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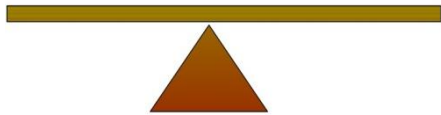
Name: _____



Simple Machines are Everywhere on the Farm

Part A. Below are pictures of different kinds of simple machines. Using this list, label each simple machine shown below.

Simple Machines:						
Wheel and Axle	Wedge	Pulley	Screw	Gear	Inclined Plane	Lever



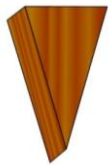
lever



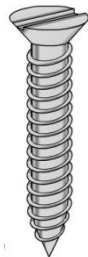
pulley



inclined plane



Wedge



screw



wheel and axle



gear

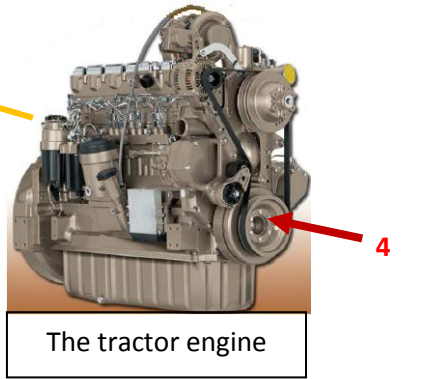
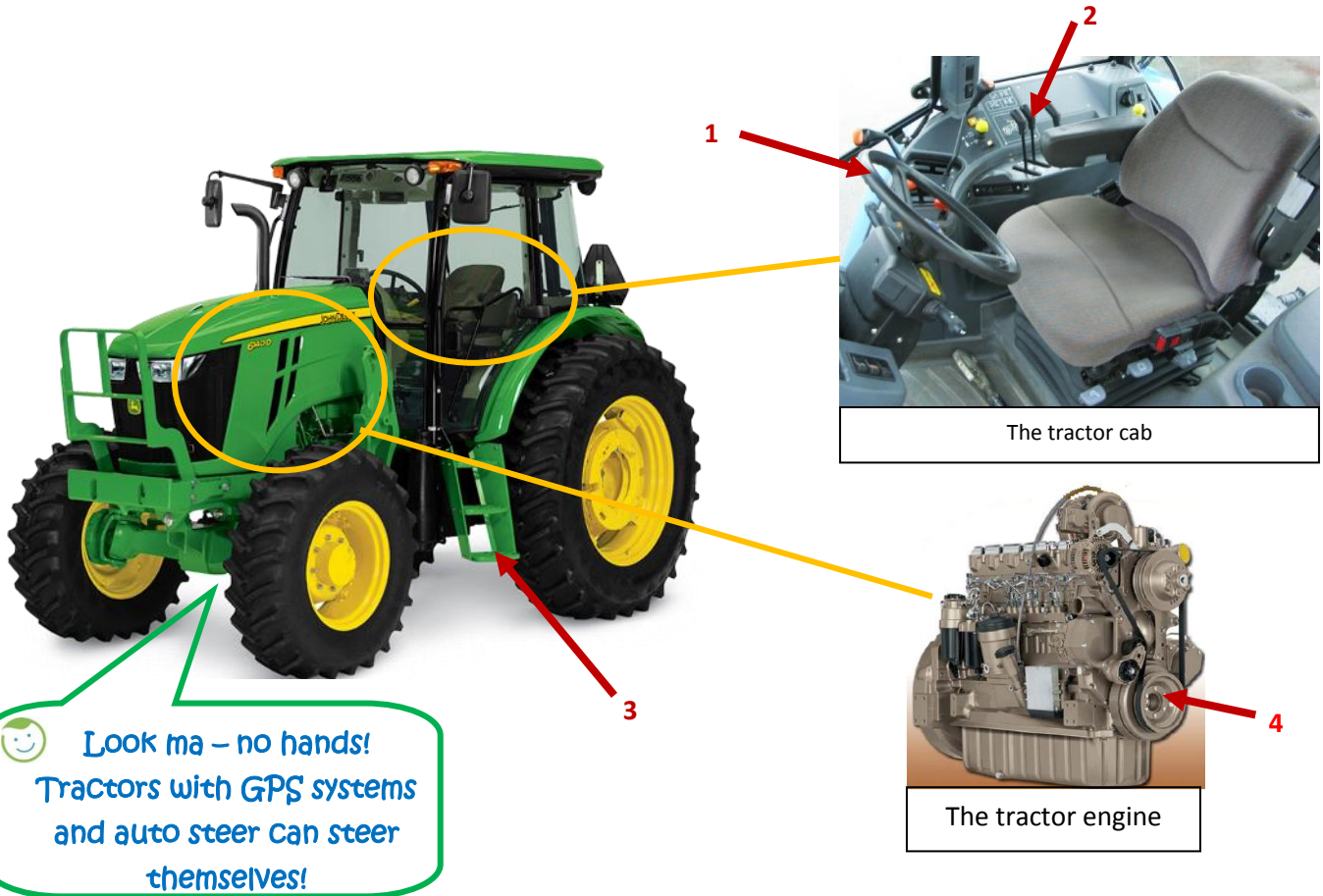
A simple machine helps us lift, lower, split, cut, divide, fasten and move!

A compound machine is a machine made up of 2 or more simple machines.

Farmers use many different types of both simple and compound machines to help them grow food on their farm.

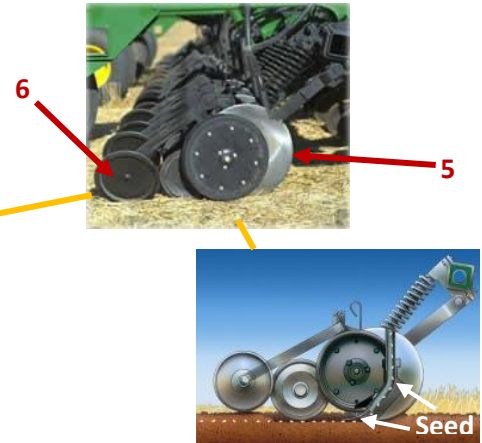
Part B. – Complete the charts by naming the simple machine that the arrow is pointing at on each of the farm machines below.

The most common farm machine is a **tractor**. The tractor is used to pull and power many other farm implements or machines used to seed, protect and harvest plants on cropping farms or make and put out feed for animals on livestock farms.



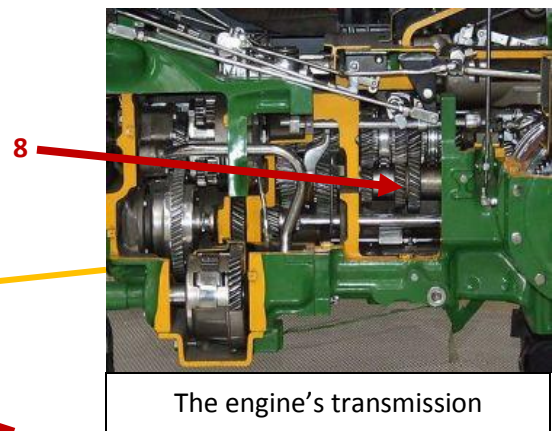
Tractor Part	Simple Machine
1 - Used to steer the tractor.	<i>Wheel and axle</i>
2 - Used to shift gears.	<i>Lever</i>
3 - Ladder used to climb into the cab of the tractor.	<i>Inclined plane</i>
4 - Used to turn the belt to transfer power to the alternator and fan in the diesel engine of the tractor.	<i>Pulley</i>

In the spring, the farmer can use an air drill, like the one pictured below, to plant crops like wheat, canola, barley, oats, corn, lentils and soybeans. The farmer needs to set the machine differently for each type of seed. Fertilizer is also placed close to the seed so it will have lots of nutrients to help it grow. Seeding and fertilizing at the same time reduces the amount of fuel a farmer uses which is good for the environment.



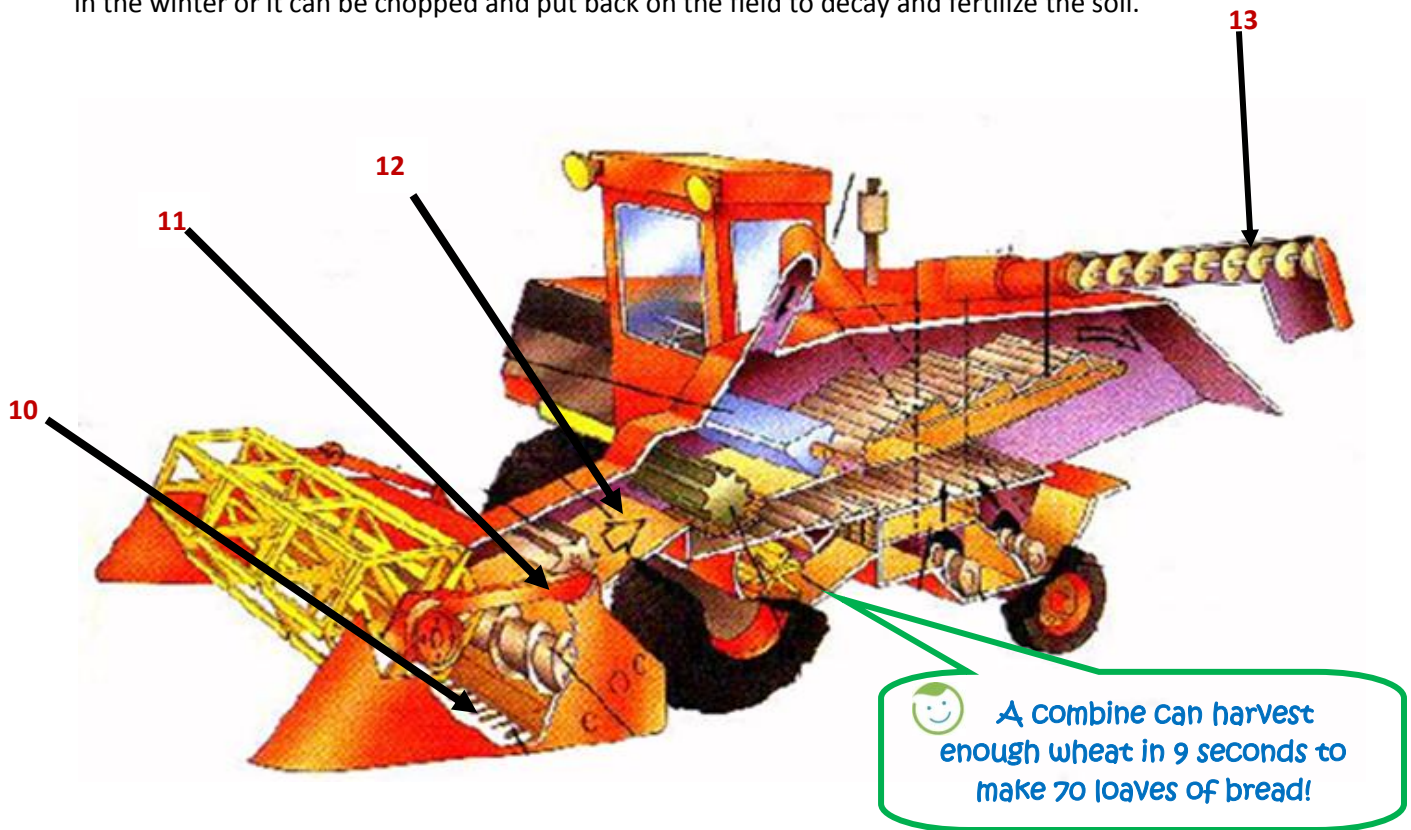
Air Drill Part	Simple Machine
5 – The disk’s sharp edge cuts open the ground where the seed and fertilizer will be dropped.	<i>Wedge</i>
6 – This simple machine turns to pack the earth back over the seed.	<i>Wheel and axle</i>

The sprayer is used in the summer to protect crops from diseases or pests and keep the crops healthy and growing.



Sprayer Part	Simple Machine
7 - Parts the crop so wheels don't damage it.	<i>Wedge</i>
8 - Part of the transmission that changes the sprayer into reverse, neutral, low or high and different speeds.	<i>Gear</i>
9 - Moves the sprayer.	<i>Wheel and axle</i>

In the autumn, when crops such as wheat, canola, oats, barley, corn or sunflowers are ripe and ready to be harvested the farmer uses a **combine** to separate the grain or seed, which we use for food, from the rest of the plant. The combine keeps the grain and kicks the rest of the plant, called straw, out of the back of the combine. The straw can be baled to use for bedding to keep livestock, like cows and sheep, warm and dry in the winter or it can be chopped and put back on the field to decay and fertilize the soil.



Combine Part	Simple Machine
10 - Knife blades for cutting the plant.	<i>Wedge</i>
11 - Lifts the reel.	<i>Lever</i>
12 - Carries the grain into the combine to be separated.	<i>Inclined plane</i>
13 - Turns to move the grain from the combine hopper to the waiting truck or grain cart.	<i>Screw</i>

Scientific research and technological inventions over the years have given the Canadian farmer the tools, like these farm machines, to grow greater and greater amounts of good quality food on less land. In fact, only 20% of the food grown by farmers in Canada today is needed to feed Canadians. The other 80% of the food is exported and sent to over 200 countries in the world. Canadian farmers are very proud that they not only feed you but many of the people in the world too!