



# Home Systems Scavenger Hunt

Featuring  
**HVAC, Fire & Security**

“While you are home this summer,  
get to know your environment...”

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# HVAC (Heating, Ventilation & Air Conditioning)



Single-Family House



Multi-Family Homes

Click the checkbox  once you find the systems



## Solar Panels

**Hint:** They look black & shiny and may be on your roof tilted toward the sun.

**What they do:** They convert light to electricity or can also heat water. That electricity or hot water may be used in your HVAC system!



## Inside Unit (also called "Air Handler")

**Hint:** It may be in your basement, a closet or an attached garage.

**What it does:** It forces air through your residence & may heat or cool the air.

**\*Energy Saving Tip:** Talk to your parents about how often they change the filter. Changing it regularly helps save energy!



## Thermostat

**Hint:** It may be on the wall, in your living area, & is square, rectangular or round.

**What it does:** It controls whether your "inside unit" raises or lowers the temperature, circulates air, or is turned off.

**\*Energy Saving Tip:** Talk to your parents about changing the temperature set-points when you are away and see how your energy use changes! **Note:** some thermostats are "smart" and do this automatically!



## Grills (also called "Registers")

**Hint:** These come in many shapes & could be on your floor, walls, or ceilings!

**What they do:** These are what air comes out of into your home after it makes its journey from your "inside unit" and through your ducts!

**\*Energy Saving Tip:** Talk to your parents about adjusting how open or closed the grills are depending on the season to help better regulate temperature and save energy!



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## Ducts

**Hint:** Most of you will NOT be able to find these since they are often hidden from view inside of floors, walls and ceilings (unless you have an “open ceiling plan” which is common in basements and attics!)

**What they do:** Carry air throughout your house.



## Outside Unit

**Hint:** You may find this outside of your house (or small apartment building) and it is usually in the back.

**What it does:** It works together with your “inside unit” to heat or cool your residence through the refrigeration cycle.

**\*Energy Saving Tip:** Talk to your parents about having regular service to this piece of equipment because leaves and twigs can get caught inside and make it less energy efficient!



## Rooftop Package Unit

**Hint:** On the roof of your building (where you are likely **NOT** allowed).

**What they do:** This functions as both the “inside unit” & “outside unit” (see above).



## A Cooling Tower

**Hint:** On the roof of your building (where you are likely **NOT** allowed).

**What it does:** It pairs with a “chiller”, somewhere in a hidden mechanical room, to cool your building.

**\*Note:** You may be able to ask your building maintenance expert to find out more about how your building stays cool in summer and warm in winter!



# SECURITY



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## Security Display Keypad

**Hint:** It is usually on your wall, near your front or back door, and has lots of numbered buttons.

**What it does:** It uses simple numeric codes to “arm” or “disarm” your home security system.



## Motion Sensors

**Hint:** They are small and there may be multiple around your house.

**What they do:** They detect motion and trigger your alarm when your keypad is “armed” or on.



## Door or Window Contact

**Hint:** They are small magnets on the frames of your door and/or windows.

**What they do:** They are connected to your security system and tell it if the door or window is open or closed.



## Access Control Reader

**Hint:** You need a special card or “fob” to activate one.

**What it does:** It restricts access to your buildings (and sometimes elevators, stairwells and garages) to only people who have the special card or “fob” (that may be on a keychain or even replace your key)!



## Cameras

**Hint:** They may be in multiple locations and keeping an “eye on” your safety.

**What they do:** They monitor, and often record sights and sounds, providing you with a view of your surroundings. They are sometimes connected to your security system.



## Signs & Stickers

**Hint:** You may see a small sign outside of your door, or a sticker on your window, that says “Protected by Johnson Controls” or something similar.

**What they do:** They tell people that your home is protected by a security system.



## FIRE



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## Smoke Detectors

**Hint:** They are often circular in shape and found on the ceiling near your bedroom or kitchen. It typically has a small indicator light and may require annual battery replacement.

**What they do:** They detect smoke and sound an alarm.



## Fire Extinguisher

**Hint:** They are often bright red.

**What they do:** They help you to extinguish a small fire.



# FIRE



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## Sprinkler

**Hint:** They typically stick out from the ceiling with a small round end.

**What they do:** They sense the heat from a fire and release water in response.



## Pull Station

**Hint:** It has a handle that you can pull and is found on walls typically near exits. Sometimes you need to break glass to get to this handle.

**What it does:** Its main purpose is so that a person can report a fire. It should be pulled when (*and only when*) a fire is spotted. And then you must leave the building immediately!



## Strobe

**Hint:** This looks like a light and is typically found in stairwells and hallways.

**What it does:** It flashes a rapid bright light to signal you to leave your house or apartment because a fire has been reported. (Imagine how important strobes are for the hearing impaired.)



## Horn/Bell

**Hint:** This is typically red and can be found in stairwells and hallways and might be combined with a strobe.

**What it does:** It creates a very LOUD sound that signals a fire has been reported. You should get out of your house or apartment right now.

Thank  
You!!!

Contact [Elizabeth.Nicole.Katz@jci.com](mailto:Elizabeth.Nicole.Katz@jci.com) with questions or comments about this Scavenger Hunt.

If you are interested in learning more about building systems,  
check out these videos on YouTube.



Mr. BAS



Mr. BTU



Prof. Frio



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