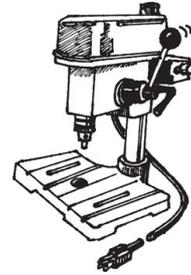
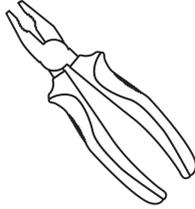
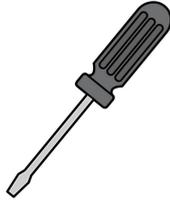
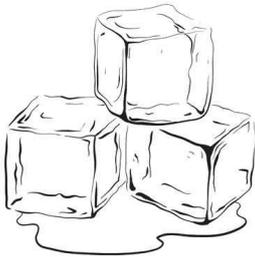

International STEM Tinkering
Olympiad 2019
Sample Questions
ISTO Intermediate

1. Which of the following describes the proper use of a tool?
 1. A screwdriver is used to bend a thick wire.
 2. A pair of pliers is used to cut thin sheets of metal.
 3. A wrench is used to push a nail into a piece of wood.
 4. A drill press is used to make a hole at a precise angle.



2. Which of the following provides the best evidence that a chemical change is taking place?
 1. A liquid forms as a solid object melts.
 2. A flame burns on the surface of a solid.
 3. Steam rises from the surface of a liquid.
 4. A metal object becomes shorter when it is cooled.

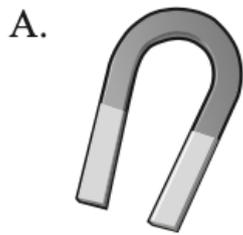


3. A cold can of juice is removed from the refrigerator and is placed outdoors on a warm day. After several minutes, moisture appears on the outside of the cold can. Which of the following statements best explains why the moisture appears?



1. The warm air absorbs cold from the can and changes to a liquid.
2. Water vapour in the air condenses into a liquid on the cold can.
3. The warm air causes heat to flow out of the can and condense in the air.
4. Water vapour in the air absorbs heat from the can and changes to a liquid.

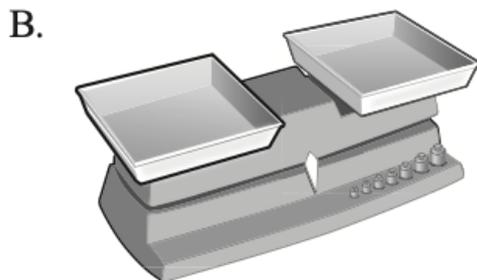
4. A student is comparing the composition of different samples of soil. She needs to find out how much gravel (small stones) is in each sample. Which of the following tools would best separate the gravel from the rest of the soil in each sample?



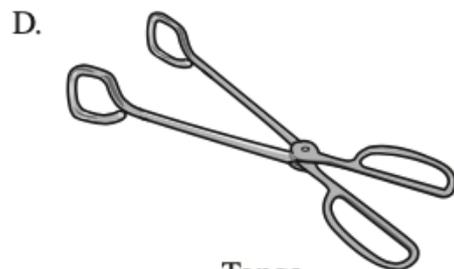
Magnet



Sieve



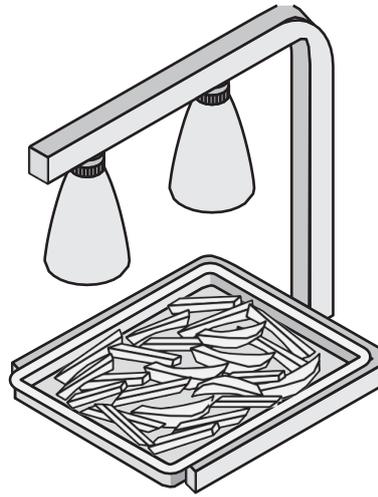
Scale



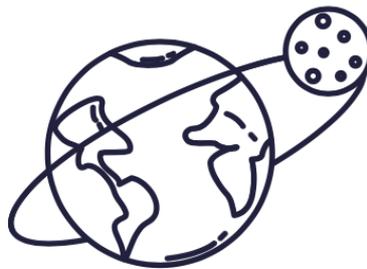
Tongs

5. The illustration below shows two heat lamps being used to keep food warm. In which way does most of the heat from the lamps reach the food?

1. by conduction
2. by evaporation
3. by radiation
4. by resistance



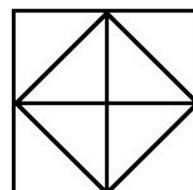
6. An astronaut drops a hammer on the Moon, and a scientist drops an identical hammer on Earth. Both hammers are dropped from the same height. The hammer dropped on Earth falls to the ground faster than the hammer dropped on the Moon. Why does the hammer on Earth fall faster than the hammer on the Moon?



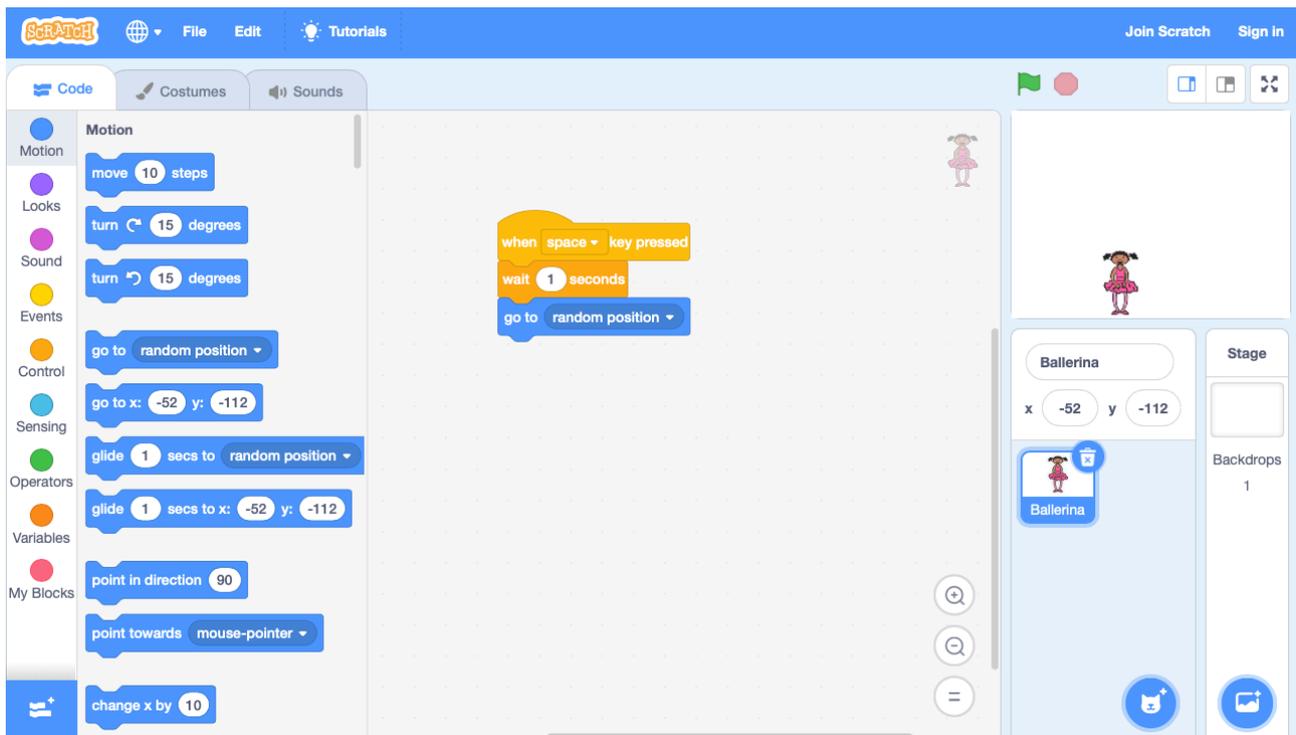
1. Earth has a stronger magnetic field than the Moon because Earth orbits the Sun.
2. Earth has a stronger magnetic field than the Moon because Earth has an iron core.
3. Gravitational attraction is stronger on Earth than on the Moon because Earth rotates on its axis.
4. Gravitational attraction is stronger on Earth than on the Moon because Earth has a larger mass.

7. Count number of triangles in the following figure:

1. 12
2. 14
3. 16
4. 18



8. An aeroplane covers a certain distance at a speed of 240 km/h in 5 hours. To cover the same distance in $1\frac{2}{3}$ hours, it must travel at a speed of:
1. 300 km/h
 2. 360 km/h
 3. 600 km/h
 4. 720 km/h



9. If the Scratch instruction blocks are placed in wrong order what will happen?
1. The program will run faster
 2. The program will run slower
 3. The program will run normally
 4. The program will not run normally
10. In which part of the scratch screen are the instructions blocks kept?
1. Stage
 2. Sprite List
 3. Block Pallet
 4. None of the above

-----END OF THE PAPER-----