

Math 4 - Act. 13: Origami Cubes

Summary

This activity has students making paper folds to make a cube. During the process of folding, each quadrilateral will be identified and attributes will be listed.

Group Size

Individual

Materials

Six square pieces of multi-colored paper for folding (4", 5", or 6" sizes work best)

Additional Resources

At the end of the folding activity, have students complete the accompanying worksheet by listing each of the quadrilaterals and then give essential/ nonessential characteristics, examples and non-examples. See Quadrilateral Worksheet.

The semantic Feature Analysis Grid is an excellent activity to focus student attention to the attributes of each quadrilateral. See Feature Analysis Grid.

Background for Teachers

Student knowledge of parallel lines, and angles.

Intended Learning Outcomes

- 3. Reason mathematically.
- 5. Make mathematical connections.

Instructional Procedures

Invitation to Learn

Which quadrilaterals can be used to make a cube? Can we fold paper to make a cube? Inform students they will be making paper folds that will be used to make a cube. During the process of folding, each quadrilateral will be identified and attributes will be listed. Fold cube using the directions that follow.

Instructional Procedures

To make the Cube, six identical units must be folded. It is important to do all the folds the same way. Reversing/mirroring step three will change the unit so that it will not fit with the others.

Extensions

Possible Extensions/Adaptations/Integration

This can be an introductory lesson in learning the attributes of the different quadrilaterals. I teach geometry during the month of December, because there are so many shapes associated with Christmas. We paper fold many different items and use them to decorate the Christmas tree. I have a partnership with a local business where we decorate their Christmas tree in exchange for items we need in the classroom.

Homework & Family Connections

These cubes can be used as Christmas tree ornaments.

Credit: This is the Sonobe module credited to Mitsunobi Sonobe.

Bibliography

Origami module used is the Sonobe module credited to Mitsunobu Sonobe

Authors

[Utah LessonPlans](#)