

Field Trips



Dr. Bart, Dr. Clair, and the S04 M.C. Escher class

Why?

- See something real
- Team building
- Fun

Examples

- Look for symmetry patterns
- Visit an art museum



When to go?

- During class
- Arranged time (or times) outside of class
- Student self guided

Transportation

- Bus or vans
- Arrange carpools
- Meet at site
- Walk or ride bikes. Save the planet.

Pre-trip

- Plan class time for this (~20 minutes)
- **Get in writing:**
 - How each student will reach the site
 - What are the teams or groups
 - Who will bring essential equipment (e.g. camera)
- Provide maps of site

At the site

- Take attendance
- Take a class photo
- Each team or group should take a group photo.
- Maximize time by having students take photos.
- Give a tour, or let them roam?

Follow up

- Require each student (or team) to hand in a project:
 - Written paper
 - Poster
 - Web page
- Plan class time for this.

Looking for symmetry

- Scavenger Hunt
- Students hand in checklist and upload photos to a free photo sharing website.
- Points for:
 - Each type of rosette (not D_n for n even)
 - Each type of frieze (bonus for all seven)
 - Each example of wallpaper
 - Bonus for five D_5 's, three $p6m$'s,...

Looking for symmetry

- Bonus for best group picture



Prizes!

- Mini stapler
- Pad of graph paper

Poster

- Each group chooses 1 rosette pattern, 1 frieze pattern, 1 wallpaper pattern.
- For each pattern, include
 - The photograph
 - An idealized drawing that has precisely the claimed symmetry
 - A description of the symmetry group

St. Louis Art Museum

- Renaissance perspective works
- Moorish, Chinese art: symmetries.
- Abstract & modern: geometric.
- Picasso and cubism: fourth dimension
- Beyond the collection:
 - Patterned floors
 - Architecture
 - Room of mirrors

Writing Assignment

- Choose one (or two) pieces from the museum.
- Discuss the artwork (describe it in detail.. subject matter, size, colors, techniques,...)
- How is the artwork mathematical?
- Explain the mathematics