunt)
- A set of clues for each pair or team (put each set in a different order so that no two teams arrive at the same geo-caching location at the same time)
- Bag of prizes for each pair or team (depends on the number of geo-caching locations)
- Log "Book" or Log-in Sheet at each geo-caching location giving the date, time, and the students' names

## **MATERIALS NEEDED**

- Religion Notebook/Journal
- Pen or pencil
- Graphic organizer form
- Debate outline and guidelines
- Chalkboard
- Chalk

## SCIENCE METHODOLOGY

- **SHOW** the different types of magnets. (actual magnets and pictures of magnets)
- **HAVE** the students record the types of magnets on the Science Journal page.
- **EXPLAIN** how a magnet works.
- **HAVE** the students draw the magnet and show how the poles are oriented on the Science Journal page.
- **HAVE** the students compare the magnet drawing with a compass and how it works.
- **HAVE** the students place a bar magnet beneath a piece of paper.
- **HAVE** the students spread iron filings on top of the paper.
- **HAVE** the students draw how the iron filings are arranged around the magnet on the Science Journal page.
- **SHOW** the picture of the earth's magnetic field.
- **ASK:** How can a compass detect the magnetic north?
- **PUT** the compass near the bar magnet and the iron filings.
- **ASK:** What happened to the compass? (needle changed position)

## RELIGION METHODOLOGY

- **SAY:** We are going to briefly review the Ten Commandments.
- **HAVE** the students attempt to write the Ten Commandments in the Religion Notebook without looking them up.
- **SAY:** Here are the Ten Commandments. (teacher lists the Ten Commandments and students add to their list or change their list)
- **SAY:** We live a moral life because we are united in Baptism with Christ Jesus in the Holy Spirit. This unity enables us to follow God's rules.
- **EXPLAIN** how the Ten Commandments and the virtue of justice act as a moral compass so we can journey in the right direction and draw closer to God.
- **SAY:** The Seventh Commandment calls us to the virtue of justice. Remember that we need to exercise our virtue to keep it alive in us. The Seventh Commandment is one of the commandments which guides us in our relationships with others.
- **ASK:** What are some examples of breaking the Seventh Commandment: "Thou shalt not steal"?
- **ACCEPT** and record the students' replies.
- **ASK:** What are some examples of keeping the Seventh

- **ASK:** Where is it pointing now? (to the bar magnet)
- **ASK:** Did the iron filings and the magnetic field of the magnet change when you put the compass near it? Why? Why not? (maybe not close enough)
- **SAY:** The needle changed its direction because the closer attraction becomes the dominant force.
- **SAY:** Many people use a compass to find their way.
- **ASK:** What are some jobs that would require you to use a compass? (camp leader, pilot, sailor, ranger)
- **SAY:** We are going to use our compass for an exciting and fun-filled activity. It is called geo-caching. I have hidden “treasure” at various locations. You will have to use the compass to find the locations. After you follow the clue, you may still have to look around for the geo-caching “treasure”.

When you find the geo-cache, you will need to fill in the log-in sheet. You will take the “treasure” and replace it with a new treasure from the bag of prizes I will give you.

You will work in pairs or teams and will share the “treasure” that you find.

I will give you a set of clues and you have to follow them exactly to find the geo-caching spot. An example of a clue might be “From the start position, walk 50 steps North.”

Each pair or team will have a different set of clues so you

Commandment (returning something you found; not cheating on a test or homework assignment, sharing evenly)

- **ACCEPT** and record students’ replies.
- **DIVIDE** the class into two debate teams.
- **SAY:** The topic of our debate is “Is cheating on a test breaking the Seventh Commandment?” or another fitting topic.
- **ASSIGN** one team the Pro side and one team the Con side.
- **ALLOW** both teams to discuss and prepare their arguments.
- **GIVE** each side the rules and outline for the debate.
- **HOLD** the debate.
- **AFTER** the debate concludes, point out how the Ten Commandments are a good example of the loving care of God. He gave us a moral compass in the Ten Commandments so that we could always walk with Him and honor the covenant that we have with Him.
- **POSIT:** The Ten Commandments are a moral guide, like a compass. Each commandment calls us to practice a particular virtue. The Seventh Commandment requires that we are honest in all things. Cheating on a test or assignment is stealing the other person’s knowledge.

won't all end up at the same geo-caching location at the same time. Do them in the order you received them.

There is a definite area in which you must remain. Those boundaries are \_\_\_\_\_ to \_\_\_\_\_.

There is a time limit for this activity. You will have only (specify time). When I blow the whistle, you will have to stop the Treasure Hunt and return to the Start place.

- **AFTER** the time is up, collect all the clues and have the pairs or teams share what “treasures” they collected.
- **COLLECT** any extra prizes that the team did not use.
- **ASK:** What did you have to do to get the prize? (follow directions and use the compass correctly)
- **SAY:** Here is your assignment. You are going to answer these questions by doing some research.
  1. What are GPS systems?
  2. Do they rely on the earth's magnetic field or are they a totally different kind of location system?
- **HAVE** the students look up GPS on the internet to find the answer to the questions. Students should write their answers and their web source on the Science Journal page. This assignment is due on \_\_\_\_\_.
- **POSIT:** A compass detects the earth's magnetic field and can be used to determine direction.

The Seventh Commandment calls us to practice the virtue of justice.

## SCIENCE LINKS

[www.lessonplanet.com/search?keywords=compass+rose&media=lesson](http://www.lessonplanet.com/search?keywords=compass+rose&media=lesson)

Search Compass rose lesson plans to find teacher approved lesson plans by grade and...They use a variety of locations to practice the skill of using a compass and recognizing...Click on Worksheets.

[www.wayneindependent.com/features/x1389364156/Geocaching...](http://www.wayneindependent.com/features/x1389364156/Geocaching...)

Interested in a high-tech treasure hunt/ Students at Lakeside Elementary School in Honesdale had a ball recently participating in a geo-caching adventure, a GPS...

[www.speedofcreativity.org/2008/05/15/geocaching-in-the](http://www.speedofcreativity.org/2008/05/15/geocaching-in-the)

Chris Dede has discussed these types of projects that students at Harvard have worked on.

## RELIGION LINKS

[www.lessonplanet.com/search?keywords=ten+commandment&...](http://www.lessonplanet.com/search?keywords=ten+commandment&...)

Ten commandment Worksheets Reviewed By Teachers in this reading comprehension worksheet, students read an article about 19<sup>th</sup> century presidents. They answer ten multiple...good link to many work sheets and activities. Scroll down to 7<sup>th</sup> commandment if you want to limit your search.

## KEY WORDS

- MAGNETIC FIELD
- MAGNETIC NORTH
- COMPASS
- GEO-CACHING
- NEEDLE

## KEY WORDS

- TEN COMMANDMENTS
- SEVENTH COMMANDMENT
- PHYSICAL POSSESSIONS
- KNOWLEDGE
- COPYRIGHT
- DEBATE
- VIRTUE OF JUSTICE
- MORAL COMPASS