

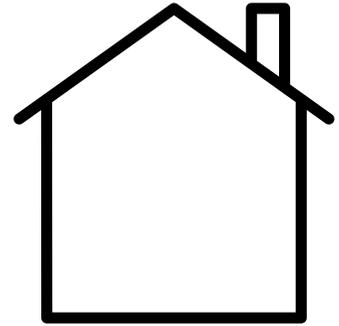
Lesson 3

Grade Level: 3rd-6th	Time Frame: 30 minutes	Content Areas: Science, Critical Thinking	
What are we learning? Experience and genetics shape the brain.	Why are we learning this? Brains are all unique because we all have unique experiences <i>and</i> unique genetic factors.		
Introduction (5 minutes) -Introduce what students are learning and why they are learning it. -Tell students that they will start with a group challenge/activity, and then we will connect it to how the brain develops. -Pass out each group's instructions. They should not compare instructions with other groups.		Materials -string about 1 foot long -tape (a few inches of tape per group member) -pen -blank paper	
Activity (20 minutes) -This is the <u>Flying Pen challenge</u> -The twist is that each group has <i>slightly</i> different instructions. Do not tell groups that their instructions are different. Give them time to plan, build, then complete the task. -Have students put away supplies and bring their group's drawing to hang on the board.		Helpful Hint -Have students be in groups of 3-4. -If students do not succeed the first round of the Flying Pen challenge, allow them to revise their plan and try again.	
Discussion (10-15 minutes) -Pass out the Brain and Flying Pen Challenge paper. Explore the structure of the paper, then have students work with a partner or small group and fill in the experiences and outcomes columns for both the brain and the activity. -Bring students back together, at the carpet or their seats, and allow students to share their thoughts.		Extension -If you notice students are creatively representing the uniqueness of their brains on the worksheet, you can make this an art extension activity with a medium of their choice.	
Closure Leave students with this question to think about: Are our brains more alike or different? You can have them write a response or share with the class. No right or wrong answers, just something to think about. (This can be a creative writing activity)			

Group 1

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

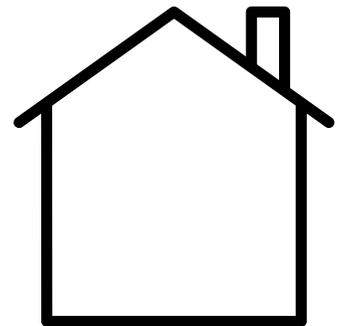
- Once you begin drawing, no one in the group is allowed to touch the pen.



Group 2

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

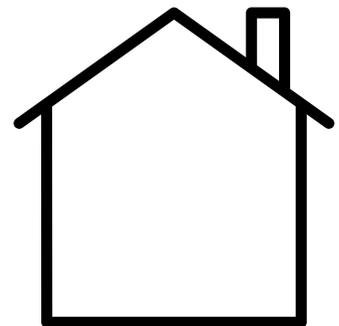
- Once you begin drawing, no one in the group is allowed to touch the pen.
- You must hold the string with the opposite hand you usually write with.



Group 3

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

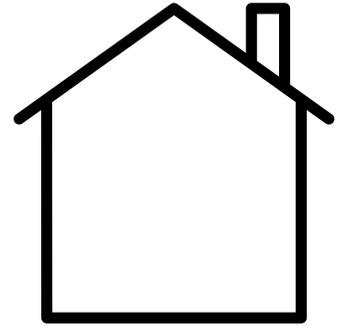
- Once you begin drawing, no one in the group is allowed to touch the pen.
- Once you begin drawing, you may not speak to your group members.



Group 4

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

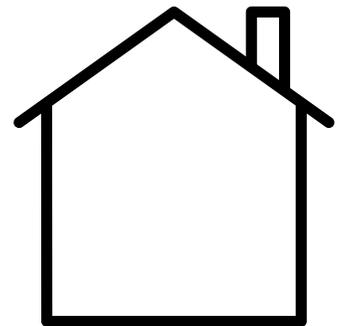
- Once you begin drawing, no one in the group is allowed to touch the pen.



Group 5

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

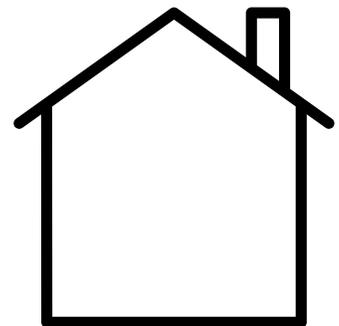
- Once you begin drawing, no one in the group is allowed to touch the pen.
- You must hold the string with the opposite hand you usually write with.



Group 6

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

- Once you begin drawing, no one in the group is allowed to touch the pen.
- Once you begin drawing, you may not speak to your group members.



Group 7

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

- Once you begin drawing, no one in the group is allowed to touch the pen.



Group 8

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

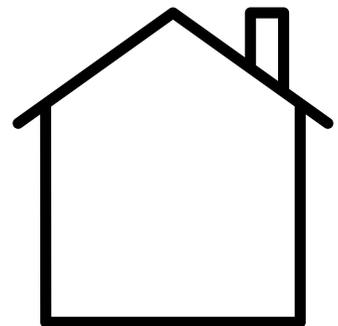
- Once you begin drawing, no one in the group is allowed to touch the pen.
- You must hold the string with the opposite hand you usually write with.



Group 9

You and your group members need to draw a picture of a house. You can use a pen, tape, and string.

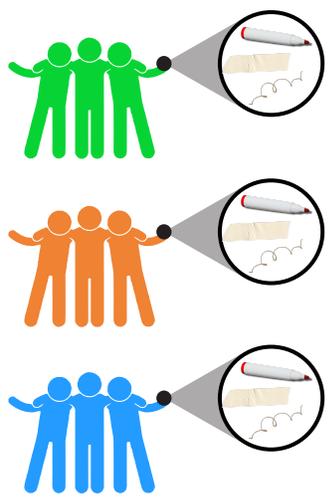
- Once you begin drawing, no one in the group is allowed to touch the pen.
- Once you begin drawing, you may not speak to your group members.



The Brain and Flying Pen Challenge

Name: _____

Date: _____

	“Materials”	+	Experience	=	Outcome
The Brain	 <p>When you are born, your brain already has almost all the neurons it has now.</p>		 <p>What are different experiences people have?</p>		How could unique brains impact how humans differ?
Flying Pen Challenge	 <p>When you started this project, you were all given the same materials .</p>		What different experiences did groups have in this activity?		How did that influence the outcome of the house drawing?