

# ACTIVITY 3

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## COUNTDOWN BEGINS

### Objective

Students associate a countdown with a rocket launch and practice counting from 10 to 1.

### Standards

Mathematics, Technology, Language Arts

### Materials

- 11 copies of large rocket drawing (Figure 6, page 78), colored
- Videotape of a rocket or shuttle launch with audio of a countdown
- VCR and television
- Copies of small rocket drawings (Figure 7, page 79), 11 rockets per student
- Chart paper
- Markers or crayons
- Scissors
- 2 classroom chairs
- Clothesline
- 11 spring clothespins
- Pocket chart or chalkboard tray
- Strips of paper or sentence strips, 1 per student

### Educator Information

- Make 11 copies of the large rocket. Copy rockets on index-weight paper if available.
- On each large rocket, write one numeral from 10 to 1. On one rocket, write the word, *liftoff*. Color. Laminate rockets for future use.
- Copy the page with the small rocket drawing. Each student will need 11 small rockets. Use these rockets for student independent practice. The educator may write numerals from 10 to 1 and the word, *liftoff*, on the rockets before copying. If appropriate, students can write numerals and words on their individual rockets.
- Review the information on the International Space Station (ISS) and rockets. Be prepared to share information with students.
- Choose a location in the classroom to place the rockets in a countdown sequence.
- This activity requires two class periods.
- Review a countdown sequence from 10 to 1 and repeat selected activities for several days.



## Procedure

### First Class Period:

1. Remind students that construction of the ISS requires more than 40 rocket launches.
2. Tell students that a rocket launch begins with a countdown. As the rocket prepares to launch, we hear an announcer counting, "...10, 9, 8, 7, 6, 5, 4, 3, 2, 1, liftoff!"
3. Orally demonstrate a countdown sequence for students. If appropriate, have students practice with the educator.
4. Have students view a videotape of a rocket launch or watch a televised rocket launch. If possible, the videotape should have audio of the countdown sequence. If watching a real-time launch on television, record this event. Play the videotape several times.
5. Discuss why it is important to have a countdown. Ideas could include safety and timing issues. Countdowns allow everyone to know when the rocket launches. Write the ideas on chart paper and display in the classroom. Discuss what could happen if there was no countdown for a rocket launch.
6. Review a countdown sequence. Have students practice counting orally from 10 to 1.

### Second Class Period:

1. Review a countdown sequence before a rocket launch. Demonstrate a countdown sequence orally for students. Practice a countdown together.
2. Introduce the large rockets with numerals and the word, *liftoff*, written on them.
3. Use a pocket chart or the chalkboard tray to place the rockets in a countdown sequence. Have the class orally practice counting backwards while the educator puts the numerals in the correct order. Place the rocket with the word, *liftoff*, after the 1. Remember to always model sequencing from left to right.

4. Have students practice placing the rockets in the correct sequence on the chalkboard or in a pocket chart.

## Review

1. Have the students practice counting backwards each day until they become comfortable with the activity. Practice a countdown to get ready to go to recess, to prepare to clean up, or as a cue to become quiet. Incorporate a countdown into daily classroom routines.
2. As a class activity, students practice placing the rockets in the correct sequence. Students may independently practice putting the numerals in the correct countdown sequence. Encourage sequencing from left to right.
3. To vary the sequencing activity, tie a length of clothesline between two chairs. Attach eleven spring clothespins. Using the clothespins, have students attach the rockets to the clothesline placing the numerals in the correct countdown sequence. Monitor sequencing from left to right.
4. After students become comfortable with the correct sequence, put the rockets in scrambled order in a pocket chart, on the chalkboard, or on the clothesline. Select students to put the rockets in the correct order. Students may repeat the activity independently.

## Assessment

- Observe students as they independently practice sequencing the rockets with numerals from 10 to 1.
- Evaluate students as they independently practice a countdown sequence orally.



- Use the small rocket drawings to assess students. Before copying, the educator may write the numerals, 10 to 1, and the word, *liftoff*, on the rockets. As part of the activity, if appropriate, students may write the numerals, 10 to 1, and the word, *liftoff*, on the eleven small rockets. Have students color and cut out the rockets. Observe students as they independently place rockets in a countdown sequence. Students may glue rockets in the correct order on a strip of paper or on a sentence strip. Monitor sequencing from left to right.
- Before liftoff, there is a countdown. After liftoff, a clock begins counting upwards. It shows how much time has elapsed in the mission. Have students practice a countdown and then say, *liftoff*. After liftoff, ask students to practice counting upwards like the mission clock. Encourage students to count slowly while counting up and down. Students can count slowly to determine how long a minute is.
- Using the words, *countdown* and *liftoff*, introduce or review the concept of compound words. Compound words are two words that when placed together, form a new word. Write the word, *count*, on an index card. Write the word, *down*, on another card. Repeat this process with the word, *liftoff*. Ask students to look at the card with the word, *count*, and talk about what it means. Repeat with the word, *down*. With the words toward the class, hold the two cards next to each other. Ask students to form a new word with the two cards. Discuss its meaning. Repeat the process with the word, *liftoff*. Have students orally generate a list of other compound words. To assist younger students, the educator may find magazine pictures of items that are compound words, such as mailman, backyard, and baseball. Write the list on chart paper and display in the classroom. Divide these compound words into two words and write on index cards. Students practice forming compound words by putting the cards together.

## Enrichment

- Empty one box of table salt on a tray or in a small plastic container. A student uses a finger or unsharpened pencil to practice writing the numerals in a countdown sequence in the salt. Students may also practice writing the numerals in a countdown sequence in sand on the playground, with shaving cream on a table, or with fingerprint on paper.
- In a journal or on a piece of paper, students write the numerals in a countdown sequence. Students may write the word *liftoff* and draw a picture of a rocket taking off.
- Encourage students to use creative movement while practicing a countdown. For example, the student may squat while counting and jump up or “launch” when the word, *liftoff*, is spoken.
- Use the chants and rhymes in *Activity 11*, page 44, to review a countdown sequence.
- On the playground, students practice a countdown while jumping rope or drawing numerals on the pavement with sidewalk chalk.
- Select counting books to share and discuss with the class. *Blast Off! A Space Counting Book* by Norma Cole, listed in the *Suggested Reading* list, is a counting book with a space theme. Compare a countdown sequence to the numbers in the counting books.



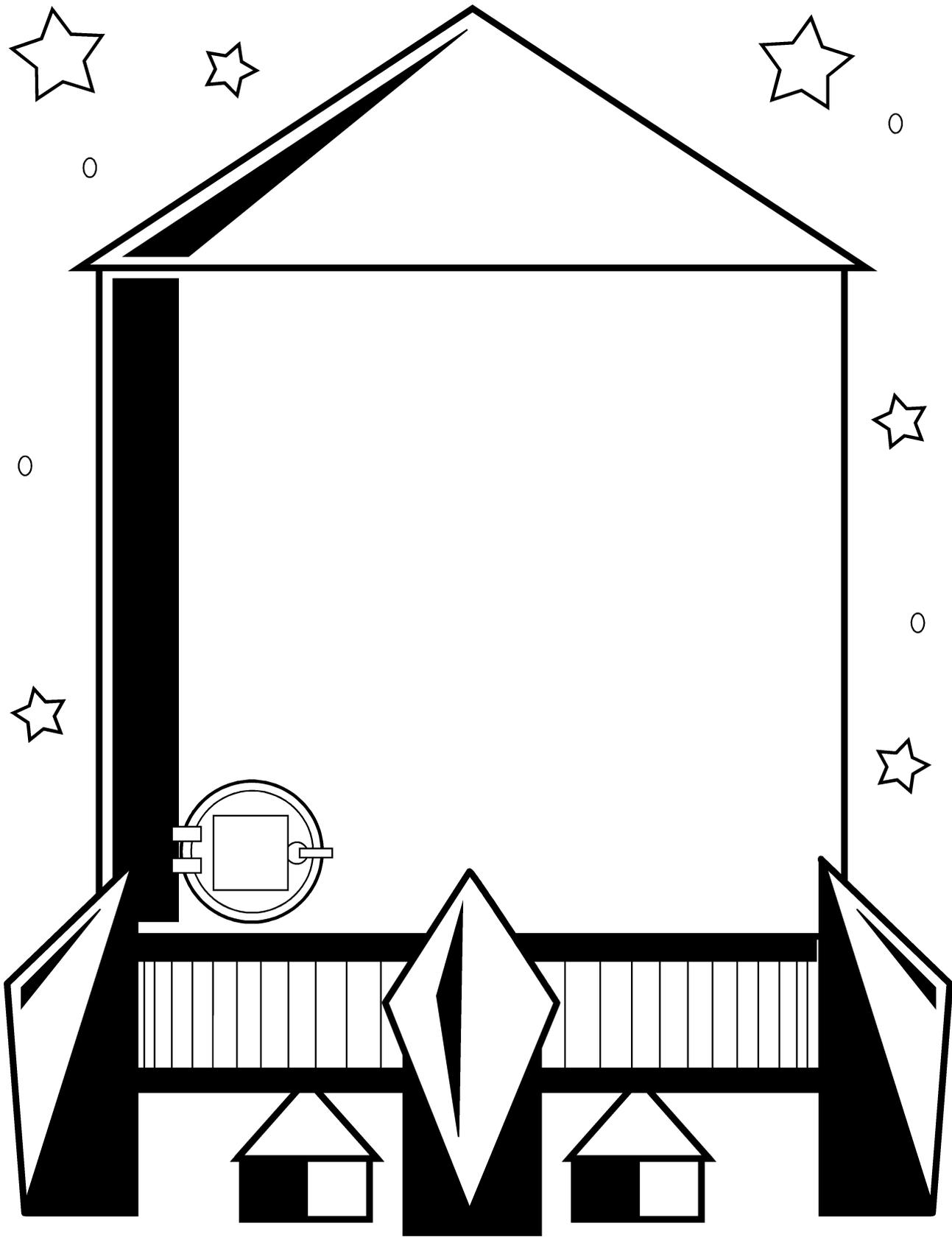


Figure 6. Large Rocket Drawing



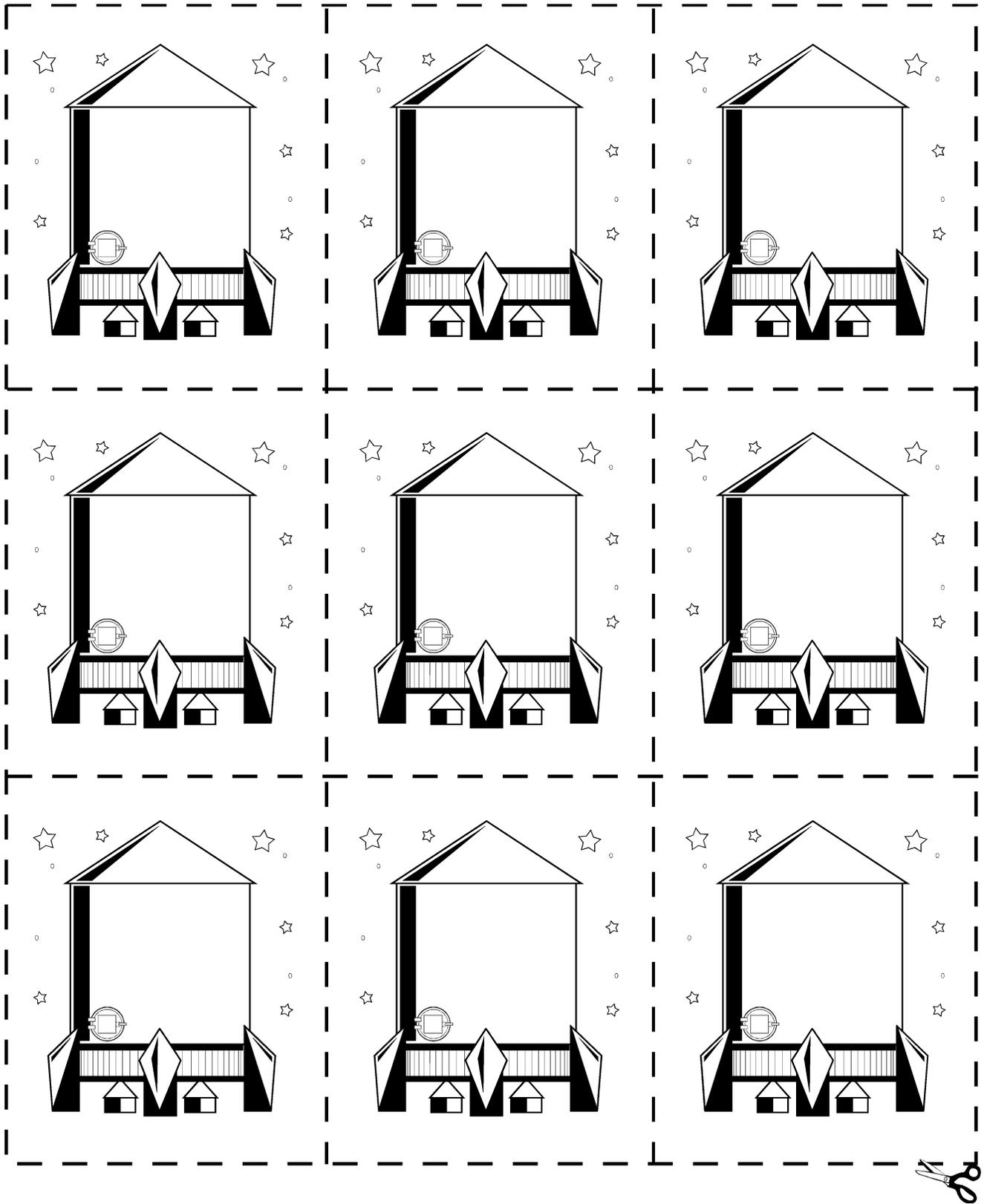


Figure 7. Small Rocket Drawings

