

THE FLURRY OF FIFTEENS



YOUR MISSION:

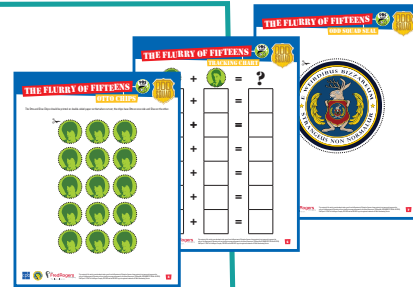
It's a case for the Odd Squad: Franny Fifteen is on her way and she needs lots of 15s ready for her when she arrives! Agents will need to figure out all the possible ways to add two numbers to total 15—or who knows what might happen when Franny appears?

LEARNING GOALS:

- Explore and practice addition skills.
- Learn the number pairs that total 15.

MATERIALS:

- Handout: Double-sided [Odd Squad Chips](#)
- Handout: [Fifteens Tracking Sheet](#)
- Eight grocery sacks or bags
- Pencils or markers
- 26 index cards
- Scissors (one per pair of children)
- A plain manila folder to use as the **case file**. You can attach the [Odd Squad Seal](#) (included in this packet) to the front and put the activity pages inside.



PREPARATION:

- Find the Odd Squad episode **Bad Luck Bears** (approx. 11 minutes) online at pbskids.org/learn/oddsquad/afterschool.
- Print the [Odd Squad Chips](#) and [Fifteens Tracking Sheet](#) (one of each for every two children).
- Write the numbers 0-15 on index cards and tape them on small objects around the room; they will be collected during **Casework**. Then, create 10 additional index cards with random numbers higher than 15 and place them on objects around the room; these cards can go on any object, large or small.
- Prepare your case file.

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IMPLEMENTING THE ACTIVITY:

- Help the children settle down by completing a fun, focusing task that explores addition. Challenge them to do five jumping jacks plus 10 jumping jacks. Ask them to take seven deep breaths while imagining themselves floating in space, then eight more. Note that both times, the total number of actions is 15.
- Once the children are focused, view the episode **Bad Luck Bears** with the group. Before you begin, ask the children to pay attention to the different strategies used by agents Olive and Otto to get to a certain number. After you watch, ask: *How did Otto and Olive solve the case? Was there more than one way to get to 13?*
- Tell the children that you've received a letter from the head of Odd Squad, Ms. O. Explain: *The Odd Squad needs our help. Are you ready to help crack a math case?* Read the letter from Ms. O aloud (below).
- Engage the children in **Training and Casework**, then celebrate with a **Case Closed** learning recap (following pages).

Letter from Ms. O

Agents! There you are! Someone very odd is coming to Odd Squad headquarters and we're not ready. Franny Fifteen is on her way (on her 15-wheeler bicycle that has 15 bells on it) and we need everything to be in tip-top shape when she gets here. That means having as many 15s as we can find to give her when she arrives. The agents who were supposed to gather them are busy cleaning up the pickle storm in Oscar's lab. It's up to you to find all the 15s, collect them and be ready for Franny to knock on the door. So, are you on the case? Then hurry, because Odd Squad needs you!



TRAINING:

1. Let children know that in order to crack **The Case of the Flurry of Fifteens**, they will need to discover all the different ways to add to the number 15. Say: *Just as we saw with the bears in the video, there are several different ways to add to the same number.*
2. Break children into pairs and give each pair a copy of the double-sided [Odd Squad Chips](#) and the [Fifteens Tracking Sheet](#). Instruct each pair of children to cut out all 15 of the Otto/Olive chips.
3. Now challenge the children to play a game. Have each pair gather their 15 chips, shake them and then toss them on the table. Ask them to count and record on the tracking sheet how many landed with Olive's face up and how many landed with Otto's face up. Remind the children that the total number of chips is 15, so the number of Otto chips plus the number of Olive chips will always equal 15. Instruct the pairs to keep playing until their tracking sheet is filled up.

NOTE: If it's not possible to print double-sided chips, the children can use either the Olive or Otto chips only, recording how many times the chips land face-up or face-down.

continued

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TRAINING CONTINUED:

- Gather your agents together and have the teams report the different number pairings they got. Write each one on the board as an equation, and record the equations in order, beginning with $0+15 = 15$. When you have finished, add any missing equations.
- Say: *Okay, agents, let's look closely at our list. Let's see if we can discover any patterns. What do you notice?* Help children to see that:
 - All of these equations add up to 15.
 - The numbers on the left get lower as the numbers on the right get higher.
 - You've come up with a total of eight combinations—but there would be twice as many if you wrote all of the combinations with the addends switching places ($10 + 5$ AND $5 + 10$, for example) and explain to the children that no matter what order they come in, the sum is the same.
- Play a **call and response game** to help children remember all the different ways to add to 15. Have them stand up and clap a beat, then say the rhyme below. Continue until you have reviewed all the pairs that equal 15.
Facilitator: *I put a [5] in the number machine.*
Children: *Add a [10] and you get 15.*

CASEWORK:

- Tell the children that it's time to crack **The Case of the Flurry of Fifteens**. Explain: *There are items all over this room that have numbers on them. Our job is to find them all, match them in pairs that add to 15 and bag each pair for Franny.*
- Set the agents loose to find the numbered objects. Gather them back periodically to review the items they've found, and match them in number pairs that equal 15. Remind them that they can look at the list on the board if they need help remembering the different number pairs that equal 15.
- As number pairs are matched, put the items in bags for Franny. Ask: *Do we have enough pairs of items to satisfy Franny Fifteen?* Remember, there should be eight pairs of items in all.

CASE CLOSED:

When all eight pairs of objects have been found, gather the children back into a group.

Say: *Great work, agents! Looks like we found all of the 15s and Franny will have a great visit. As part of our training, we like to review what we learned from the case and enter it in the case file so that future agents-in-training can learn from it.*

Ask: *Is there just one way to get to 15 using addition? How many ways are there? What would you do if you needed to find all the ways to get to 16? How would you start?*

Write down the learnings/findings that children share, close your case file and write **CASE CLOSED** across the front. Congratulate your agents on a case well-solved.

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TRACKING SHEET



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OTTO CHIPS

The Otto and Olive Chips should be printed on **double-sided paper** so that when cut out, the chips have Otto on one side and Olive on the other.



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ODD SQUAD SEAL



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