

3-5 At-Home Learning Resources

(Blue Packet)

Week #1

The Richland School District cares deeply about the well-being of our students and families. We highly encourage our students and families to set a daily routine that includes the following:

For our elementary families:

- Read daily with your child
- Play family games (board games, cards, puzzles, charades, pictionary, etc.)
 - Engage in an outside activity
 - Cook/bake with your child
- Maintain relationships with your child's teacher

These supplemental activities, readings, and other resources are available to students and families to continue learning and exploring while schools are closed in response to the novel coronavirus.

Students are not required to complete and/or turn in any assignments nor will any of these materials be used to assess students academically. Please feel free to use these optional resources as needed. Additional resources are available at:

<https://www.rsd.edu/coronavirus/learning-resources>.

Questions to Ask Before, During, and After Reading

These are questions to help engage students in discussions and conversations about reading. These questions are just suggestions and other questions can be added to this list based upon the type of reading students are involved in.

Before Reading

- What is the title of the book or text?
- What does this title make you think about?
- What do you think you are going to read about? (Make a Prediction)
- Does this remind you of anything?
- Are you wondering about the text or do you have any questions before reading?
- Skim through the article. Do any pictures, key words, and/or text features stand out to you?

During Reading

- What is happening so far?
- What does the word _____ mean on this page?
- What do you think the author is trying to communicate in this part?
- What do you think was important in this section? Why do you think it was important?
- What can you infer from this part of the text?
- Where is the story taking place?
- Who are the characters so far?
- What do you think will happen next?
- What does this part make you think about?
- What questions do you have?
- What words help you visualize what the author is saying?
- Is there a word that you struggled with? What is the word? Let's break the word into parts and look at context clues.

After Reading

- What was this text about?
- What was the main idea? What details from the text helped your determine the main idea?
- What did you learn from this text?
- How did the author communicate his/her ideas?
- What does this text remind you of?
- What was your favorite part and why?
- Did this text have a problem? If so, what was the problem and what was the solution?
- What is your opinion about this text? What are some parts that helped you make that opinion?
- What are some questions you still have about the text?
- Does this text remind you of other texts you have read? How are they alike and/or different?
- What is a cause and effect from the text you read?

Community Connections

Cross-Curricular Focus: History/Social Sciences



Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) Name something special about your own community.

2) What is one of the public services that your community offers to the people who live there?

3) What is a local community? _____

4) What is an example of a service business in your community? _____

5) What is an example of a retail (sales) business in your community? _____

People are very social animals. We need to talk with and do things with other people. We often understand ourselves better when we discuss our opinions, emotions and activities with other people. We need to make meaningful connections with friends and family. These connections help us put aside our frustrations and worries. We can focus on things that are important: the people we care about.

Your **local** community is the area near your home. It's where you work, play and go to school. It is the neighborhood where your **family** makes **connections** with other people. It's the places you feel like you **belong**.

Communities grow and change over time. Families move from one city to another because of work or family situations. Older adults often move to smaller homes or vacation areas after their children have grown up. Their children move out to start families of their own. New families move in when others leave.

Basic services, such as police, fire, post office, health and public schools are in almost every community. Businesses provide services to the community, too. Stores sell things that people need. Restaurants sell prepared food. Offices provide a variety of skilled work.

The local city government is usually an elected mayor and city council. It is their job to listen to the people of the community and help them connect. Some individuals may move on, but the community remains.

Responsibilities of Citizenship

Cross-Curricular Focus: Social Sciences



You are a citizen of the country you were born in. Usually, citizens live in their country as loyal members of society. Many countries also have options so people who are not natural-born citizens can become citizens of that country. When they complete the requirements, they are called naturalized citizens.

As a citizen of your country, you have some rights, duties and **responsibilities**. U.S. law guarantees the rights of all citizens. It doesn't matter what U.S. state the citizen lives in, the rights are the same for all citizens. This is because the U.S. Constitution is the supreme law of the land. The rights of citizens of the United States are protected in the Bill of Rights. The Bill of Rights is the first ten **amendments** to the U.S. Constitution. A citizen has the right to speak freely and the right to religious freedom. A citizen who is accused of a crime has a right to a fair trial and a trial with a jury.

In exchange for their rights, citizens have duties and responsibilities. They have a duty to serve on a jury when asked. They should obey all laws. In wartime, they must serve in the armed forces when required to. They must pay taxes to support the services and programs of the government. Good citizens vote in **elections** to express their opinion on how the government should be run.

In addition to a national **citizenship**, people are citizens of a state and a city. They have similar rights and responsibilities in each level of citizenship.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) In your own words, explain what it means to be a citizen.

2) What are the first ten amendments to the U.S. Constitution called?

3) What is a naturalized citizen? _____

4) Describe some of the duties and responsibilities of a citizen. _____

5) What are two rights guaranteed to citizens in the U.S. Constitution?

Making Predictions

Cross-Curricular Focus: Language Arts



You can improve your reading comprehension skills if you prepare your brain for reading before you begin. Read the title and help your mind make connections to things you already know.

Highlight important words in the title. If you are reading from a source that you can't write on, such as a textbook or library book, use a piece of paper. If you are reading on a worksheet or printed page on which you are permitted to take notes, use it. Consider each of the words one at a time. Write down what you think of when you read or hear that word. Then consider them collectively. They have been placed together to form the title. Make a prediction about what you will read. Remember that a prediction in language arts is what a hypothesis is in a science experiment. You are not making a wild guess. You are using all the available information to make a knowledgeable guess. What can you reasonably predict at this point? Write your prediction down so you can watch for it to be resolved one way or another as you read.

Look at any photos, illustrations, graphs or other visual aids that have been included with the story. Read any captions or informational notes to make sure you understand what has been included. Note any important statistics, dates or people. Pay attention to the colors used in the pictures and the mood that the pictures create. Write down any additional observations or predictions that come to mind. Remember that good predictions are based on evidence. Think about why you think as you do.

Read over your notes and predictions as you prepare to begin reading the passage. Keep your notes out in front of you while you read. As your predictions are either confirmed or proven to be incorrect, jot down little notes about what happened. If you do not understand something that you read, go back a few sentences and read again. If a specific word is giving you trouble, see if the words around that word can help you determine its meaning. If not, use a dictionary if one is available. Do not be content to read on without understanding. When you have finished reading, see if you can mentally summarize what you have read.

Whenever possible, discuss the reading with someone else who has also read it. This will allow you to share your predictions and thoughts about what you have read. Exchanging ideas sharpens your understanding. Then you will both be on your way to improving your reading comprehension.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) Name at least two techniques you can use to prepare your brain before you begin reading.

2) Why should you keep your notes nearby as you read?

3) How is a prediction like a hypothesis in science?

4) What can you do if you don't understand a specific word?

5) What is a benefit of discussing the reading with someone else?



Do you recognize this character? It's Arthur Rackham's Cheshire Cat from his illustration's in Lewis Carroll's "Alice in Wonderland." (Arthur Rackham/Jim Barnes)

Meet the illustrator who brought children's books to life



By Ben Panko *Smithsonian Magazine* | [January 30, 2020](#) |

Starting in the late 19th century, there were advances in printing technology. These advances allowed images to be printed cheaply. They came in lively color. This made newspapers and book reader demand images. They wanted them to complement the words they were purchasing. Those two factors led to the rise of a so-called "Golden Age of Illustration." One of the leading figures of this age was an English artist. That artist was Arthur Rackham. He was born on

September 19, 1867. He was born in the South London borough of Lewisham.

You might not know his name. But you'll know his illustrations. Rackham created many fantastical creatures and people. They decorated the pages of the children's books. The books were published in the early 20th century. Rackham was unassuming in appearance and manner. He worked as a junior insurance clerk before starting part-time at the Lambeth School of Art. That's where he began to translate a youthful passion. That passion was for books. He turned his passion into vivid illustrations to accompany works of classic literature.

Rackham had an expressive, detailed style of art. It made pieces like his iconic drawings of scenes in Grimm Brothers' Fairy Tales instantly recognizable. Maria Popova of Brain Pickings offers her thoughts on the other artists to tackle Lewis Carroll's Alice in Wonderland. She offers that none did more for the work than Rackham. His graphic designs for a 1907 printing influence the visual vocabulary of the story even today.

Dream Jobs: Children's author

By Hailee Romain, adapted by Newsela staff on 05.07.18

Word Count **886**

Level **680L**



Image 1. Children's author Kathleen Benner Duple holds up a selection of the books she's written. Duple first decided to become a writer in the third grade. Photo courtesy of Kathleen Benner Duple

Kathleen Benner Duple is a writer living in Boxford, Massachusetts. She writes books for children and adolescents. Her work is historical fiction. That means she writes made-up stories based on true events in history. Duple's books take place in a wide range of time periods. They include the Salem Witch Trials, the Age of Exploration and more.

What first sparked your interest in being an author?

When I was in third grade I wrote a very short story about a piece of paper that gets dropped into a pile of leaves. Looking at it now, it is really a pretty bad story. But when my teacher gave it back to me she said, "you should really think about being a writer." That was it. That was what I wanted to do from third grade on.

Can you walk me through the process of writing a book?

The first step is getting a story idea. That idea can come from just about anywhere. It could come from a story someone tells you, a person you meet or an article in a newspaper. Many times,

inspiration can even come from an experience you or a family member has had.

Once you are ready to start writing, it is a good idea to make an outline. That will help organize the story. But even with an outline, I find that the story often takes on a life of its own. The characters may take some surprising turns along the way.

What happens once you have written the first draft?

For me, that is when the editing process begins. It usually happens in three stages. First, I will finish the first draft and put it away for a few weeks. When I pull it out, I tend to find flaws or plot points that do not quite work. So I change them and put the story away again. I repeat that process until I think, "OK, this is as good as I can get it."

Next, the story is bought by a publisher. The editor will often want to make changes as well. They may ask you to change large sections of the story. It's a lot of work. That is why sometimes it takes up to two years to write a book and two more years for it to get published.

What are your favorite and least favorite parts of writing?

My favorite part is when I first get an idea. When I start writing, I get very excited about my characters and the journeys they are about to go on.

My least favorite part is editing. Editing is tough. You have in your head the way the story is supposed to be, but the editor may have a different vision. It can be difficult to change a story once you have worked so hard on it.



How do you deal with criticism?

You have to have a thick skin to be a writer. You are going to be criticized by everybody. But you cannot take it personally or think your writing is bad. You just have to frame it as "this person is helping me grow as a writer."

Do you ever have writer's block?

All writers get stuck at some point. When that happens, I go do something else for a while. I clean or take a walk. Your mind will keep working in the background and suddenly an answer will just pop into your head. If I'm really, really stuck, I'll go to the movies. I can usually get ideas there.

Can you describe a normal day at work?

Like many people, I do my work in an office. The difference is that my office is in my home. It can get lonely working by yourself all day, but the best part is that I can make my day be what I want it to be. And I can work in my pajamas!

Why did you choose to write fiction for children and young adults?

Honestly, I think it chose me. I love writing historical fiction for young adults because I truly enjoy what I am creating. I enjoy crafting the characters and finding interesting ways to approach

history.

Do you have any advice for aspiring writers?

The most important thing is to read all the time. Start to think critically about what you're reading. Try to figure out what you like best when you're reading. Is it character development? Plot twists? Dialogue? You'll start to learn what makes your heart sing when you read it.

Do not be afraid to try writing yourself. Just keep writing over and over again, because writing is just like anything else. You can't walk into a hospital and immediately be a doctor, right? You can't be a writer without a lot of practice, either.



Quiz

- 1 Which of the following answer choices BEST describes the structure of the article?
- (A) question and answer
 - (B) cause and effect
 - (C) problem and solution
 - (D) compare and contrast
- 2 Which of the following answer choices BEST describes the structure of the section "What happens once you have written the first draft?"
- (A) cause and effect
 - (B) compare and contrast
 - (C) steps in a process
 - (D) problem and solution
- 3 Which statement would Duple be MOST likely to agree with?
- (A) Working with an editor is the easiest part of writing a book.
 - (B) Reading helps you become a better writer.
 - (C) Seeing movies is better than reading books.
 - (D) Young writers should all try writing historical fiction.
- 4 Read the paragraph from the section "Can you describe a normal day at work?"

Like many people, I do my work in an office. The difference is that my office is in my home. It can get lonely working by yourself all day, but the best part is that I can make my day be what I want it to be. And I can work in my pajamas!

What is Duple's point of view on working from home?

- (A) Working from home is not as fun as most people think it is.
- (B) Working from home makes being a writer a lot harder.
- (C) Working from home can have its upsides and downsides.
- (D) Working from home is a unique thing that only writers can do.

Writing Ideas 3-5 Elementary Week #1

Students can draw pictures and/or compose sentences and/or paragraphs to respond to the prompts and ideas below. This will vary depending on their grade level.

Narrative

- Your teacher announces you have 6 weeks off from school? Write a story or personal narrative about your adventures.

Opinion/Argument

- Should students be able to grade their teachers? Why or why not? Provide examples and details to support your opinion/argument.

Informational/Explanatory

- What is something you are really good at and that you could teach others? Write a paper describing the process to accomplish this. Add enough detail so your reader can learn how to do the same thing?

Writing in Response to Reading Bingo

Complete the Bingo board by engaging in various writing ideas from this week's reading selections. Try to get 3-in-a row!

Write a letter to a friend explaining what an author and/or illustrator does? Add details to your writing to support this topic.	Write about how the two reading selections Meet the illustrator who brought children's books to life and Dream Jobs: Children's author similar and/or different?	Pick something from the reading selections that you would like to learn more about. Research that topic and write an informational/explanatory piece about what you learned.
What do you know about your community? Draw a picture about your community. Write a poem, song, or story about your community or how you contribute to your community!	WRITER'S CHOICE	Making predictions is fun! Write a riddle, short story, poem, or mystery and leave off the ending. Have others predict what might come next.
If you were an author and/or illustrator, what would you write about? Describe the type of author and/or illustrator you would be.	Select various vocabulary words from the reading you did and use those words to write a poem or song!	Choose a topic! Write and illustrate your own book on that topic.





English Language Learners 3-5

Reading

- Read the poem “Seasons” by yourself or with someone in your family.
- Think about what season we are in right now.
- Highlight or circle any words in the poem that are new to you.

Speaking

- Read the poem aloud to someone in your family.
- Tell someone in your family which season is your favorite and explain why.
- Have you ever lived in another place? If yes, talk about what the weather was like during each season in your previous home.
- Ask someone in your family about the words that are new to you.

Listening

- Have someone else in your family read the poem aloud to you.
- Close your eyes while you listen to the poem and imagine pictures in your mind that match the words in the poem.

Writing

- In the box under the poem, illustrate a picture of your favorite season.
- Write about why the season you illustrated is your favorite.

Seasons


Spring comes only once a year
The birds sing loudly for all to hear.

Summer soon will arrive
The sun shines down and lovely flowers thrive.

Autumn brings the changing of the leaves
Beautiful colors falling from the trees

Winter blows in with cold winds abound.
Snow piling up on the frozen ground.

Illustrate a picture of your favorite season



Why is this your favorite season?

You can change the operation to subtraction, multiplication, or division. For a challenge, try fractions.

ver. 1

Roll a Rule



Roll a number cube to find out what your rule will be. Next, choose a two digit even number and write it in the **bold** rectangle. Complete the number pattern. Repeat.

Rule					
+					

Rule					
+					

Rule					
+					

Roll a number cube to find out what your rule will be. Next, choose a two digit odd number and write it in the **bold** rectangle. Complete the number pattern. Repeat.

Rule					
+					

Rule					
+					

Rule					
+					

Unplugged: Sink A Ship

In this activity, you will practice using a coordinate grid.

The game Sink A Ship is perhaps the most fun a student can have practicing using a coordinate grid. The original Sink A Ship game is a 10x10 grid with numbers on one axis and letters on the other.

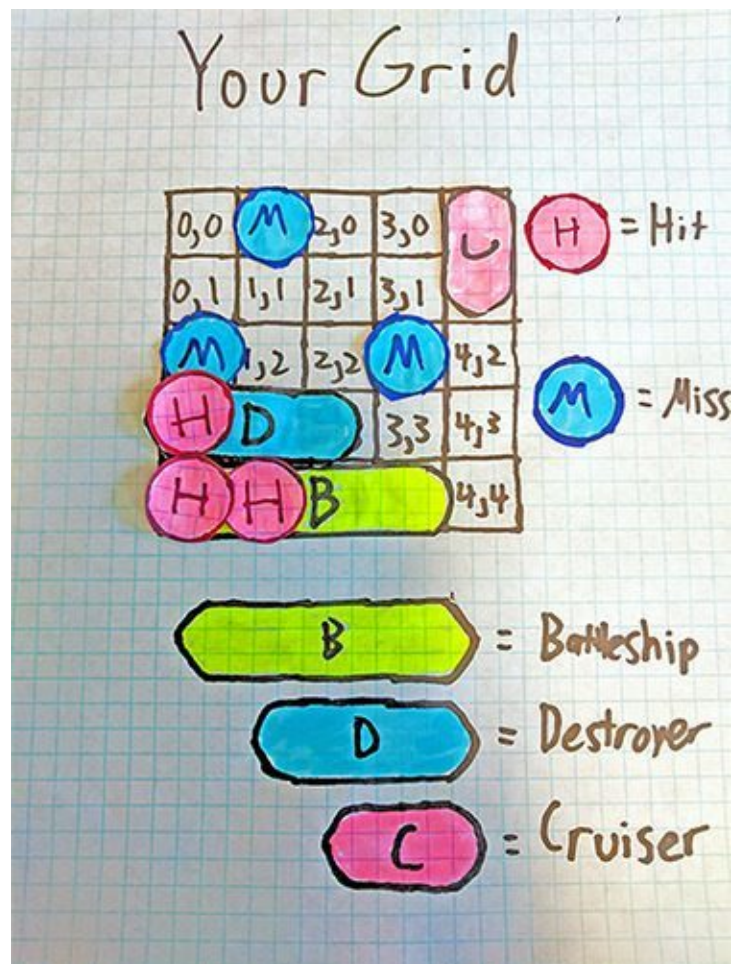
This will help us practice using the correct x and y coordinates instead of letters and numbers. Each student should make two grids. One grid is for placing their own ships and keeping track of their opponent's hits and misses and the other grid is for keeping track of their own hits and misses while trying to determine the location of their opponent's ships.

Each player gets 3 ships:

- A battleship (4x1)
- A destroyer (3x1)
- A cruiser (2x1)

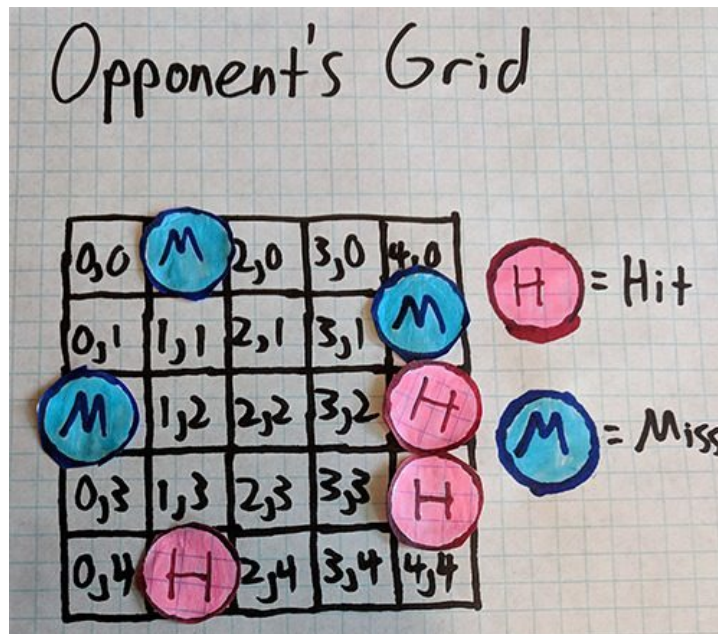
Your grid: Mark where your ships are and keep track of your opponent's hits and misses.

(0,0)	(1,0)	(2,0)	(3,0)	(4,0)
(0,1)	(1,1)	(2,1)	(3,1)	(4,1)
(0,2)	(1,2)	(2,2)	(3,2)	(4,2)
(0,3)	(1,3)	(2,3)	(3,3)	(4,3)
(0,4)	(1,4)	(2,4)	(3,4)	(4,4)



Opponent's grid: Keep track of your hits and misses while trying to locate your opponent's ships.

(0,0)	(1,0)	(2,0)	(3,0)	(4,0)
(0,1)	(1,1)	(2,1)	(3,1)	(4,1)
(0,2)	(1,2)	(2,2)	(3,2)	(4,2)
(0,3)	(1,3)	(2,3)	(3,3)	(4,3)
(0,4)	(1,4)	(2,4)	(3,4)	(4,4)



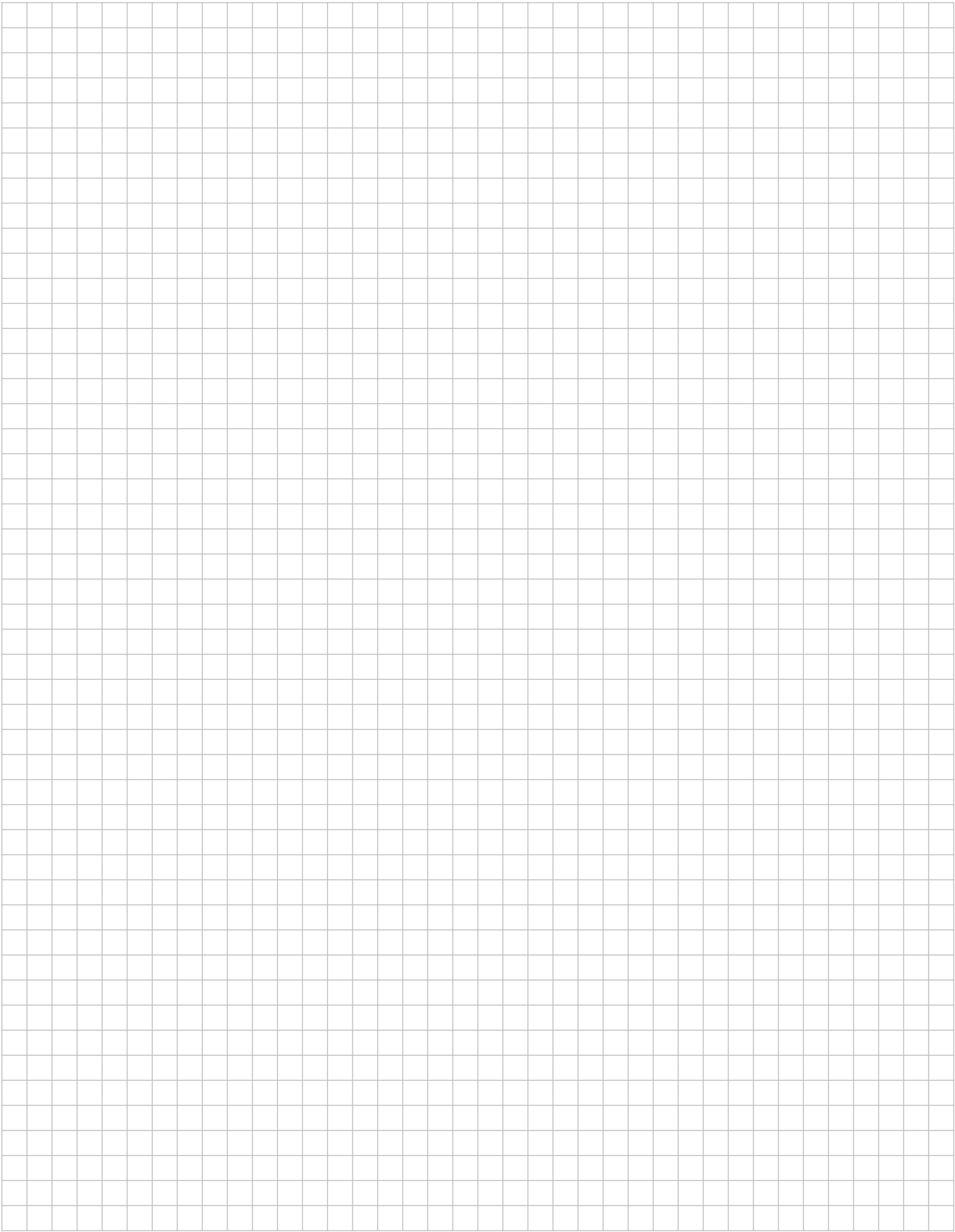
Pair up with another student. Conceal your ships on your 5x5 grid.

Take turns trying to guess where your opponent's ships. Use x and y coordinates, in proper order to convey where your guess is. Make sure to record where you have guessed so that you don't accidentally guess the same square twice.

If your opponent guesses a square that one of your ships occupy, then you say "Hit" and you record that the square was hit. Otherwise, the shot misses and you say "Miss". If the entire length of a ship is hit, it is sunk and that ship is removed from play.

The winner is the player who sinks all of their opponent's ships.

Teacher Material ([/courses/csintro1/about/teachers](https://courses/csintro1/about/teachers))



Challenge Section

FDP



Bingo



FDP Bingo

Fraction, Decimal, Percent Bingo is provided courtesy of the math teachers at Brea Junior High in Brea, California. This particular version of Bingo requires students to be familiar with halves, thirds, fourths, fifths, eighths, ninths, and tenths. The “Fraction, Decimal, Percent Patterns” sheet has been included to help familiarize students with these equivalents. It is suggested that your students do some work with these equivalents prior to playing FDP Bingo. Finally, the “Number Recording Sheet” is provided to help you keep track of your called numbers.

Rules for Fraction, Decimal, Percent Bingo

1. Direct students to outline a four-by-four section anywhere on the Bingo card.
2. Call out either a fraction, decimal, or percent and keep track of your calls on the Number Recording Sheet. Write down the specific number that you called in order to verify the winner or just use check marks to know how many of each value have been called.
3. Students may circle the number you called out or an equivalent fraction, decimal, or percent.
4. Students may circle a maximum of one number each time a number is called out. For example, if you call out $\frac{3}{4}$ and a student has both .75 and 75% in his section, he may only circle one.
5. The winner is the first student to get four numbers in a row (vertically, horizontally, or diagonally).
6. Have the winner verify his numbers with you. You may want to offer a prize to the winner.
7. Play again! Enjoy!

Fraction, Decimal, Percent Bingo Notes

1. Make sure that students understand that they may choose any four-by-four section to play the game. Otherwise, many may opt for the top left hand corner section and end up playing the same game board.
2. Ninths are written as decimals using bar notation. For example, $\frac{5}{9}$ equals $0.\overline{5}$.
3. Ninths are written as percents using a fraction of a percent. For example, $\frac{5}{9}$ equals 55 $\frac{5}{9}\%$.
4. There are 300 numbers on the game board, and only 16 required for each game, so the Bingo Card should last for many games. Have students keep it to use again at a later date.
5. You may also decide to create longer Bingo games by directing students to choose a five-by-five (or larger) game board.





FDP Bingo

Fraction, Decimal, Percent Patterns

$1/2 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$1/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$1/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$2/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$2/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$1/3 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$3/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$3/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$4/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$4/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$2/3 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$5/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$5/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$6/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$6/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$1/4 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$7/8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$7/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$2/4 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$8/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$3/4 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$9/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$1/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$2/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$1/5 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$3/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$2/5 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$4/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$3/5 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$5/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$4/5 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$6/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$7/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

$8/9 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$





FDP Bingo

Fraction, Decimal, Percent Bingo Card

1/4	0.125	0.5	33 1/3%	2/9	0.6	37.5%	4/5	0.625	22 2/9%	0.6	1/2	0. $\overline{3}$	7/8	60%
77 7/9%	3/4	40%	0.25	9/10	0.3	7/8	0.5	3/10	70%	20%	8/9	90%	0.4	7/9
4/5	0.6	5/8	2/3	0.4	70%	0.7	1/10	80%	3/8	6/9	0.4	0.8	33 1/3%	0.8
0.2	0.7	3/4	60%	77 7/9%	1/4	2/3	0.875	3/4	0.2	0.5	7/10	5/8	0.3	30%
2/9	8/10	55 5/9%	0.1	75%	4/8	0.8	75%	1/9	10%	0.625	0.75	5/10	0.75	1/8
87.5%	0.9	3/4	0.8	1/2	44 4/9%	9/10	0.25	0.125	4/5	1/3	66 2/3%	0.9	20%	6/9
0.4	3/5	12.5%	4/10	60%	4/9	20%	2/10	50%	88 8/9%	0.3	37.5%	2/5	1/2	77 7/9%
1/3	0.7	25%	33 1/3%	0.3	0.375	0.4	7/8	0.3	2/3	0.5	6/8	0.1	87.5%	0.7
22 2/9%	1/5	0.6	1/8	0.625	0.8	33 1/3%	30%	7/9	0. $\overline{5}$	22 2/9%	1/4	2/10	60%	0.8
3/8	80%	0.5	10%	0.7	70%	0.2	8/10	0.7	1/3	0.4	1/9	0.3	5/9	10%
12.5%	0.2	7/10	0.4	6/10	0.6	1/2	0.9	2/5	20%	1/10	7/8	0.5	12.5%	44 4/9%
0.375	2/5	0.3	50%	3/4	10%	7/9	0.6	33 1/3%	0.3	4/10	1/5	2/8	20%	3/9
0.25	0.1	6/9	0.125	44 4/9%	0.4	10%	7/8	0.2	1/2	75%	90%	0.9	0.375	5/8
7/10	2/4	0.6	5/9	70%	2/10	50%	0.7	25%	4/9	0.2	0.7	2/3	1/4	0.5
88 8/9%	7/8	33 1/3%	0.2	0.875	1/3	3/5	6/8	0.5	0.875	3/10	0.1	3/4	0.3	77 7/9%
4/10	0.3	9/10	2/9	3/5	1/2	66 2/3%	0.4	0.1	0. $\overline{6}$	1/3	0.6	62.5%	2/5	0.9
0.5	1/5	62.5%	75%	12.5%	0.3	5/8	1/4	0.125	8/9	10%	1/9	0.2	0.875	4/5
0.625	0.25	0.5	0.7	11 1/9%	2/3	0.6	37.5%	90%	0.75	55 5/9%	0.25	4/8	33 1/3%	3/8
1/5	66 2/3%	1/2	87.5%	5/10	3/9	22 2/9%	0.1	6/10	25%	7/8	6/10	11 1/9%	0.7	0.75
0. $\overline{7}$	2/8	0.125	3/10	3/4	0.4	1/5	0.4	1/8	0.2	1/2	0.125	80%	4/9	50%





FDP Bingo

Number Recording Sheet

<u>Percents</u>	<u>Decimals</u>	<u>Fractions</u>	<u>Game 1</u>	<u>Game 2</u>	<u>Game 3</u>	<u>Game 4</u>
10%	.1	1/10				
11 1/9%	$\overline{.1}$	1/9				
12.5%	.125	1/8				
20%	.2	1/5, 2/10				
22 2/9%	$\overline{.2}$	2/9				
25%	.25	1/4, 2/8				
30%	.3	3/10				
33 1/3%	$\overline{.3}$	1/3, 3/9				
37.5%	.375	3/8				
40%	.4	2/5, 4/10				
44 4/9%	$\overline{.4}$	4/9				
50%	.5	1/2, 2/4, 4/8, 5/10				
55 5/9%	$\overline{.5}$	5/9				
60%	.6	6/10				
62.5%	.625	5/8				
66 2/3%	$\overline{.6}$	2/3, 6/9				
70%	.7	7/10				
75%	.75	3/4, 6/8				
77 7/9%	$\overline{.7}$	7/9				
80%	.8	4/5, 8/10				
87.5%	.875	7/8				
88 8/9%	$\overline{.8}$	8/9				
90%	.9	9/10				



2. Binary Cards

This activity introduces the binary system, which is the language that computers understand, to anyone who can count.

ASCII BINARY ALPHABET			
A	1000001	N	1001110
B	1000010	O	1001111
C	1000011	P	1010000
D	1000100	Q	1010001
E	1000101	R	1010010
F	1000110	S	1010011
G	1000111	T	1010100
H	1001000	U	1010101
I	1001001	V	1010110
J	1001010	W	1010111
K	1001011	X	1010111
L	1001100	Y	1011001
M	1001101	Z	1011010

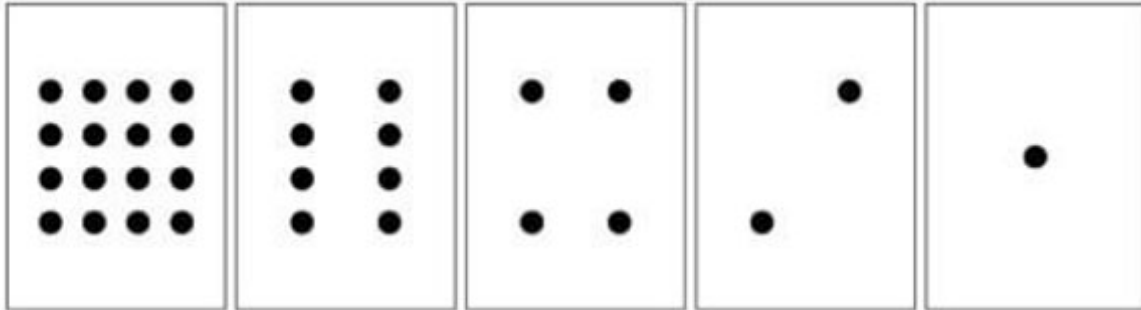
Photo by [Mama Smiles](#)

Materials Needed

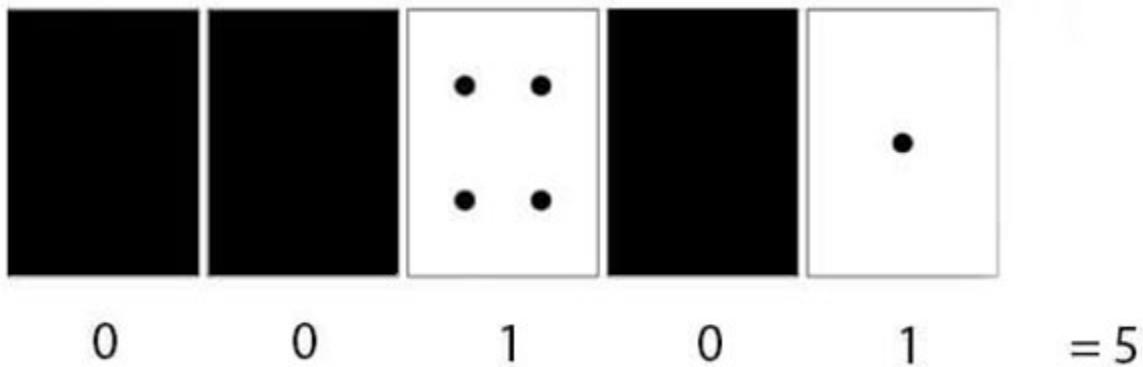
A set of cards with 1, 2, 4, 8 and 16 dots. Available at the end of this document. There's also more in-depth instructions and additional activities to try out!

How to Play

Step 1: Cut out the cards on your sheet and lay them out with the 16-dot card on the left. Make sure the cards are placed in exactly the same order.



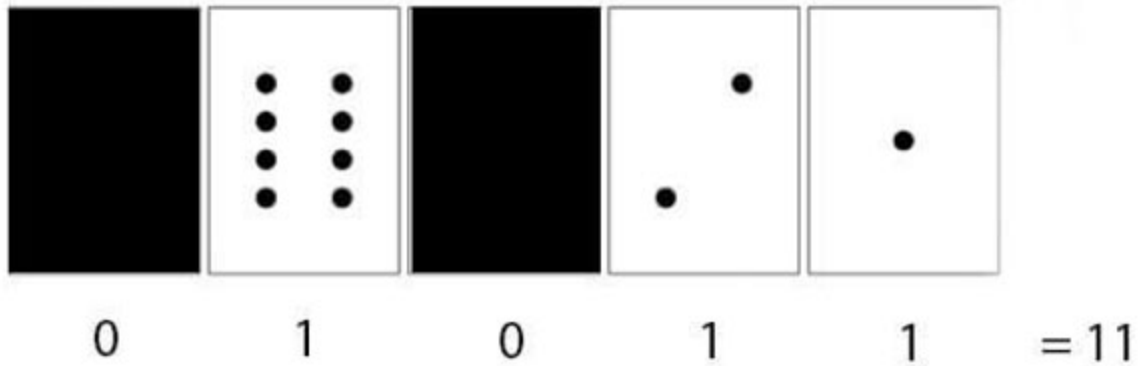
Step 2: Now flip the cards so exactly 5 dots show—keep your cards in the same order!



So, the binary number for 5 is 00101 or 101.

When a binary number card is not showing, it is represented by a zero. When it is showing, it is represented by a one. This is the binary number system.

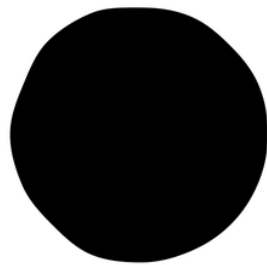
Here's another example showing how to work out the number 11 in binary:



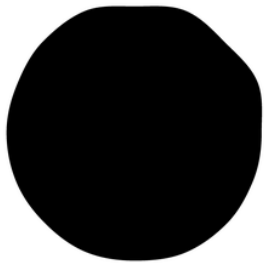
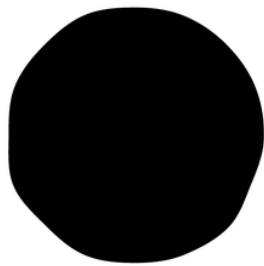
So the binary number for 11 is 01011 or 1011.

Step 3: Find out how to get 4, 10, 12. Is there more than one way to get any number?

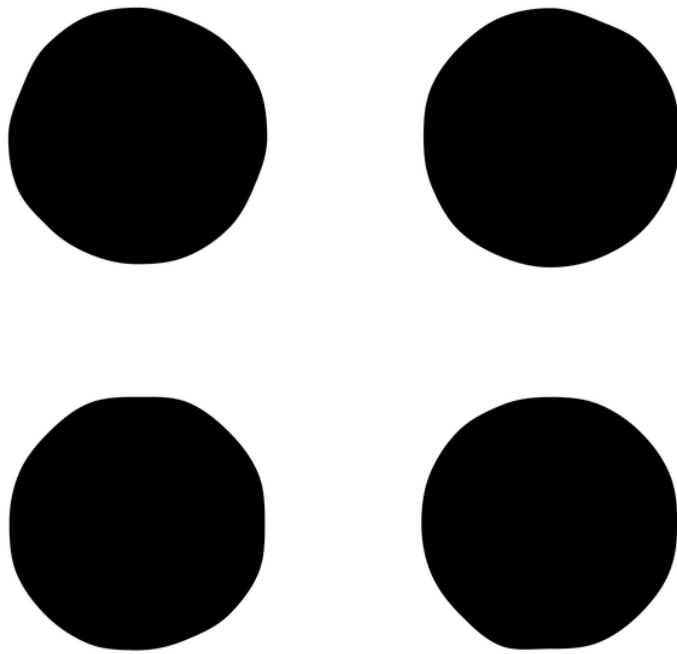
What is the biggest number you can make? What is the smallest? Is there any number you can't make between the smallest and biggest numbers?



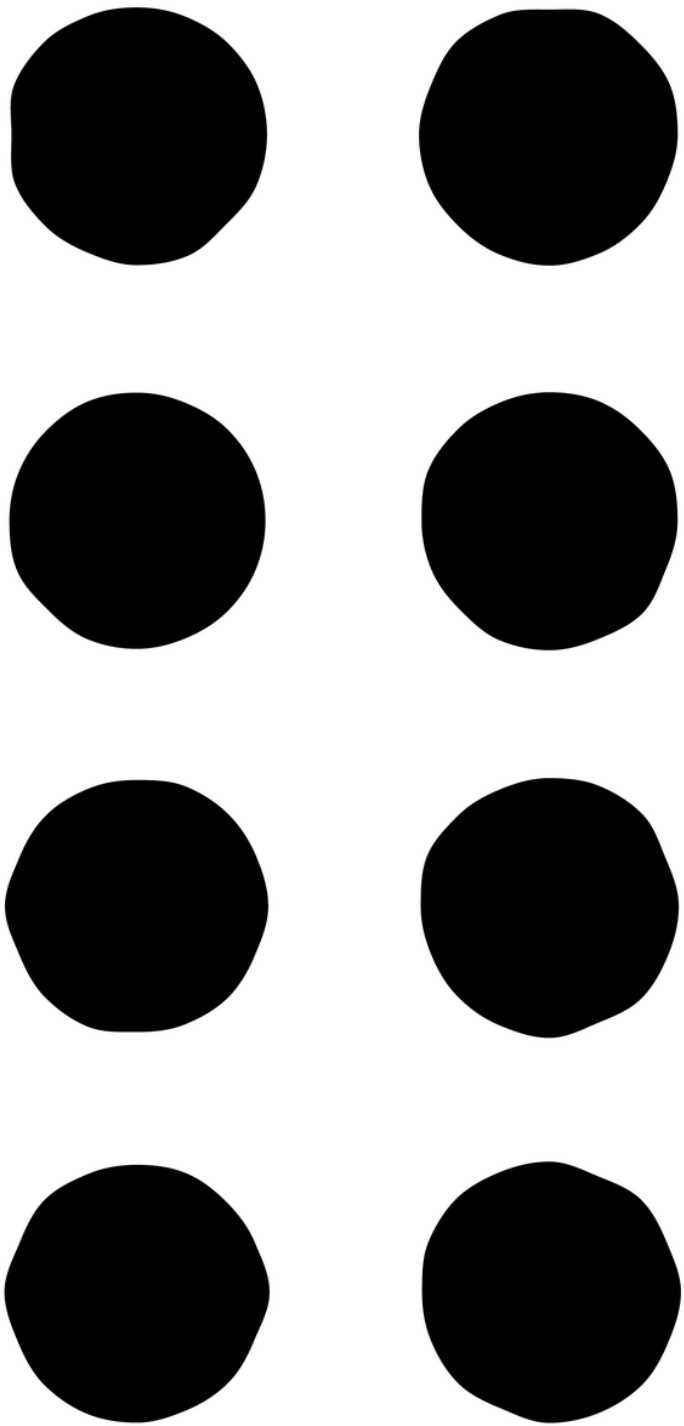
1



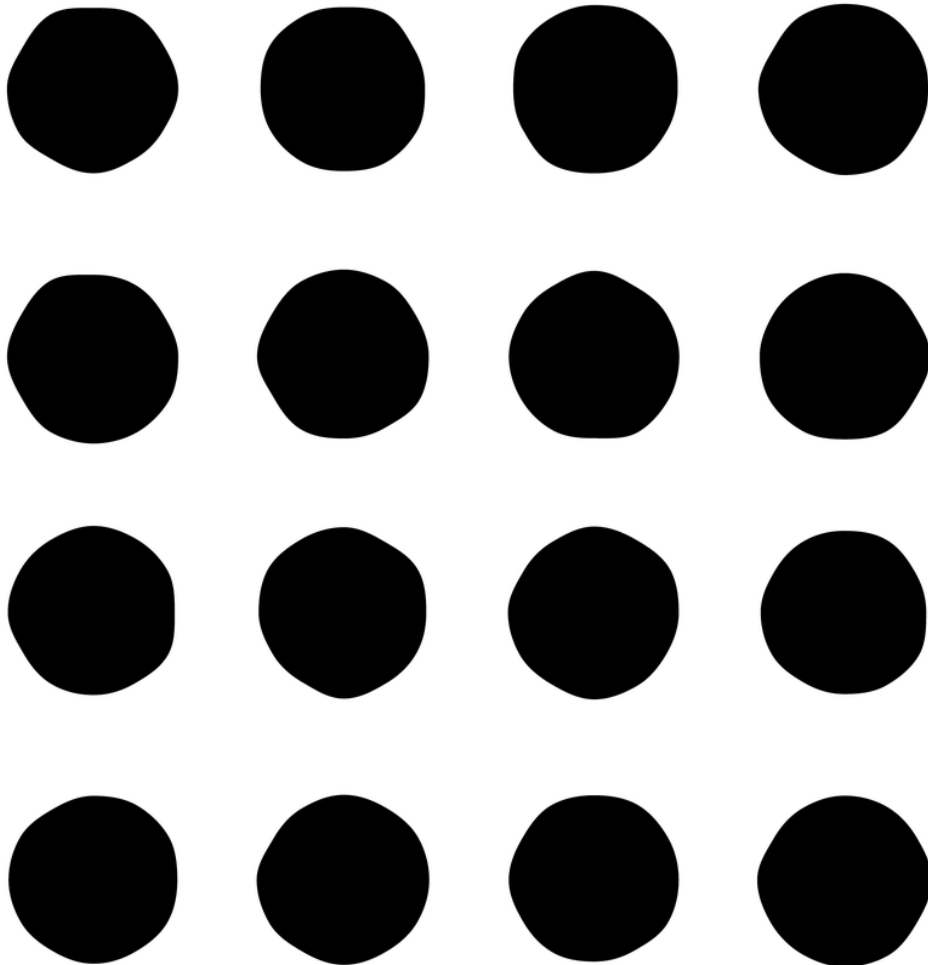
2



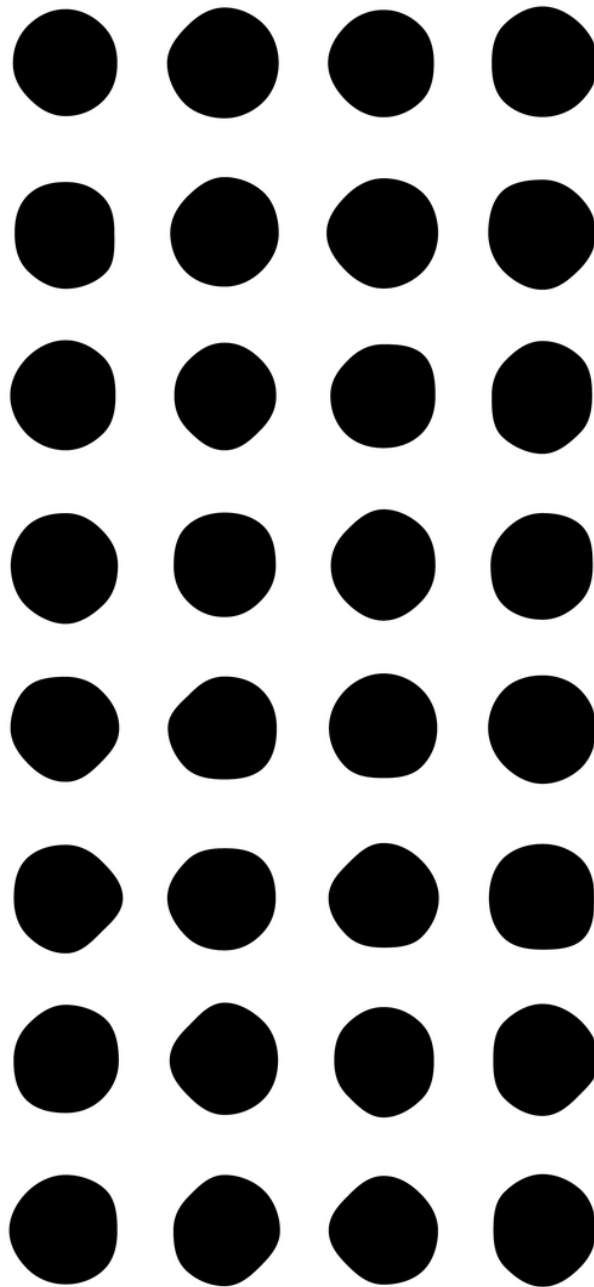
4



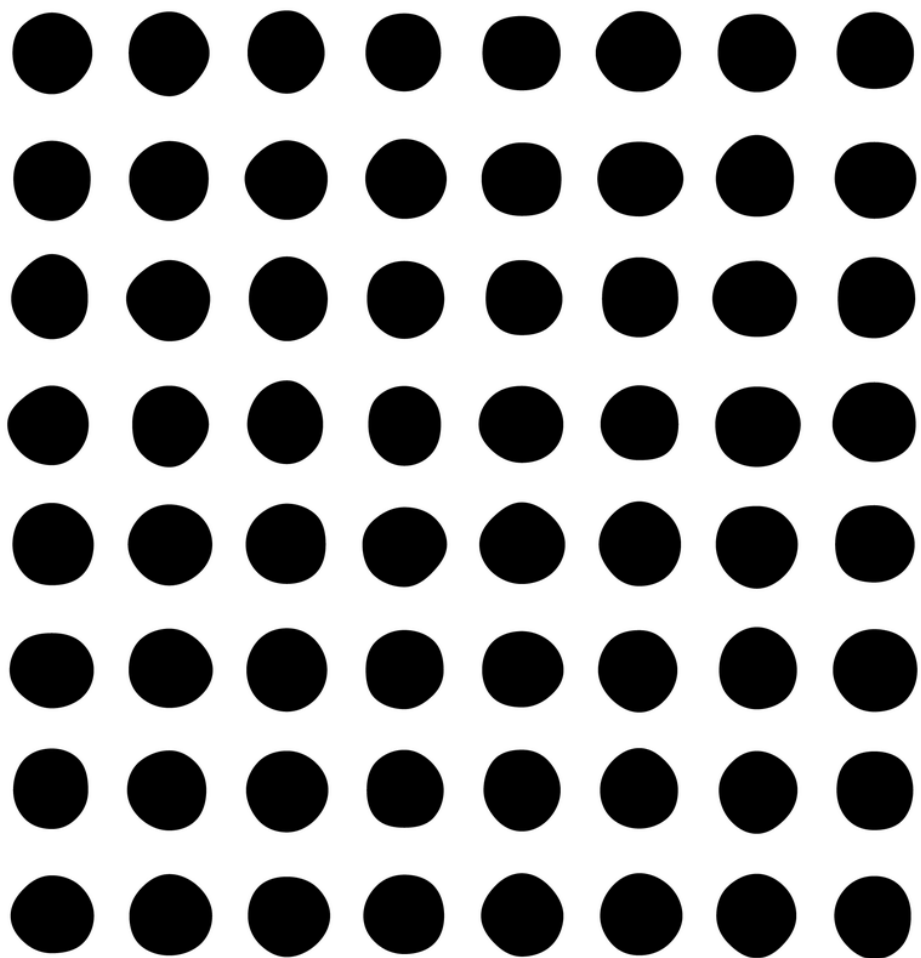
8



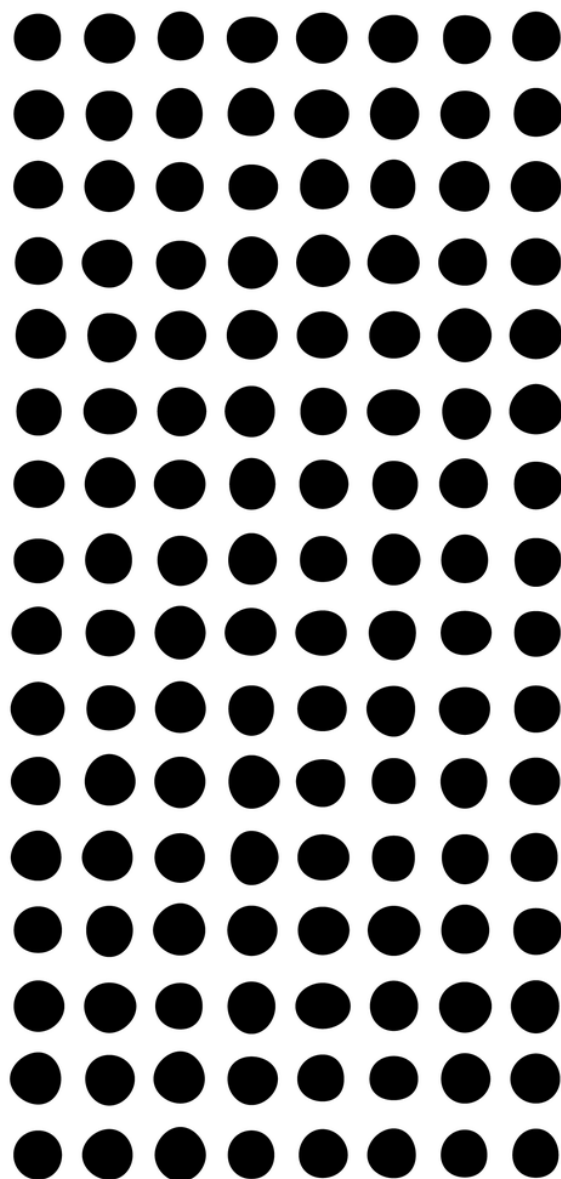
16



32



64



128