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NAME: \_\_\_\_\_ Date: \_\_\_\_\_

## Build Your Own Cipher Wheel

The cipher wheel or disk allows you to scramble “secret” messages by using two rotating wheels to align one letter to another—a type of substitution method that replaces one letter for another by shifting the corresponding letters by a specified amount. In this activity, you and a partner will build your own cipher wheels using the sample on Page 3 of this BLM. Take turns creating three secret messages that you and your partner will decipher. Add them to the chart after the instructions. An example has been included to help you get started

### Materials

- pens, pencils
- pin tack, split pin, straight pin, or brass brad fastener, scissors
- cipher wheel print outs or photocopies of each

### Instructions

1. Print out the two cipher wheels on Page 3. You may want to print out or photocopy an extra copy of the two wheels as back-ups or extras.
2. Carefully cut out the two ciphers. Make a small hole in the middle of both wheels using a pen, pencil, or scissors.
3. Place the small wheel on top of the larger wheel. Use a pin or fastener in the hole to keep them together.
4. Create your own secret message, for example SPY GAMES. Now design your code by aligning one letter on the smaller wheel to another letter on the larger wheel by a specified amount that both you and your partner understand.
5. Decide how many places you want the alphabet to shift, for example 1. So now “B” on the smaller wheel corresponds to “A” on the larger wheel. If you sent your partner a coded message such as TQZ HBNFT, your partner (knowing the code shifts by 1) would interpret it as SPY GAMES. Remember that your partner must know how many places the alphabet shifts in order to decode the message. Now you can create your own message.
6. Change your aligned letters frequently to make three different secret messages. Add your messages and codes to the chart on Page 2.
7. With a partner, take turns creating three ciphers and have your partner decipher them.

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**Build Your Own Cipher Wheel continued ...****My Secret Messages and Codes**

<b>Message</b>	<b>Code</b>	<b>Alphabet Shifts</b>
Spy Games	TQZ HBNFT	1

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**Cut out Cipher Wheel**

(Courtesy of  
[www.topsysecrets.com](http://www.topsysecrets.com))

