Polar Problems

For grades 2-5; Groups of 2-6

Materials Needed:
Polar Problems game board
A game piece for each player (cut from bottom of page)
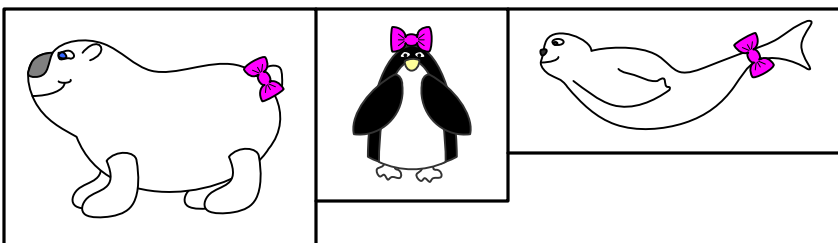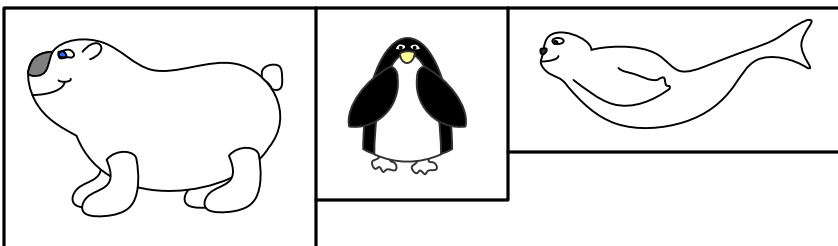1 die
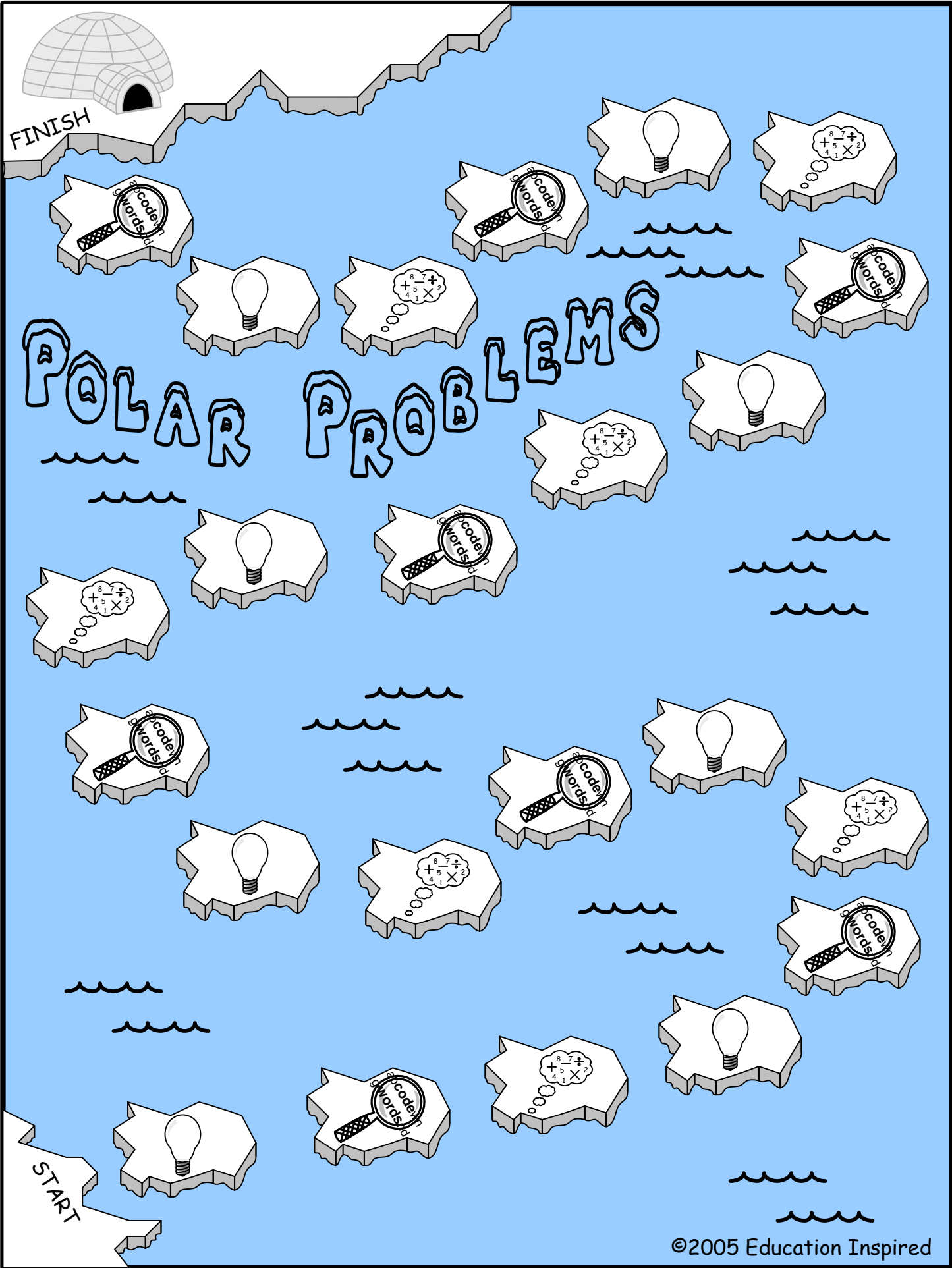Game cards

How to Construct:
1. Print the game board and instructions. Print the cards double-sided (front to back).
2. Tape the board on the front of a manila folder. Cut out the cards and game pieces.
3. Laminate the game pieces, cards, and manila folder (with the folder open).
4. Slice the laminate on the opening of the folder with a pair of scissors. Now the folder will be laminated, but you will also be able to open it.
5. Use the folder to hold the pieces and cards. When you are ready to play, just grab the folder and a die and you will have everything you need.

How to Play:
1. Each player choose a game piece and place it on the word "START." Put the game cards face up in a stack.
2. In turn, roll the die and move that number of spaces. Pick up the top card in the stack. The person to the left of the player may read the card aloud to the player.
3. The answer must correspond to the space landed on. The picture determines the question to be answered. See the separate key for an explanation of the pictures.
4. Answers are on the back of the cards. If the answer is correct, the player may stay on the space landed. If the answer is incorrect, the player must go back to the space on previously. Then turn is over and the next player may roll the die.
5. Play continues until one player reaches the "FINISH."
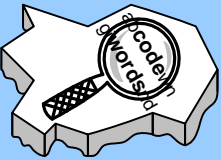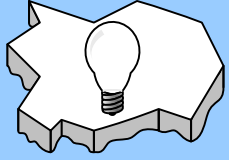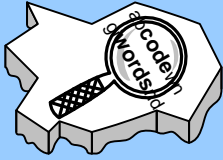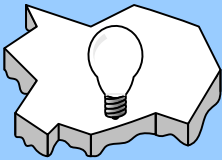
Game Pieces

FINISH

POLAR PROBLEMS
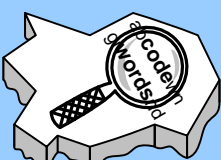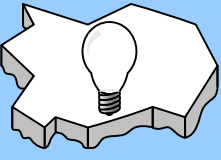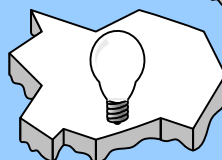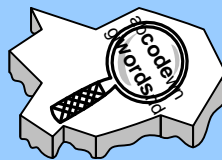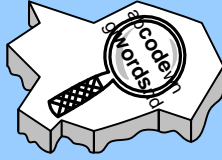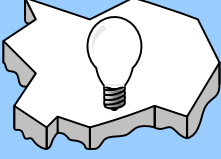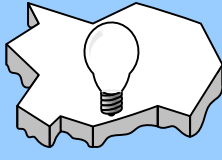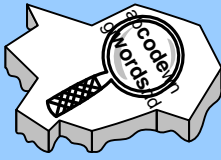
START

POLAR PROBLEMS

addition and subtraction

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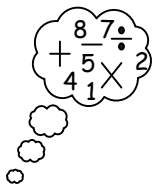
What is the code word? What does it mean to do? Is there more than one code word?	What is the code word? What does it mean to do? Is there more than one code word?	What is the code word? What does it mean to do? Is there more than one code word?
How can the problem be solved? (operations and strategies)	How can the problem be solved? (operations and strategies)	How can the problem be solved? (operations and strategies)
What is the answer?	What is the answer?	What is the answer?
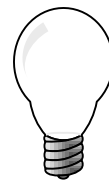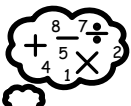
Sam had $0.75. He gave it to the clerk to buy some candy. He got $0.15 change. How much did the candy cost?

Jeff brought two sandwiches for lunch. He had three bags of chips, too. How many things did Jeff bring for lunch total?

"Total" means to add.
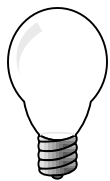
$$\begin{array}{r} 2 \\ + \ 3 \\ \hline \end{array}$$
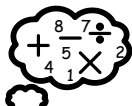
5 things

"Change" means to subtract.

$$\begin{array}{r} \$0.75 \\ + \$0.15 \\ \hline \end{array}$$

$0.60

|	
25 dogs in the yard. 18 ran out through the gate. How many dogs left in the yard?	The school had 96 apples and 15 bananas for sale. 19 apples were sold. How many apples are left to sell?
There were 53 M&M's and 93 Skittles in a container. How many candies in all?	You need 6 cups of cereal and 3 cups of marshmallows. How many fewer cups of marshmallows than cereal do you need?
$5.38 was in the piggy bank. He got $1.83 more. How much money in all?	Billy cut out 120 stars, 517 diamonds, and 89 hearts. How many more stars than hearts did he cut?
Mrs. Cheatham had 35 kids. She adopted 17 more. How many total kids does she have?	Andrea had 725 pennies. She lost 368. How many pennies does Andrea have left?

"Left" means to subtract.
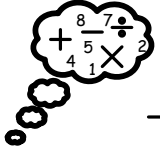
$$\begin{array}{r} 96 \\ -\ 19 \\ \hline \end{array}$$

77 apples

"Left" means to subtract.
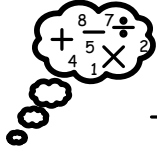
$$\begin{array}{r} 25 \\ -\ 18 \\ \hline \end{array}$$
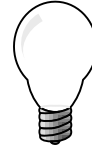
7 dogs

"Fewer" means to subtract.
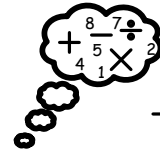
$$\begin{array}{r} 6 \\ -\ 3 \\ \hline \end{array}$$
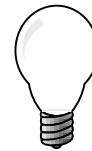
3 cups
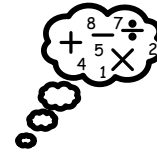
"In all" means to add.

$$\begin{array}{r} 93 \\ +\ 53 \\ \hline \end{array}$$
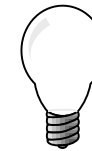
146 candies

"More" in the question means to subtract.

$$\begin{array}{r} 120 \\ -\ 89 \\ \hline \end{array}$$
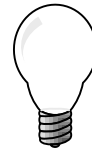
31 stars
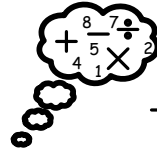
"In all" means to add.

$$\begin{array}{r} \$5.38 \\ +\ \$1.83 \\ \hline \end{array}$$
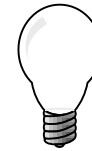
$7.21

"Left" means to subtract.

$$\begin{array}{r} 725 \\ -\ 368 \\ \hline \end{array}$$

357 pennies

"Total" means to add.
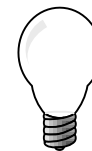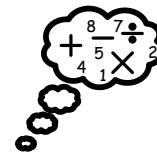
$$\begin{array}{r} 35 \\ +\ 17 \\ \hline \end{array}$$

52 kids

|	
There were 385 kids at the park. 522 more came. How many kids are at the park?	The school had 735 students last year. This year there are 823 students. How many more kids came this year than last year?
One day, 623 ants all marched in a row. 153 went away to find food. How many ants are left marching in a row?	Trey was born in 1996. Paul was born in 1948. How much older is Paul than Trey?
The biggest cookie ever had 153 chocolate chips in it. I took a bite and ate 48 chocolate chips. How many chocolate chips were left?	Jaliyah had $8.00. She bought some gel pens for $4.79. How much change did Jaliyah get?
$5.38 was in the piggy bank. He got $1.83 more. How much money in all?	Joey scored 4 goals for his soccer team. Eli scored 8 goals for his soccer team. How many goals did Joey and Eli score altogether?

"More" in the question means to subtract.

$$823 - 735 = 88 \text{ kids}$$

"More" before the question means to add.
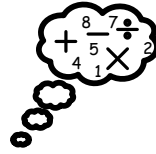
$$522 + 385 = 907 \text{ kids}$$
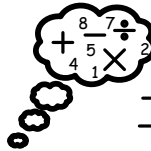
2 years as numbers mean to subtract.
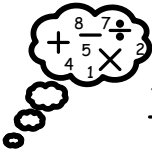
$$1996 - 1948 = 48 \text{ years}$$

"Left" means to subtract.

$$623 - 153 = 470 \text{ ants}$$

"Change" means to subtract.
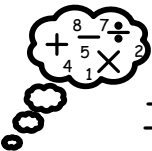
$$\$8.00 - \$4.79 = \$3.21$$

"Left" means to subtract.
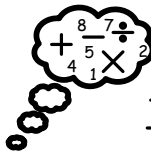
$$153 - 48 = 105 \text{ chips}$$

"Altogether" means to add.
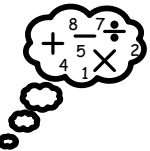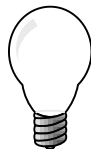
$$8 + 4 = 12 \text{ goals}$$

"In all" means to add.

$$\$5.38 + \$1.83 = \$7.21$$