



ROCKET DESIGN TEST LAUNCH

Grades 4-8



LAUNCH PAPER ROCKETS

4-8: Students test launch their paper rocket designs.

BONJOUR!

5 min

SNACK / FREEPLAY

30 min

STORY TIME

15 min

STEM TIME

50 min

Materials:

- rockets
- goggles
- stomp rocket launch pad
- PVC pipes
- scissors
- tape
- paper
- pennies or other small objects for use as weights
- pens and pencils
- worksheets

Bonjour is French for hello!

Greet your students. Be friendly. Use their name, ask a question, give a high five, Take roll. Mark down which students took a snack and tally the snacks given out.

Enjoy free play:

Students enjoy playing outside and eating their snacks.

Read the story:

Read to your students outside as they sit in a circle. Older students may choose to read their own books during this time.

4-8: Rocket Design Test

Say: Today we will be launching the rockets you built on Monday to see which one from each variable group flies the highest.

4-8 Instructions:

1. Watch the teacher prep videos before conducting this lab.
<https://www.youtube.com/watch?v=pysNlxvGeOw>
<https://www.youtube.com/watch?v=8DPqUfy3Ltl>
2. On their worksheets have students circle the rocket from each group that they think will fly the highest in pencil.
3. Take students outside and assemble the rocket launch pad.
4. Allow students to perform multiple launches to observe their rocket. Students should stomp on the middle of the bottles, not the ends, so the bottles stay intact for multiple stomps. Have students circle the rocket from each group that flies the highest on their worksheets in pen. **For safety, students should wear goggles and should not launch their rockets while others are setting up! Consult the safety instructions included in today's worksheets before launching.**
5. Set up a fix-it station next to the launch site with scissors, tape and paper so students can modify their rockets and try new ideas.
6. Keep a pair of scissor in your pocket; you can easily assist students while loading their rockets by trimming the back of any rockets that become crushed while loading.
7. Have students complete their worksheets; discuss the questions as a class. If there's time you can have your students draw a picture of a rocket that combines all 4 variables that they think will go the fastest.



SPORTS / GAMES

25 min

*Older students may practice their sport if they don't want to play the game.

Materials:

- A small object such as a plastic animal or beanbag
- Playing area with places to hide the object (example: classroom, playground with equipment)

HOMework / FREE PLAY

20 min

CLEAN UP / DISMISSAL

5 min

Huckle Buckle Beanstalk

Objective- An object will be hidden. Students will then walk around the area to find the object. When they find the object, they will go sit down and say Huckle Buckle Beanstalk to let others know they have found it, without giving away where they found the object.

Instructions- Choose one student to hide the object. It can be hidden high or low, easy or more difficult, but it must be hidden in a place that can still be seen if someone is near it (not fully enclosed or covered). While this student is hiding the object, all other students will be in a designated area, such as their seats if in a classroom, or outside along a line. They will have their eyes closed and be facing away from the hiding area. Once the STEM coach says so, the students may open their eyes and begin hunting for the object. When a student finds the object, they must then go sit down. Encourage students to continue to pretend to look for another 5 to 10 seconds after finding the item, so it will be more difficult for others to know where the object was found. Once sitting, they call out, "Huckle Buckle Beanstalk!" to let others know they have found the object without giving away its location. The game continues until everyone has a turn to find the object. If the students are taking a long time to locate the item, the instructor can help to give hints by stating if they are "hot" or "cold." The closer to the item, the hotter they are, the farther they are means they are cold. STEM coaches may allow students to play multiple rounds, and have different students chosen to hide the object each time.

Instructions:

Allow your students some homework time. If they need help let them know you can help them. If they do not have any homework they can have some reading time, or they can have free time to go outside and play.

Clean up/pack up/dismissal

Clean up, pack up and head home.