

# Hot Air Balloons

## Summary

Students will demonstrate an understanding of molecular motion and density as affected by temperature. They will work in groups to design and build a hot air balloon that will carry a cotton ball(s) and fuel.

## Main Core Tie

SEEd - Grade 6

[Strand 6.3: EARTH'S WEATHER PATTERNS AND CLIMATE](#)

## Time Frame

5 class periods of 45 minutes each

## Group Size

Small Groups

## Materials

- [worksheet](#)
- [supply list](#)

## Background for Teachers

Care must be taken to avoid burns when launching the balloons.

## Instructional Procedures

Pass out the [grading rubric](#) and discuss the goals of the project. Take students to computer lab to study hot air balloon designs and why they work. Students are asked to understand why heat is used to make the balloon fly. Students draw a balloon design based on their findings that they believe will fly. They must label the parts.

Have students work in groups of 3-4. They compare their drawings from the computer lab and develop a new design for building their group balloon. Make a scale drawing of your design.

Develop a [budget](#) for your balloon based on your design. The winning balloon is based on the balloon's flight and its budget. (This is important since more than one balloon will probably fly so this becomes the tie-breaker.)

Students must get approval on their design and budget before beginning to build. I pass out the [supplies](#) they order on the budget form so I can control the inventory.

Students make their balloons and prepare to fly them.

On flight day I give them their cotton balls and they place them in their carrying system.

I pour in the fuel and I light the fuel on fire.

Keep students back from the launch for their own protection and so others can see.

Have a #10 can to put out any flames and a garbage can full of water for safety.

To keep the students busy when it is not their turn, have them draw each group's balloon and describe when happens to it.

Allow for more than one trial if possible.

Take pictures and have fun.

Pass out the [project conclusion worksheet](#) and have students answer the questions.

### Assessment Plan

Use the [rubric](#) attached.

### Bibliography

Lesson Design by Jordan School District Teachers and Staff.

### Authors

[Utah LessonPlans](#)