Objectives:

1. *Students will recognize real life models of reflectional symmetry and rotational symmetry.*
2. *Students will use the computer for resource throughout this research project. They will research on the Internet, copy and paste real photographs of architecture or other real life connections.*
3. *Students will create a booklet, using illustrations and write summaries of their findings typed using double-spacing.*
4. *Students will identify web cite locations that are accessed.*

Task:

Research skills will be taught to you in school and you will continue the process at home on your own computer. If this is a problem, a note explaining the technology difficulty (i.e. no printer, no computer etc.) from your parent is needed by tomorrow.

Time will be given to you in one or two class periods. Other opportunities to use school computers will be during lunch help and access period, and homework club. <u>Computer time will be needed at home.</u>

Visual Expectations:

- ❑ *2 visual examples of reflect ional symmetry obtained from the Internet.*
- ❑ *Line of symmetry will be drawn directly onto the acquired photo.*
- ❑ *2 visual examples of rotational symmetry obtained from the Internet.*
- ❑ *An arrow will be drawn to identify the pivot point.*

Written Expectations:

- ❑ *Location in the world (Town, State, Country) for the illustration being used.*
- ❑ *Description of what the item is, written in your own words.*
- ❑ *Explanations of line of symmetry and pivot point as identified in the pictures*
- ❑ *Locations of all web cites*

Booklet Presentation:

- ❑ *Creative cover with heading (name, date, block #, KAPPA)*
- ❑ *Stapled*
- ❑ *Typed using double – spacing*

Time line:

- ❑ *This will be due on December 20, 2005 <u>It may be submitted early.</u>*

Grading:

- ❑ *Rubric is printed on the other side of this ditto.*
- ❑ *Project will count as a test.*

This paper will be the LAST sheet in your booklet.

Grading:	+1 ↓	+2 ↓	+ 3 ↓
Booklet Presentation: ❑ *Cover* ❑ *Stapled* ❑ *Double spaced typed*	*Directional errors* *No cover* *Not stapled.* *No heading on work.* *Not typed or double-spaced.* *No spell check used.*	*Minor errors* *Simplistic or no design on cover.* *Not stapled.* *Incomplete heading.* *Typing & spelling errors.*	*No errors* *Cover has theme & is well designed.* *Complete header*

Worth double	+2 ↓	+4 ↓ +6 ↓	
Reflectional Symmetry **Visual Expectations:** ❑ *2 visual examples for reflection symmetry* ❑ *Line of symmetry drawn where applicable* _MISSING IN ACTION_	*Directional errors* *(1) Hard copy physically attached to page with line of symmetry.* *Pictures presented but without line of symmetry.*	*Minor errors* *(1) Computer - generated picture with line of symmetry drawn.* *(2) Hard copies physically attached with no parent note.* *Line of symmetry has been drawn.*	*No errors* *(2) Photos generated and implanted using the computer with line of symmetries drawn.* *(2) Hard copies of photos and line of symmetry shown, along with parent note.*
Reflectional Symmetry **Written Expectations:** ❑ *Explanations of all examples including line of symmetry* ❑ *Locations of all web cites.* _MISSING IN ACTION_	*Directional errors* *Examples have many errors:* ❑ *No, or incorrect, line of symmetry evidence* ❑ *Written description is too vague* ❑ *No web cite information* .	*Minor errors* *(1) Example clearly explained with line of symmetry and description.* ❑ *(1-2) Example(s) provided, but some minor detail is needed in its description* ❑ *Line of symmetry is drawn but not mentioned* ❑ *Web cite location is incomplete* ❑ *Minor sentence structure errors*	*No errors* *(2) photos clearly described.* *(2) photos have lines of symmetry information explained.* *Web cite is noted.*

Worth double	+2 ↓	+4 ↓ +6 ↓	
Rotational Symmetry **Visual Expectations:** ❑ *2 visual examples for rotational symmetry.* ❑ *A line drawn identifying the pivot point.* _MISSING IN ACTION_	*Directional errors* *(1) Hard copy physically attached to page with pivot point shown.* *(2) Pictures presented but without pivot point.*	*Minor errors* *(1) Computer -generated picture with pivot point identified visually.* *(2) Hard copies physically attached with no parent note.* *Pivot point has been identified on both..*	*No errors* *(2) Photos generated and implanted using the computer visually identifying pivot point.* *(2) Hard copies of photos with parent note with pivot point identified visually.*
Rotational Symmetry **Written Expectations:** ❑ *Explanation of pivot point* _MISSING IN ACTION_	*Directional errors* *Both examples are missing pivot point explanations.*	*Minor errors* *(1) Example with clearly written explanation of pivot point rotation.* ❑ *Minor sentence structure errors*	*No errors* *(2) Photos with clearly written descriptions of pivot point rotation.*

| **Bonus opportunity**
Additional bonus for UNIQUE architectural photos that ONLY you find !!!! | *1 additional picture of rotational symmetry with required information*

+3 +2 +1 +0 | *1 additional picture of relfection symmetry with required information.*

+3 +2 +1 +0 | Test Score:

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