

WHAT ARE WE GOING TO STUDY THE WEEK OF OCTOBER 29  TO NOVEMBER 3, 2017

SCIENCE:​

STUDENTS WILL COMPARE THE CHARACTERISTICS OF INSTINCTS AND LEARNED BEHAVIORS AND COMPARE INHERITED AND ACQUIRED PHYSICAL TRAITS.

**LEARNING TARGETS:**

1. I CAN DISTINGUISH BETWEEN TRAITS THAT ARE INHERITED AND ACQUIRED PHYSICAL TRAITS.
2.  I CAN COMPARE AND CONTRAST INHERITED TRAITS AND ACQUIRED PHYSICAL TRAITS.
​3.  I CAN COMPARE AND CONTRAST INSTINCT AND LEARNED BEHAVIORS.

ESSENTIAL QUESTIONS:

​​​WHAT WOULD HAPPEN IF WE ALL HAD THE SAME CHARACTERISTICS (INHERITED AND OR/ACQUIRED)?
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**WHY DO OFFSPRING HAVE TRAITS WHICH RESEMBLE THEIR PARENTS?** TRAITS ARE CHARACTERISTICS OF ALL LIVING THINGS.  INHERITED TRAITS ARE THOSE THAT ARE PASSED ON FROM PARENT TO OFFSPRING.  EXAMPLES OF INHERITED TRAITS INCLUDE:  EYE COLOR, SKIN COLORING, HAIR TEXTURE AND COLOR, ATTACHED OR DETACHED EARLOBES, ETC.  INSTINCTS ARE ALSO INHERITED TRAITS.  EXAMPLES OF ANIMAL INSTINCTS ARE BIRDS BUILDING NESTS, BEARS HIBERNATING, ETC.

**WHAT ARE LEARNED BEHAVIORS?** LEARNED BEHAVIORS ARE BEHAVIORS THAT ORGANISMS ARE TAUGHT THROUGH EXPERIENCES. THESE BEHAVIORS ARE GATHERED BY WATCHING OR LISTENING TO THE BEHAVIOR OF OTHERS.  FOR EXAMPLE, WHEN A NEIGHBOR WAVES AND SAYS “GOOD MORNING,” YOU WAVE BACK, BECAUSE IT IS A BEHAVIOR YOU HAVE OBSERVED OTHERS DO.  RIDING A BIKE IS A LEARNED BEHAVIOR BECAUSE YOU HAVE TO LEARN HOW TO DO THE SKILL.

**WHAT IS A GENE?** INSIDE EVERY CELL OF EACH LIVING THING (PLANT OR ANIMAL) ARE SETS OF INSTRUCTIONS CALLED GENES. THE GENES PROVIDE THE INSTRUCTIONS ON WHAT IS THE PLANT OR ANIMAL, WHAT IT LOOKS LIKE, HOW IT IS TO SURVIVE, AND HOW IT WILL INTERACT WITH ITS SURROUNDING ENVIRONMENT.

**WHAT ROLE DO CHROMOSOMES PLAY IN THE TRANSFER OF TRAITS AND DEVELOPMENT?** IT IS IMPORTANT TO UNDERSTAND THE ROLE CELLS PLAY IN THE TRANSFER OF TRAITS FROM PARENT TO OFFSPRING.  CELLS ARE THE BASIC UNITS OF ALL LIVING THINGS.  OUR CELLS ARE CONTROLLED BY THE NUCLEUS WHICH CONTAINS OUR GENETIC INFORMATION ON STRUCTURES CALLED CHROMOSOMES. CHROMOSOMES COME IN PAIRS AND HUMANS HAVE 23 PAIRS IN EVERY CELL FOR A TOTAL OF 46 CHROMOSOMES. WHEN AN ORGANISM REPRODUCES, IT CONTRIBUTES HALF OF EACH PAIR OF CHROMOSOMES TO THE OFFSPRING. HALF OF EACH PAIR COMES FROM THE MOTHER AND THE OTHER HALF COMES FROM THE FATHER.  THE CHROMOSOMES ARE MADE OF THOUSANDS OF GENES, WHICH CONTROLS THE DIFFERENT CHARACTERISTICS OF TRAITS.  FOR EXAMPLE, TWO OF THOSE CHROMOSOMES DETERMINE GENDER.  BECAUSE OF THIS, OFFSPRING INHERIT CHARACTERISTICS FROM BOTH PARENTS.

 SCIENCE JOURNAL-ANSWER THESE QUESTIONS AND BE READY TO SHARE AND DISCUSS IN CLASS.

1.WHAT ARE TRAITS/CHARACTERISTICS?
2.ARE THERE DIFFERENT TYPES OF CHARACTERISTICS?
3.HOW DO OUR TRAITS AFFECT WHO WE ARE?
4. ARE OUR CHARACTERISTICS INFLUENCED BY OUR ENVIRONMENT?

**Traits**
Traits are qualities, features or other things that distinguish the organism. Traits can include things like hair color, tooth shape, beak shape, bone size, or muscle structure. Traits come in two varieties: acquired and inherited.
**Acquired Traits -**animals can acquire useful abilities. These acquired traits can not be passed on genetically. You can't inherit your parents' knowledge, skills, ideas or memories and it doesn't' work that way with other organisms either. Acquired traits include things such as calluses on fingers, larger muscle size from exercise or from avoiding predators. Behaviors that help an organism survive would also be considered acquired characteristics most of the time. Things like where to hide, what animals to hide from and other behavior like that. For plants acquired characteristics might include bending because of wind or growths resulting from insect bites (such as galls).
**Inherited Traits-** some things can be inherited.  In organisms, inherited traits must come from a parent or other ancestor.  A trait may seem to skip a generation or even two or three, but if a trait shows up it must have been present in an ancestor.  Mutations are the exception to this rule.  Inherited traits include things such as hair color, eye color, muscle structure, bone structure, and even features like the shape of a nose. Inheritable traits are traits that get passed down from generation to the next generation. This might include things like passing red hair down in a family.  For animals it may include things like the stripes on a tiger, a skunks ability to spray, or the flavor of fruit from different apple trees.  All plants and animals that reproduce pass on traits to their offspring.

Answer these questions.  Be ready to present in class.  You can do a power point presentation or display board or any other you want to do.  (due 11/3/2017)
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1. What traits have you inherited?
2. What traits have you acquired?
3. List five traits which are inherited in animals?
4. List at least three traits that are acquired in animals?
5. Can you list more than four traits which are inherited in plants?
6. Can plants acquire traits? If so list all that you can think of.

**​RESOURCES:**[**www.ixl.com/science/grade-5/identify-inherited-and-acquired-traits**](https://www.ixl.com/science/grade-5/identify-inherited-and-acquired-traits) **​**
**MATH:**
Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
**1. Find the denominators of the fractions.** If you want to subtract fractions, then the first thing you have to do is to make sure that they have like denominators. The numerator is the number on the top of the fraction and the denominator is the number on the bottom. In the example, 3/4 - 1/3, the two denominators of the fractions are 4 and 3. Circle them.

* *If the denominators of the fractions are the same, then you can just subtract the numerators and keep the denominator the same. For example, 4/5 - 3/5 = 1/5. If the fraction is in simplified form, as this one is, then you're done.*

**2.**[**Find the least common multiple (LCM) of the denominators.**](https://www.wikihow.com/Find-the-Least-Common-Multiple-of-Two-Numbers) The LCM of two numbers is the smallest number that is evenly divisible by both numbers. You'll need to find the LCM of 4 and 3, which will give you the [lowest common denominator (LCD)](https://www.wikihow.com/Find-the-Least-Common-Denominator) of the fraction. Here's the best method to use for small numbers:

* *List the first few multiples of 4: 4 x 1 = 4, 4 x 2 = 8, 4 x 3 = 12, 4 x 4 =16*
* *List the first few multiples of 3: 3 x 1 =3, 3 x 2 = 6, 3 x 3 = 9, 3 x 4 = 12*
* *Stop when you have found a common multiple. You can see that 12 is a multiple of both 4 and 3. Since it's the smallest, you can stop there.*
	+ *Note that you can do this for all numbers, including whole numbers and mixed numbers. For whole numbers, think of the denominator as 1. (Thus, 2 = 2/1.) For mixed numbers, rewrite the mixed number as an improper fraction. (Thus, 2 1/2 = 5/2.)*
	+ ***3. Make the numerators of the fractions match their new denominators.****Now that you know that the LCM of 4 and 3 is 12, you can think of 12 as the new denominator of the fractions. But to make the fractions equivalent, you'll have to multiply their numerators by a number that would give them the same value with their new denominators. Here's how you do it:*
		- *With the fraction 3/4, you know the new denominator is 12, so you'll have to find the number that 4 multiplies with to get 12. 4 x 3 = 12, so you'll essentially be multiplying 3/4 x 3/3 for the numerator and denominator to retain the original value of the fraction. You know that 4 x 3 is 12, and that's the denominator, and 3 x 3 is 9, so the new numerator of the fraction is 9. 3/4 can be rewritten as 9/12.*
		- *With the fraction 1/3, you know the new denominator is 12, so you'll have to find the number that 3 multiplies with to get 12. 3 x 4 = 12, so you'll essentially be multiplying 1/3 x 4/4 for the numerator and denominator to retain the original value of the fraction. You know that 3 x 4 is 12, and that's the denominator, and 1 x 4 is 4, so the new numerator of the fraction is 4. 1/3 can be rewritten as 4/12.*
		- *4.****Write the new numerators over the lowest common denominator.****Now that you know that the lowest common multiple of 4 and 3 is 12, you can say that the lowest common denominator of the fractions 1/3 and 3/4 is 12. Now that you know the new numerators, you can just write them over the same denominator as one fraction with subtracted numerators. Make sure to write the new numerators in the appropriate order, since changing the order in a subtraction problem will give you the wrong answer. Here's what you can write:*
			* *3/4 - 1/3 = 9/12 - 4/12*
			* *9/12 - 4/12 = (9-4)/12*
		- ***5. Subtract the numerators.****Once you have written the new numerators over the LCD, you are ready to subtract. Simply subtract the numerators in the appropriate order; do not do anything to the denominator.*
			* *9-4 = 5, so 9/12 - 4/12 = 5/12*
		- ***6.***[***Simplify your answer.***](https://www.wikihow.com/Reduce-Fractions)*Once you have your answer, check to see if you can simplify it. If the numerator and denominator can be divided by the same number, divide them by that number. Remember that fractions are proportions, so whatever you do to the numerator, you must also do to the denominator. Do not divide one without dividing the other by the same number. 5/12 remains as it is because it cannot be simplified further.*
			* *For example, the fraction 6/8 can be simplified because both 6 and 8 are divisible by 2. Just divide 6 and 8 by 2 for a new simplified answer: 6/2 = 3, 8/2 = 4, so 6/8 = 3/4.*
			* *RESOURCES:*
			* [*www.youtube.com/watch?v=OVMceVL\_CEQ*](https://www.youtube.com/watch?v=OVMceVL_CEQ)
			* *www.youtube.com/watch?v=CfBYGFm5gPA*
			* [*www.youtube.com/watch?v=o0arqcKC7QE*](https://www.youtube.com/watch?v=o0arqcKC7QE)

* + - * *Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.*